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Pure and ample heat, 24 hours for about 1*d.*, without attention. For Greenhouses, Bedrooms, &c. Greenhouses heated, 24 hours for about 1*d.* Pamphlets, Drawings, and authenticated testimonials sent. See in use at Patentee's.
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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Wednesday Next.

IMPORTANT SALE OF DUTCH BULBS, LILIUMS, FRUIT TREES, ROSES, &c.

To be cleared out, Without Reserve, nearly Ten THOUSAND BAGS of DUTCH BULBS, comprising HYACINTHS, TULIPS, CROCUSES, NARCISSUS, LILIUMS, &c., in great variety, unsold from former Sales, and in splendid condition for present planting.

Choice-named Standard and Dwarf Roses, including many of the Newest and Best-known Sorts, from an English Nursery.

A Fine Collection of Beautifully-grown Ornamental SHRUBS and EVERGREENS, CARNATIONS and PINKS, &c.

Pyramid and Dwarf-trained Fruit-Trees, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, &c.

A fine Collection of Home-grown Liliums, Gladioli of sorts; 1000 SPIRÆA JAPONICA and PALMATA, LILY OF THE VALLEY Crowns and Clumps; a surplus stock of rare HARDY PLANTS and BULBS; a collection of choice DAHLIAS, DIELYTRAS, SEAKALE, HELLEBORUS, CALOCHORTUS, in variety; LILIUM HARRISI, L. CANDIDUM, L. AURATUM, FREESIAS, PANCRATIUMS, &c.

From Ghent.—Azalea indica. Corypha australis, 400 KENTIAS, ARECAS, BEGONIAS, GLOXINIAS, &c., just received.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, January 9, at half past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Special Trade Sale.

16,000 American Dwarf PEARL TUBEROSES, the first arrival; GLADIOLUS LEMOINEI, Exhibition hybrid GLADIOLI, ANEMONES, double herbaceous PÆONIES, SPIRÆA JAPONICA, S. COMPACTA, extra choice double and single BEGONIAS, LILIUM AURATUM, L. HARRISII, VALLOTAS, DIELYTRAS, EUCHARIS AMAZONICA, IRIS, 500 Dwarf and 50 Climbing ROSES; also a quantity of DUTCH BULBS, the surplus stock of a London Bulb importer.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, January 8, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

14,685 LILIUM AURATUM
470 " " PLATYPHYLLUM
1,985 " SPECIOSUM ALBUM
825 " " RUBRUM
1,500 " KRAMERI
400 " ELEGANS INCOMPARABLE
And 44,000 LIVISTONA CHINENSIS SEEDS,

Being the contents of 261 Cases, just received from Japan, in fine condition.

Also importations of 200 LILIUM HUMBOLDTI, extra fine; L. WASHINGTONIANUM, L. BROWNII, L. PARRYI, L. SCHOVITZEANUM, and others; Double and Single BEGONIAS, GLADIOLI, SPIRÆAS, Hardy Border PLANTS, Stove and Greenhouse FERNS and PLANTS, 500 Dwarf, and 50 Climbing ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 9, 1895, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT, JANUARY 11.

GREAT SALE OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 11, at half-past 12 o'Clock, the following—

IMPORTED ORCHIDS,

Including magnificent plants of the beautiful and rare

ANGULOA EBURNEA,

The large pure white-flowered kind; and

ANGULOA SPECIES,

Probably quite new, and offered for the first time.

The charming TRICHOPILIA BREVIS, in splendid condition.

Also grand Bulbs of the lovely

HABENARIA SUSANNÆ MAJOR.

Also magnificent plants of the superb

VANDA ROXBURGHII CŒRULEA MAXIMA,

The large dark blue-lipped variety; and

VANDA HOOKERIANA.

EPIDENDRUM NEMORALE MAXIMA,

Splendid plants, in the very best condition; also

EPI-CATTLEYA GUATEMALENSIS (?).

Also a magnificent lot of the True

LÆLIA AUTUMNALIS ATRORUBENS

(THE ALL SAINTS' FLOWER OF MEXICO),

Which has not been Imported for many years.

Also magnificent plants of the lovely Mexican STANHOPEAS, including S. RUCKERI, S. TIGRINA SUPERBA, S. DEVONIENSIS, S. OCULATA, S. WARDII AUREA, S. MARTINIANA. Also grand lots of the following:—HABENARIA CARNEA, ODONTOGLOSSUM CERVANTESI MORADA, O. NEBULOSUM, ONCIDIUM CAVENDISHIANUM, O. UNGUICULATUM GIGANTEUM, the very largest type, and many other choice ORCHIDS.

On view morning of Sale, and Catalogues had.

Monday Next.—Dutch Bulbs.

1100 Lots of DUTCH BULBS, comprising HYACINTHS, TULIPS, CROCUS, NARCISSUS, and OTHER BULBS, just arrived from Holland.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 7, at 12 o'Clock.

On view Morning of Sale, and Catalogues had.

Monday Next, January 7.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, January 7, at 12 o'Clock, choice HARDY PERENNIALS, thousands of CARNATIONS and PICOTEES, LILIES, collection of IRIS, TEA ROSES in pots, 500 DWARF and 50 CLIMBING ROSES, CLEMATIS, SEAKALE, &c.

On view morning of Sale, and Catalogues had.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO., LTD.

Have just received splendid Importations of the following and other ORCHIDS, all of which are in the finest condition, and they are now on Sale by Private Treaty:—

LÆLIA PURPURATA, in quantity, and in grand masses.

LÆLIA ANCEPS MORADA, a grand lot, in finest condition.

LÆLIA ELEGANS, a few select plants.

LÆLIA ALBIDA, a grand lot, in fine condition.

CATTLEYA INTERMEDIA, in quantity, and in grand masses.

CATTLEYA GUTTATA LEOPOLDI, in quantity, and in grand masses.

CATTLEYA CITRINA, a grand lot.

VANDA CŒRULEA, a fine lot of the beautiful dark-blue large-flowering type.

EPIDENDRUM VITELLINUM MAJUS, a fine lot.

SOBRALIA MACRANTHA, a fine lot from the district whence the Company obtained the true white form.

ODONTOGLOSSUM ROSSI MAJUS, a fine lot, the finest type.

Descriptive and Priced Circulars sent post-free on application to the Company.

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GARSTON, near LIVERPOOL.

WANTED, a SMALL GLASS NURSERY, with good Dwelling-house and Stables, or Private Gardens with the same.—G. BENNETT, Moulsey Villa, Palace Road, East Molesey.

WANTED to RENT, 600 to 1000 feet run of SPAN-ROOFED HOUSES, for Cucumbers, on Lease, in good repair, and Cottage, near London. No stock.—Apply to H. B., Miller's Farm, Hill's Road, Cambridge.

NURSERIES, Penkwell, Stoke-on-Trent, for SALE; or would LET, about 2 acres, good Dwelling-house, plenty of Glass, Stable, &c., and every convenience; selling price or rent low.

G. H. JONES, Park Lodge, Stone, Staffordshire.

To Nurserymen.

FOR SALE (or LET on LEASE), a Double-fronted HOUSE, with 450 feet of Glass, Heated with Modern Apparatus, within easy distance of two Railway Stations, and within 15 miles of London. Will be sold to immediate purchaser for £575. Greater part of the money could remain on Mortgage. Good opening for a pushing man

Further particulars of HENRY E. PORTER, House Agent, Gravesend.

SMALL NURSERY and FLORIST BUSINESS for DISPOSAL.—Old established; small Market Town, Midland Counties; good neighbourhood round. Four Greenhouses, well-heated with hot water; Four rows Frames, Plants, Shrubs, &c. Price £125 for the lot. Nearly two acres of ground, rent £11. A Seedsman wishes to dispose of this department; satisfactory reasons.—NURSERY, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London.

TO BE SOLD.—A FREEHOLD NURSERY, about half a mile from station, and sixteen from London. The property contains a total area of 17 a. 0 r. 11 p., 60,000 feet of Modern Glasshouses, heated with about 14,000 feet 4-inch hot-water piping. Brick pits, good dwelling-house, stabling, coach-house, packing, potting, and other sheds, hot and cold water tanks, and all requisite appliances for growing Fruit, Plants, or Cut Flowers. The whole would be sold to an immediate purchaser at a great sacrifice. The owner, through declining years and having another large business, and residing nearly 30 miles from Nursery, is now unable to attend to same. Part of the purchase-money could remain on mortgage at 4½ per cent. Apply to—

Mr. W. UNWIN, Salesman, Covent Garden Market.

ESSEX (10 miles from London).—MUST BE SOLD IMMEDIATELY through ill-health. A NURSERY of 3 a. 1 r. 4 p., with eleven Greenhouses, dwelling-house, and stables. Lease 20 years. Rent £45. Any reasonable offer entertained. Full particulars of Messrs. PROTHEROE & MORRIS, 67 and 68, Cheapside, London, E.C.

KENT, close to Dartford.—TO BE LET or SOLD, a very desirable FREEHOLD NURSERY, with 500 feet-run of Glasshouses, and a well-built Residence. Rent, £50 per annum. Price, Freehold, £700.—For particulars, apply to Messrs. PRALL, Land Agents, Dartford.

EXHIBITION.

BROMLEY CHRYSANTHEMUM SOCIETY'S NEXT SHOW will be held in the Grand Hall, Bromley, on WEDNESDAY and THURSDAY, Nov. 6 and 7, 1895. For Schedules apply to—

W. WEEKS, 29, Widmore Road, Bromley, Kent.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at

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TECHNICAL HORTICULTURAL INSTRUCTOR (Late of Southdown Nursery, Shoreham).

LANDSCAPE GARDENER, HORTICULTURAL VALUER, ESTATE AGENT, AND SUNDRIESMAN.

GREENHOUSE BUILDER AND HOTWATER ENGINEER.

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F. SIMMONDS, Mamhead Park Gardens, near Exeter.

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ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

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CUCUMBERS.—For Sale, real good Cucumber Seed, the "Rochford," true to name, 5*s.* per 100. Cash with order to—

R. J. WICKHAM, Grower, Sutton Scotney, Hants.

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BUTE ROSES, 12 "A 1" H.P.s, 7*s.*; CARNATIONS, 12 lovely border, 5*s.* 6*d.*; PANSIES, my famous vars., 3*s.*, 4*s.* 6*d.*, and 6*s.* 6*d.* per dozen; POPPIES, 12 Hardy Oriental vars., 4*s.*; PANSY SEED, and my grand New DOUBLE POPPY, "Empress," 1*s.* and 2*s.* 6*d.* per packet All named, and carriage paid. New CATALOGUE ready Jan. 1, free. ALEX. LISTER, Florist, Rothesay.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* per 100; large ditto, in 48's, 10 best selling sorts, 6*s.* per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly (bushy), 16*s.* and 20*s.* per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6*s.* per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1*s.* each. Seedling Ferns, 6*s.* per 100. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

PALMS, FICUS, FERNS, in any quantity.—Kentias, Latania, Corypha, Seaforthia, Arecas, Chamærops, in 48's, 12*s.* p. doz.; do. in 60's, 5*s.* p. doz.; do. in Thumbs, 3*s.* p. doz.; Aralias, 5*s.* and 6*s.* p. doz.; Aspidistras, 48's and 32's, 18*s.*, 24*s.*, and 30*s.* p. doz.; Cyperus 5*s.* and 6*s.* p. doz.; Ficus, 12*s.* p. doz.; Adiantums 6*s.* and 8*s.* p. doz.; do. in Thumbs, 12*s.*, 16*s.*, p. 100; Six sorts good Market Ferns, 6*s.* p. doz.; Asparagus, 18*s.*, 24*s.*, p. doz.; Solanums, Heaths, Cyclamens, Marguerites, &c., 10*s.* and 12*s.* p. doz. Free on rail, carefully packed. *Cash with Order.*—ALFRED MARTIN, Angell Town Nursery, Wiltshire Road, Brixton, London.

To Nurserymen, Builders, Local Boards, Vestries, AND OTHERS WHO INTEND PLANTING TREES, and SHRUBS THIS SEASON.

ROBERT NEAL, The Nurseries, Trinity Road, Wandsworth, S.W., begs to offer an extensive stock of FOREST and ORNAMENTAL TREES, SHRUBS, ROSES, GRAPE VINES, FRUIT TREES, CLIMBING PLANTS, &c., which being grown in the neighbourhood of London are especially suitable for Town Planting. Also a large stock of extra fine SEAKALE and RHUBARB, for forcing.

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Of every description, from **1s.** each; samples, post-free, **1s. 3d.** RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

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Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s*.

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FORBES' EAST LOTHIAN STOCKS.—Sow now, my world-renowned STOCKS, for Summer and Autumn Display, in six distinct sorts, viz., crimson, purple, scarlet, white, crimson Wallflower-leaved, and white Wall-flower-leaved. Each sort, 1*s*., 2*s*. 6*d*., and 5*s*. per packet. Catalogues free.—JOHN FORBES, Nurseryman, Hawick, Scotland

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East Lothian Intermediate Stock (Methven's Choice Strain), White, Purple, Scarlet, Crimson, and Snow-white, Wall-leaved. In Packets, 1*s*., 2*s*. 6*d*., and 5*s*. each colour.

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100-103, JOHN STREET, ERFURT, GERMANY.

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Individual flowers much larger than those of the normal type, measuring from 1 to 1¼ inch in diameter; they are also deeper in colour, and of greater substance. Seed 2*s.* 6*d.* per packet.

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Packets, single, mixed, 1*s.*, 2*s.* 6*d.*, and 5*s.* Double, mixed, 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.*

Tubers, single, hybrids, to colour for pots, 5*s.* to 24*s.* For bedding, 2*s.* 6*d.* to 4*s.* per dozen. Double hybrids, to colour, 7*s.* 6*d.* to 42*s.*; mixed, 5*s.* 6*d.* to 8*s.* per dozen.

Also named varieties.

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From 6 to 8 feet, well furnished with shoots to the ground.

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TEA-SCENTED VARIETIES, in 8-inch pots, 42*s.* to 60*s.* per dozen.
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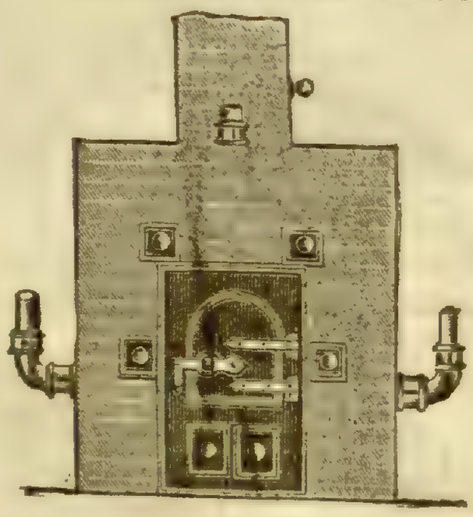
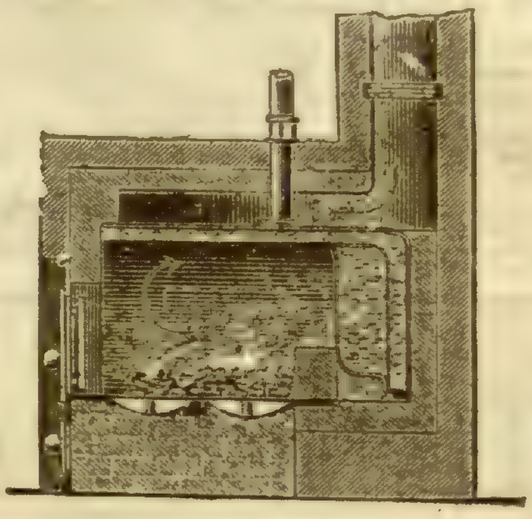
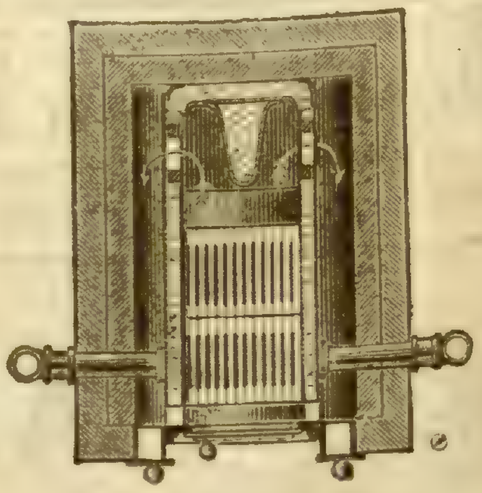


—FRONT ELEVATION—



—LONGITUDINAL SECTION—



—SECTIONAL PLAN—

The longitudinal section gives a view of the fire-box, water space, flues, &c. The front elevation shows it set in *brickwork*, *which is necessary for this class of boiler.* The cross section gives a view of the fire-box water space and V-shaped back.

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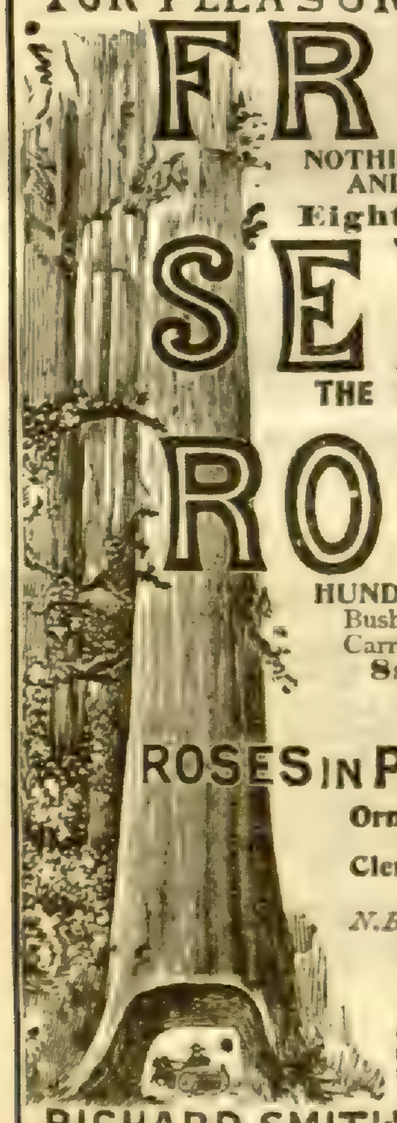

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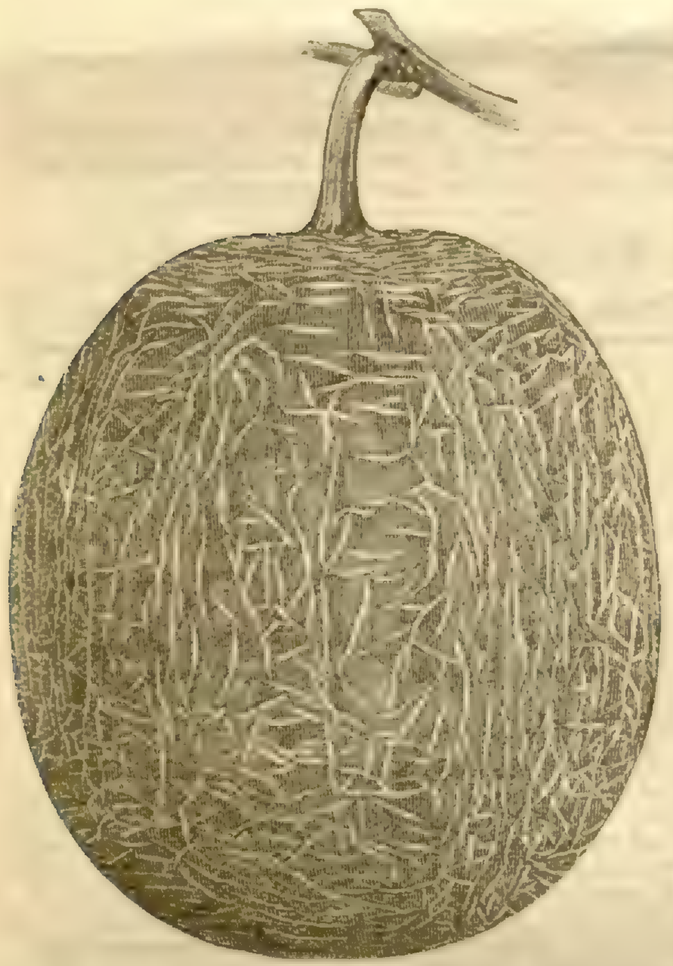

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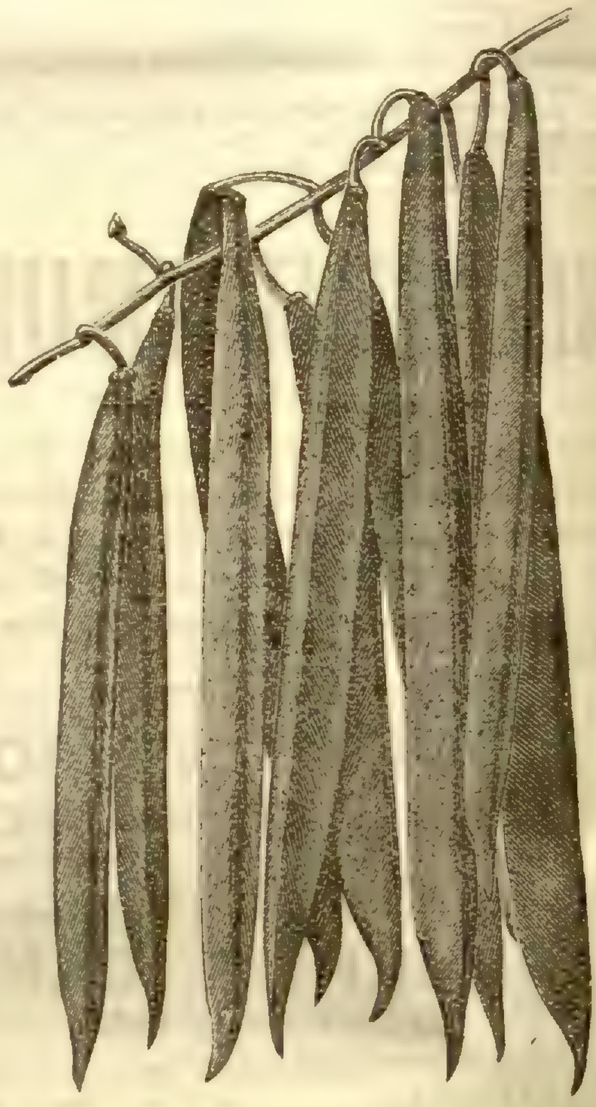

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THE
Gardeners' Chronicle.
SATURDAY, JANUARY 5, 1895.

NOVELTIES OF 1894.

ANOTHER year has passed, and the pleasant task of passing in rapid review the best of the novelties of 1894 has come round. It is only whilst collecting and preparing the materials for such a notice, that the importance of the work done is realised to the full, or the beauties and sterling qualities of plants which skill and enterprise have provided, become justly appreciated. For the introduction of good plants likely to remain useful in gardens, the past year will compare favourably with any of its predecessors, and a pleasant feature about its work is that most favourite classes of plants seem to have been tolerably equally dealt with, while some temporarily-neglected subjects seem again to have obtained the attention they merit.

THE ORCHIDS.

As usual of late years, Orchids have stood well to the front, and the novelties which have appeared are fairly divided between the plant-collector and the hybridist, the latter in point of numbers having perhaps the advantage; but the multiplication of garden crosses and hybrids has not diminished the efforts of the importer, but rather given him an additional stimulus, a really new, showy, and distinct species having now a double use—that of beautifying our existing collections, and lending to the cross-breeder its flowers to raise new forms, which but for its introduction would not have been obtainable.

As in former years, a few stand prominently forward, and among these should specially be noted the remarkable emerald green and white Cypripedium callosum Sanderæ of Messrs. F. Sander & Co., which was a centre of attraction at the last Temple Show; the magnificent white and crimson Cattleya Warscewiczii "Countess of Derby," of Thos. Statter, Esq., of Manchester; and the fine Odontoglossum crispum, Baroness Schroder, of the Dell collection, and which is probably the richest coloured form of this species, and in place of the usual description of spotted forms of O. crispum, viz., white, with coloured blotches, might be more correctly said to be rich dark red, with slight white intervening.

THE AMATEURS.

Each year is prophesied the end of novelty, so far as Odontoglossum crispum is concerned; but every year Baron Schroder sends forth from his great collection a set of new forms, which are advances on others previously known. Among his most admired plants during the past year were, O. c. excelsior, O. c. Rex, O. c. xanthotes, O. c. mirabile, O. c. grande maculatum, the O. c. Baroness Schroder, and an older but distinct form, O. c.

Wolstenholmæ. From the Dell collection also came two of the best hybrids of the season, viz., Calanthe × Baron Schroder, perhaps the largest-flowered Calanthe, with rich crimson and purple flowers; and Dendrobium × Dellense (D. nobile Schroderianum × splendidissimum), a noble white hybrid, with dark purple eye, the tips of the segment tinted rose.

Sir Trevor Lawrence, an amateur keen to detect all good flowers, either species or hybrids, showy or curious, has brought out, for the first time, or in better form than ever before observed, the fine white and fragrant Cattleya Gaskelliana albens odorata, the bright yellow and red Odontoglossum excellens chrysomelanum, the white Dendrobium superbum Huttoni, Dendrobium × Hebe (Findlayanum × Ainsworthii), Cypripedium × The Pard (concolor × superbiens), and other handsome hybrids. Among plants of special botanical interest which he has exhibited are Polystachya Buchanani, P. Lawrenceana, Cyrtopera papillosa, Dendrobium Kingianum album, Polycycnis Lehmani, and the first of an entirely new genus, Serrastylis modesta, but which was first exhibited by Major Joicey at the Royal Horticultural Society on November 27.

Norman C. Cookson, Esq., that indefatigable raiser of good hybrid Orchids, has, on two or three occasions, exhibited selections of his new Calanthes, and three very beautiful ones have been selected for awards, viz., C. × Bryan, cream-white, with purple centre; C. × Wm. Murray, white, with rose lip and purple centre; and C. × Harold, like a bright-coloured C. × Veitchii, but with yellow eye; all these are worthy of the gardens from which they emanate. His Cypripedium × Cyris (Boxalli atratum × Argus), which received a First-class Certificate, is one of the best of its class, though C. × Dibdin (which was named C. × Murillo on the Continent), C. × Daviesianum, and others, are of the same parentage. The Dendrobium × Sybil (Linawianum × bigibbum) which had only received an Award of Merit on its first appearance, was rightly adjudged First-class in 1894.

Those amateurs who affect showy species only have flowered most of the fine forms of Cattleya, Lælia, &c., of the year. Among them were several grand things from Lord Rothschild's gardens. Of these Cattleya Hardyana Laversinensis and C. H. Tring Park variety, which each received a First-Class Certificate at the Royal Horticultural Society, were superb, and Cattleya guttata Prinzii, Viscount de Figueiredo and Dendrobium crepidatum, Tring Park variety, extraordinary improvements in their class.

None could desire four better things to put their name to, than the four best of the year belonging to G. D. Owen, Esq., of Rotherham, viz., Cattleya labiata Countess Fitzwilliam, white, with delicate pink mark on the lip; C. l. Foleyana, white, with orange throat, and crimson blotch on the lip (both First-class Certificates); Cattleya Hardyana Selwood variety, and Lælia Oweniæ.

Thos. Statter, Esq., of Whitefield, Manchester, one of the best growers and most consistent exhibitors, has set a hard task for himself and other growers to beat his superb white Cattleya Warscewiczii Countess of Derby, which seems to have attained the highest point in its direction. Mr. Statter has shown many new things during the year, and received awards for Cattleya bicolor cœrulea, Lælia × euterpe, Cypripedium × memoria Moensi, C. × Lucienianum superbum (two of Messrs. Linden's), and others.

R. I. Measures, Esq., great in Cypripediums has, among others, to his credit the handsome Cypripedium × Annie Measures (bellatulum × Dayanum), C. Godefroyæ leucochilum, and its yellow-ground variety, aureum; C. Godefroyæ, Cambridge Lodge variety; C. × Nandi (callosum × Tautzianum), one of the finest and brightest of dark rose and white Cypripediums; and Cattleya labiata R. I. Measures, one of the most distinct whites, with delicate pink veining on the lip.

De B. Crawshay, Esq., Sevenoaks, shows well with some grand Odontoglossums, viz., O. crispum Florrie, O. triumphans Lionel Crawshay, O. crispum Florence Bovill, &c.; and Cattleya Mendelii Mrs. De B. Crawshay is superb, and Vanda suavis Rosefield, and Odontoglossum citrosmum Rosefield var. are also very fine.

M. Wells, Esq., Broomfield, Sale, gives Lælio-Cattleya × Broomfieldiensis and L.-C. Wellsiæ, both handsome; H. T. Pitt, Esq., of Stamford Hill, showy and distinct novelties in Lælio-Cattleya × Pittiana, of Messrs. Sander's introduction; the large pure white Cattleya Mossiæ alba, Pitt's variety; and his fine forms of Lælia grandis and L. tenebrosa, the latter having clear yellow sepals and petals, something like the Walton Grange variety. Joseph Broome, Esq., of Llandudno, flowers the handsomely-painted Dendrobium Wardianum pictum, and other good showy things; W. J. Thompson, Esq., the beautiful Cattleya Gaskelliana Nellie, Odontoglossum Wilckeanum grandis, and several remarkable varieties of O. luteo-purpureum sceptrum; Mr. Hollington's best was Cypripedium × Winifred Hollington; Mr. Ingram's C. × Captain Lendy; Geo. C. Raphael, Esq., had the remarkably coloured Odontoglossum Pescatorei, Raphael's var; E. Ashworth, Esq., the lovely silvery-petalled Cattleya labiata elegans, and the richly-marked Cypripedium × Swinburnei magnificum, which was also exhibited by T. W. Swinburne, Esq., both plants coming from the batch raised by Messrs. Heath & Son, of Cheltenham. Walter Cobb, Esq., of Tunbridge Wells, flowered Cypripedium × J. Howes (Sallierii × villosum aureum), a fine improvement on C. × Sallieri Hyeanum; Lælia elegans Dulcotense, Odontoglossum aspersum fulvidum, &c. A. H. Smee, Esq., has two fine things in Dendrobium nobile var. Smeeana, one of the largest and best, and Lycaste cruenta gigantea; and in the gardens of J. L. Moss, Esq., at Winter's Hill, Bishop's Waltham, flowered the fine white Cœlogyne Mossiæ, one of the best new species of the year.

Nurserymen.

Messrs. F. Sander & Co., St. Albans, make rapid but steady progress both in introducing to this country and raising novelties, and the beautiful subjects put to the credit of the firm during the past year are so numerous as to make even a brief notice of some of the best, a matter of considerable length. In new importations of the firm are the large white Angræcum Fournierianum, a new and beautiful type; Cœlogyne Swaniana, a neat plant with racemes of flowers like those of C. Massangeana; Phaius bicolor Oweniæ, not of large size, but very rich in colour. The new type of L. anceps, so well exemplified in the large white L. a. Ashworthii, whose lip has markings of a decidedly light violet tint; and the equally handsome L. a. Hollidayana. Oncidium Lucasianum, with clear yellow flowers, and Anæctochilus Boyleanum. Amongst new varieties of showy and known species are Cattleya Mendeli picta, C. M. Queen Victoria, C. Warscewiczii purpurea, C. Gaskelliana, Madoux variety; C. Mossiæ imperialis, Lycaste Skinneri, Mrs. H. Ballantine; Lælia elegans nobilis, Odontoglossum elegans, Sanders' var., and Cattleya Schroderæ, Wells' var., all of which have passed the scrutiny of competent judges with honour.

The hybrids, raised, and flowered, and exhibited by Messrs. F. Sander & Co. during 1894, were both numerous and good. Scarcely one can be selected which is not a distinct gain to gardens. Of those which received First-class Certificates are Lælio-Cattleya × The Hon. Mrs. Astor (C. Gaskelliana × xanthina) a charming hybrid; Cattleya × Kienastiana (speciosissima × aurea), Cypripedium × Arnoldiæ (bellatulum × superciliare), Phaius × Marthæ (Blumei × tuberculosus), and Phaius × Owenianus (bicolor Oweniæ × Humblotii), a lovely thing, which in addition to a First-class Certificate, took 1st prize at the Royal Horticultural Society, in the open competition, for the best new hybrid of the year.

Of the others which received an Award of Merit, Phaio-Calanthe × Arnoldiæ (C. Regnieri × P. grandifolius) is a splendid acquisition; Cattleya × Brownæ (Harrisoniæ × Bowringiana) distinct and good; Lælio-Cattleya × Frederick Boyle (C. Trianæi × L. anceps), a remarkable hybrid; L.-C. × Aylingii, pretty; and the singular and elegant Epi-Lælia × Hardyana (E. ciliare × L. anceps), named in compliment to Fred. Hardy, Esq., the first of a new type of hybrids. Among other good things also, Messrs. Sander have Cypripedium × Uihleinianum (Spicerianum × Curtisi), C. × Doncasterianum (hirsutissimum × callosum), C. × J. Bartels (Boxalli × callosum), Lælio-Cattleya × Wellsiana (C. Trianæ Leeana × L. purpurata), Calanthe × Laucheana, with pale lavender flowers; Cattleya × Mrs. M. Wells (Prince of Wales × labiata Warneri), a very distinct and pretty flower; and Miltonia × Bleuana nobilior, only to be matched by the very fine C. × Bleuana rosea recently exhibited by M. Jules Hye-Leysen.

Messrs. Jas. Veitch & Son well sustain their place in the front rank of Orchid hybridisers, their novelties brought out and receiving awards in 1894 being perhaps better than in any previous year. Remarkably beautiful and distinct gains to Orchid collections are their fine hybrids of Cattleya and Lælia especially. Among them, Cattleya × Wendlandi (Bowringiana × Warscewiczii), L.-C. × Clonia (L. elegans Turneri × C. Warscewiczii), Cattleya × Fabia (Dowiana × labiata), and Lælio-Cattleya × Decia (C. Dowiana aurea × L. Perrini), are all superb novelties, and L.-C. × Parysates (L. pumila ♂, C. Bowringiana ♀) one of the most distinct of the hybrids in which C. Bowringiana has participated. Lælio-Cattleya × Zephyra (L. xanthina × C. Mendeli), was found good enough for a First-class Certificate, and L.-C. Tydæa (C. Trianæi ♂, L. pumila ♀), and three grand new forms of L.-C. Nysa, viz., superba, picta, and purpurea, Awards of Merit.

The best of the new Chelsea hybrids of Cypripedium are C. × James H. Veitch (Stonei platytænium ♂, Curtisi ♀), and C. × Morganiæ Langleyense (Stonei platytænium ♂, superbiens ♀), both noble flowers, with a certain resemblance to each other, and which received First-Class Certificates; and C. × Merops (Drurii ♂, ciliolare ♀) is also pretty. Sobralia × Veitchii (xantholeuca × macrantha), is a fine novelty, with large delicately-tinted flowers; Dendrobium × Alcippe (Wardianum × lituiflorum Freemanii), and D. glomeratum, both good; the latter being a New Guinea species, with numerous clusters of light rose-purple flowers; and D. × Virginia (Bensoniæ ♂, japonicum ♀), was adjudged worthy of a First-Class Certificate. Of their hybrids with Sophronitis, Messrs. Veitch showed two new ones — Sophro-Cattleya × eximia (S. grandiflora ♂, C. Bowringiana ♀), and Sophro-Lælia × læta (S. grandiflora ♂, L. pumila Dayana ♀); and of the hybrid Disas so well grown both by Messrs. Veitch and at the Royal Gardens, Kew, both good are Disa × Langleyensis (tripetaloides ♂, racemosa ♀), and D. × Diores (grandiflora ♂, Veitchii ♀), the first secondary hybrid in the genus. The features of D. grandiflora predominate in it, as might be expected, though the colour is changed to a fine rose-crimson. The Masdevallia × Asmodia (Reichenbachiana ♂, Chelsoni ♀), which flowered with Messrs. Veitch for the first time this summer, is a neat plant; and their Epidendrum × Wallisio ciliare, a very remarkable hybrid, with yellow sepals and petals, and white fringed lip.

Messrs. W. L. Lewis & Co., Southgate, whose regular exhibiting of effective groups of well-bloomed Orchids at the Royal Horticultural Society's meetings render familiar, have received awards for a few very excellent plants. Their Cypripedium × Bookeri (ciliolare × Spicerianum) is a very fine form, with large and peculiarly-formed upper sepal tinged with purple in the way of C. × œnanthum; Cattleya Mendeli Lewisi, C. Warscewiczii albo-striata and C. Gaskelliana "Miss Maude Dowdney," with silvery-white sepal and petals, are all good;

Vanda tricolor Lewisi, the best shaped, and most densely spotted variety of the species; and Odontoglossum citrosmum sulphureum, a pale yellow, as its name implies. Messrs. Lewis were also the first to show Habenaria carnea nivosa; and some of the more recently flowered of their Cattleya × Ashtoniana (Harrisoniæ × Warscewiczii) have been very handsome, and have the merit of keeping their clear rose-pink flowers a very long time.

Messrs. Hugh Low & Co., of Clapton, from their large importations, have flowered many new and fine varieties of the showy species. Three of the best are Cattleya labiata Thayeriana, C. l. Hardyana, and C. l. lilacina, the last-named having slate-blue colouring on the lip, as in C. l. leucophæa. Vanda Roeblingiana is a most singular and distinct species, and Dendrobium Cœlogyne a welcome re-introduction of a curious species; so also are Trichopilia Wagneri, Houlletia Lansbergii, and Zygopetalum grandiflorum Lowii. Remarkably fine forms of their several species are Sacoolabium cœleste superba, Cypripedium bellatulum Lowii, Odontoglossum crispum Lowii, and Cypripedium Charlesworthii magnificum. The three hybrids hailing from Clapton during 1894 are Cypripedium × J. Gurney Fowler (Godefroyæ × barbatum), C. × Pluto (Boxalli × calophyllum), and C. × Argus-Spicerianum; and at the last meeting of the Royal Horticultural Society Messrs. Low showed the fine rose-purple Schomburgkia rhinodora Kimballiana, which received an Award of Merit.

Continental Novelties in Orchids.

More frequently than in former times do our Belgian brethren avail themselves of the open meetings of the Orchid Committee of the Royal Horticultural Society, and during the past year some fine things from the Continent have been exhibited there, but still one would think that more should be forthcoming.

Messrs. Linden, l'Horticulture Internationale, Brussels, showed a very extensive collection of varieties of Lælia purpurata at the Temple Show, and since that some other remarkable things, and notably the fine group of varieties of Catasetum Bungerothi, C. macrocarpum, and intermediate forms between the two, for which they obtained a Silver Medal at the Royal Horticultural Society on November 13. The plants showed the most extraordinary variation, ranging from the large white typical C. Bungerothi to orange-yellow. Some forms had a purple base to the lip, and several had sepals and petals richly spotted with crimson. The certificated forms were C. Bungerothi aurantiacum, C. O'Brienianum, and C. Lindeni, and these, with other natural hybrids of the same class, are now made varieties of C. × splendens. Late in the year Messrs. Linden flowered the grand white-petalled Cattleya × Hardyana Leopold II., and a curious white and purple species imported with C. Mossiæ, and which may be entirely new.

M. Jules Hye-Leysen of Ghent, one of the most familiar of the Continental Orchid-growers, showed in good form his beautiful Cypripedium × Leysenianum (barbatum Crossi × bellatulum); the rich vinous purple C. × Chas. Richman var. Météore, C. × triumphans (Sallieri × œnanthum superbum), C. × Madame Jules Hye (tonsum × Spicerianum superbum), and C. Madame Marguerite Hye (Sallieri Hyeanum × Spicerianum). Among other fine things, he also exhibited the large and handsome Miltonia × Bleuana rosea.

M. A. A. Peeters showed the new, richly-variegated purple and rose Cattleya labiata Peeters' var., and the pretty Odontoglossum crispum Capartianum; while Messrs. Vervaet & Co. of Ghent sent Odontoglossum crispum Franz Masereel, whose flowers are for the greater part of a rich crimson.

*

Fig. 1.—Cleyera fortunei (Hook. f.): hardy evergreen shrub. (see p. 10)

Two pretty things, raised by M. Anton Joly, in Baron Nathaniel von Rothschild's gardens at Vienna, are recorded, viz., Cypripedium × Anton Joly (vernixium × Spicerianum), and C. × Pandora (Argus × Dayanum).

MISCELLANEOUS.

Among other good novelties of the year should be recorded Cypripedium bellatulum, Hardy's variety, with handsomely-marked flowers, purple on yellow ground, and the clear yellow C. insigne Hardyana.

Late in the year Mr. P. Weathers, of Isleworth, exhibited two sterling new plants in the large pearly-white Cattleya labiata Weathersiana, and the charming Cypripedium × Wm. Lloyd (bellatulum × Swanianum). Dendrobium × Ainsworthii, Cypher's variety, is the handsomest of its class; Cypripedium insigne Gortoni, very pretty. From that vast store of novelties, the Royal Botanic Gardens, Glasnevin, Dublin, many pretty new plants have been shown in England, despite the distance, two of the most remarkable, perhaps, being the large and singularly-formed Coryanthes Wolfiana, and the singular Masdevallia pusilla.

At the Royal Gardens, Kew, the good and useful work of flowering and proving things new and old has gone on in the usual satisfactory manner, and many novelties, chiefly botanical, have there bloomed during the year, and which have been duly recorded in the *Kew Bulletin*.

The following novelties in Orchids have been illustrated in the *Gardeners' Chronicle* during 1894:—

Angræcum Fournierianum, July 14, p. 43.
Cœlogyne Mossiæ, March 31, p. 401.
Cypripedium × Gravesiæ, March 10, p. 299.
Cypripedium × Winifred Hollington, April 21, p. 495.
Cypripedium × Annie Measures, May 26, p. 657.
Cypripedium Sargentianum, June 23, p. 781.
Cypripedium Godefroyæ leucochilum, June 30, p. 815.
Cypripedium × William Lloyd, December 22, p. 757.
Cypripedium × James H. Veitch, Sept. 8, p. 287.
Disa nervosa, Sept. 15, p. 309.
Disa × Langleyensis, July 14, p. 35.
Disa × Veitchii, July 28, p. 93.
Epi-Lælia × Hardyana, Nov. 24, p. 629.
Habenaria Susannæ, Sept. 8, p. 279.
Lælia anceps Ashworthiana, Jan. 27, p. 103.
Lælio-Cattleya × The Hon. Mrs. Astor, Feb. 24, p. 231.
Lælio-Cattleya × Pittiana, March 3, p. 265.
Lælio-Cattleya × Fred. Boyle, June 30, p. 809.
Lælio-Cattleya × Decia, Dec. 8, p. 699.
Lælio-Cattleya × Broomfieldiensis, August 25, p. 223.
Lycaste × Schönbunnensis, August 4, p. 118.
Odontoglossum × elegans Sander's var., April 7, p. 441.
Odontoglossum crispum mirabile, September 1, p. 249.
Odontoglossum crispum maculatum, September 1, p. 248.
Oncidium Lucasianum, April 21, p. 497.
Phaius × Owenianus, June 23, p. 791.
Stenoglottis longifolia, November 10, p. 563.
Serrastylis modesta, December 15, p. 727.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

CLEYERA FORTUNEI.*

THE very handsome shrub (fig. 1) to which I have given the above name has been cultivated in this country for upwards of thirty years, but never having till recently been seen in a flowering state, either living or in a herbarium, by any botanist, its very genus has been doubtful. The first account of it is contained in the *Gardeners' Chronicle* for 1861 (p. 735), where it is alluded to as a new Japanese plant, introduced by Mr. R. Fortune, and shown at a meeting of the Royal Horticultural Society, when it was awarded a First-class Certificate. It was described as a broad-leaved Eurya, having its young foliage stained with a fiery orange, and was exhibited by Mr. Standish, F.R.H.S. Since that period it has been known in collections under the names of Eurya latifolia variegata, and Cleyera japonica foliis variegatis, both of which must now be abandoned.

That this shrub is no Eurya, and that it is a Cleyera, is evident. But the known species of that genus are so very closely allied to one another that the establishing a new one, on what is no doubt a garden variety, and probably due to Japanese or Chinese skill, is a rather hazardous proceeding. I say Japanese or Chinese, for Fortune sent variegated-leaved shrubs from both countries, on the occasion of his last visit to the East, and the absence of any specimen of C. Fortunei in the rich herbarium of Japanese plants at Kew is suspicious.

There are three recognised Asiatic species of Cleyera, all closely allied to C. Fortunei. Of these, two are Indian (which may be regarded as varieties of one), viz., C. ochnacea, DC., a native of the Himalaya and Khasia Mountains, and C. grandiflora, Hook. f. and Thoms. (see Dyer, in *Fl. Brit. Ind.*, v. i., pp. 283, 284); the other is Japanese—C. japonica,* Sieb. and Zucc., which has by some botanists been regarded as a form of C. ochnacea. The chief difference between the Japanese and the Indian species is in the well-marked venation of the leaves of the latter; the veins in C. japonica being very obscure, or quite invisible, in the dried leaf. Both vary greatly in the size of the flowers and leaves, and in the form of the latter. Siebold's figure of japonica has flowers very much smaller than those represented in the "Sakaki" of Kæmpfer's *Amœnitates*, of which Sir J. Banks published the figures (t. 33). The large-flowered form would appear, from the numerous specimens in the Kew Herbarium, to be the more common of the two, for there are examples of it from several parts of Japan, and from China and Formosa.

C. Fortunei agrees with C. ochnacea and grandiflora in the venation of the leaves, and with the latter of these two in the size of the flowers, but differs from both in the longer, narrower leaves, and their thinner texture—characters that may be due to cultivation; and if the Himalayan species were to prove to be also Chinese (as are so many Himalayan shrubs), it would strengthen the suggestion I have thrown out, that C. Fortunei is of Chinese and not Japanese origin. And, further, more material might prove that there is but one species common to the Himalayas, China, and Japan. *J. D. Hooker.*

[Flowering specimens of this shrub were exhibited at the Conference on Trees and Shrubs held at Chiswick on Sept. 23, 1894, by Lt.-Col. Tremayne, Carclew, Cornwall. ED.]

CATASETUM IMPERIALE, *n. sp., Lind. et Cogn.*

The charming introductions, Catasetum Bungerothii, their new forms of C. macrocarpum, and, later, the showy series of hybrids between the two (C. × splendens vars.), all of which were introduced by Messrs. Linden, of l'Horticulture Internationale, Parc Leopold, Brussels, may be said to have redeemed the hitherto slighted genus Catasetum from the term "botanical plants," under which so many pretty things are barely tolerated in gardens. Their latest novelty, Catasetum imperiale, Lind. et Cogn., is undoubtedly the most ornate and richly-coloured Catasetum known, and one which not even the surprising things which have preceded it prepared one to see. The sepals, which are three-fourths of an inch wide, are white; the ovate acuminate petals 2 inches long and 1½ inch wide, white, spotted with bright crimson-purple on the basal portion. The large fleshy concave labellum, which is over 2 inches across, is in the interior wholly of a rich crimson-purple colour, except a small creamy-white blotch in front of the depression at the base, formed by the spur and a silvery-white margin which merges into a narrow cream-white band in front. Column purple at the base, then white, spotted with purple. If the colours indicated were on a good C. Bungerothi, it would give an idea of this beautiful plant. It differs from C. Bungerothi in the slightly shovel-shaped apex of the lip, which is obscurely three-lobed; and from the C. × splendens varieties, in the total absence of a callus. It may be a natural hybrid with C. Bungerothi, but if so, there is yet another gorgeously-coloured species which has combined with it in the production of this, and which has to be discovered. *James O'Brien.*

BEMERTON RECTORY, SALISBURY—REVISITED.

IN pages 116 and 117 of the *Gardeners' Chronicle*, for July 23, 1881, there was given a fairly full description of Bemerton Rectory, the once ministerial and poetic "temple" of the saintly George Herbert, the priest and poet, who was, on April 26, 1630, inducted to the living to which he was presented by King Charles. The writer of the notes above referred to, in revisiting Bemerton Rectory gardens and grounds last July (on the occasion of the "Bemerton Allotment Associations" Annual Show), after an interval of thirteen years, found that Father Time had made regrettable, as well as satisfactory, changes there since his first visit was made—regrettable in that the Rev. Wellesley Pole Pigot, who was rector of Bemerton for about fifty years, and who had made many improvements in the rectory, gardens, and grounds during that period of time, had passed away, but satisfactory in knowing that the deceased gentlemen had been succeeded by so excellent and highly popular a gentleman as Canon Warre, who is president of the "Bemerton Allotment Association" (the best of the kind in the county, if not in England), and who not only takes a great interest in gardening, and in promoting a better knowledge of gardening subjects in the parish, but is a really good gardener himself. Canon Warre has increased the number of glass-houses since he has come to reside in Bemerton Rectory, the additional houses having been erected for the culture of Orchids, of the habits and requirements of which he has a good knowledge.

The most noteworthy plants in flower at the time of my visit were Brassia guttata (Wrayæ), one plant having five spikes, bearing nearly three-score finely-developed greenish flowers, spotted with purplish-brown; Oncidium incurvum, with three good spikes of its pretty white and rosy-purple flowers open; Odontoglossum Lindleyanum, Cattleya Loddigesii, and Cymbidium Lowianum. The plants, consisting largely of Odontoglossums of the crispum and Harryanum types, were clean and healthy-looking; the same may be said of several fine pieces of Cœlogyne cristata which were observed.

It afforded me much pleasure to find Mr. Edward Lampard, the gardener, who kindly conducted me through the houses and grounds on the occasion of my previous visit, still in charge, and looking almost as fresh and vigorous as the Sequoia gigantea growing on the closely-cut lawn in front of the rectory, and which he (Mr. Lampard) planted out of a 6-inch pot thirty-seven years ago. It is now a fine specimen, about 60 feet high, having a straight stem about 9 feet in circumference close to the ground, and furnished from bottom to top with healthy branches clothed with rich dark green foliage—true indications of health and vigour in evergreen subjects. The dimensions of this tree in 1881 were:—Girth of stem at 3 feet from the ground, 6½ feet; height, 40 feet. There is also a nice healthy-looking young tree of Thuiopsis dolabrata variegata, 18 feet high. The specimens of Abies nobilis, Portugal Laurel, and Quercus Ilex (Evergreen Oak), are worthy of passing notice. A most interesting and

* *Cleyera Fortunei*, Hook. f.; foliis 4—6 pollicaribus ellipticо-v. lineari-oblongis obtusiulis utrinque sensim angustatis lucidis costa nervisque prominulis; pedicellis confertis ½-pollicaribus; floribus ¾ poll. latis; petalis primulinis sepalis obtusis ciliolatis triplo longioribus; staminibus 15—20 filamentis inaequilongis, antheris oblongis pilosis. Japan? *Hort.* Cleyera japonica, var. foliis variegatis.
Eurya sp., *Gardeners' Chronicle*, 1861, p. 735.
E. latifolia variegata, Verschaff. in *Expos. Gand.*, 1882; ex *Bull. Fél. Soc. Hort. de Belgique*, 1886, p. 394.

* Which must not be confounded with Cleyera japonica, Thunb., a species of Ternstrœmia.

noteworthy fact in connection with the subject of this notice is that the Medlar tree planted on the lawn about a dozen yards from the River Nodder by George Herbert, in 1632, is still full of life and vigour, and bears good crops of fruit annually. Three trunks, or main stems, shoot from the base of the old trunk, which has long since disappeared in decay, and these are and have been for many years encased by zinc in order to preserve them from decay.

In conclusion, I may say that the beds and borders reserved for flowering plants were gay with a variety of flowers of bright and pleasing shades of colour, tastefully arranged as to general effect, and that the kitchen garden was well cropped with a good supply of seasonable vegetables. I must also record my indebtedness to Canon Warre for the kindness and courtesy which he extended to me on the occasion of my second visit to Bemerton. *Tourist.*

THE ALLAMANDA.*

The Allamanda is pre-eminent as a stove climber, or bush plant, owing to the great profusion of flowers that it gives; and, unlike some other plants, it will, under generous treatment, keep up a succession of them, extending from Easter until well into October, or even in rare instances, to the close of the year. This is a practice not to be recommended, as the plant under those conditions is deprived of the rest that is needed to insure success for the ensuing year. A succession of plants had better be resorted to if a very long period of bloom is needed.

Culture—The cultural requirements are simple. To obtain perfect specimens of the climbing sections, and to show them to advantage, for home decoration, the shoots should be tied to wires placed within about 8 inches of the roof. Trained in this way, and the points suffered to ramble in an unconfined manner, the effect far surpasses that of stiffly-trained specimens in the quantity and quality of the flowers. For bush specimens, pruning and stopping are necessary for obtaining the requirements aimed at.

Propagation.—This is effected by seeds or cuttings, the latter being generally resorted to; seeds are only used when hopes are entertained of getting new varieties. The cuttings may be put in at almost any season of the year, but February or March are preferable months; for then a long season of growth is obtained. The best cuttings are made from the young shoots; these should be cut off, retaining about three joints. Cut them level at a joint, and insert them singly in small 60's, well drained, and filled with a mixture consisting of loam, leaf-mould, and silver-sand; well water-in, and plunge in a brisk bottom-heat of about 75° to 80°, keeping them somewhat close for about a fortnight; after that period or thereabouts, stand them on the plunging material, admitting more air; then, in a few days, when you know that roots have been emitted, put them into larger pots, using this time more loam and less leaf-soil. Keep them away from direct sunshine for a few days, plying the syringe freely amongst them; after this accustom the plants to more light. It is at this period that the future of the plant ought to be decided, that is the framework for a specimen, as a trailer for a pillar, or for trellis-work. By this I mean, that then is the time to pinch-out the lead to cause more breaks below if wanted as a specimen. If a plant is required for a pillar, allow the shoot to attain the height required for the one shoot, then pinch the point out, the required attention and pinching being identical in each case. Keep the root sufficiently moist, and well syringe the foliage. As occasion requires, repot; this may be necessary twice or thrice during the first season, but the size of the shift will depend on the size and strength of the plants. Gradually withhold water from October onwards till about February. This is termed the resting period, but young plants should not be subjected to such a long or thorough resting as old plants. If the plants can be subjected to a somewhat cooler temperature it will be to their advantage, but do not let them go lower than about 55°.

Pruning.—This operation is generally carried out in February or March. Cut well back annually to within one joint or two of the previous season's growth, introduce into more heat, and apply the syringe freely, but do not at this period apply much water at the root. When the young shoots begin to push out, say, 2 inches, repot into the pot you think will be requisite to carry the plant through the season.

For the final potting, see that the drainage is good, and use only good loam, with the addition of a few handfuls of broken charcoal and silver-sand. Pot firmly, and keep meanwhile the plant in position, at the same time leave sufficient space for holding water, the Allamanda being a free grower, therefore a thirsty plant. All is now finished for the season, except watering and syringing, which should be both frequent and thorough. Occasional ties to secure the shoots on the trellis-work may be required. If for specimens stake out as required, thinning the wood where it is getting overcrowded, or pinch out the points to retard the blooming period if any special object or date be aimed at.

Manures.—I have alluded to the Allamanda as a thirsty plant, I would therefore advise frequent waterings with weak liquid manure, that of the farmyard being preferable, although Thomson's and a few other artificial manures might with advantage be also used.

Insects.—Black-fly, thrip, or spider are occasionally seen on Allamandas, but their presence is generally to be accounted for, either from lack of water at the root, or using the syringe with insufficient force. If either is present, I would advise a thorough fumigation; afterwards using the syringe constantly, otherwise steaming the pipes on dull days, when it is not advisable to use the syringe; but the syringe should be used freely and regularly, prevention being far better than cure.

Varieties.—The varieties chiefly grown are Hendersoni, Schotti, nobilis, Williamsi, and grandiflora; the two latter are especially good for exhibition, making good bush specimens.

* Extract from a lecture by Mr. Torevel before the South Birmingham Gardeners' Improvement Association.

NEW YEAR'S DAY IN JAPAN.

Mrs. Chaplin Ayrton (in the *Transactions of the Asiatic Society*) says that:—"The most striking feature of New Year's Day in Japan is the decoration placed, more or less complete, before each portal. Every object in this has its symbolic meaning. If the spectator faces the green arch which this decoration forms, he will have on his right side the ematsu (Pinus densiflora) with its reddish stem, and on his left the black trunk of the o-matsu (Pinus Thunbergi) Though Pines are monœcious, fancy has ascribed to the black-trunked tree a masculine gender, and to the lighter a feminine. Further, these hardy trees symbolise a stalwart age that has withstood the storms and troubles of existence. Immediately behind rises on each side the graceful stem of the Take-Noiki (Bamboo), of which the most convenient kind is selected. Its erect growth and succession of knots, marking the increase during succeeding seasons, make it a symbol of hale life and fulness of years. There is a distance, usually of 6 feet, between the Bamboos spanned by the grass-rope (nawa), which, though convenience obliges it to be high enough to pass under, should, to accord with its symbolical meaning, debar all evil and unclean things from crossing the threshold. In the centre of the arch thus formed of Pines and Bamboos and the grass-rope is a group of several objects, most conspicuous among which is the scarlet yebi or lobster (a crayfish, really), whose crooked body symbolises the back of the aged bent with years. This is embowered in Yusuri branches. In the Yusuri (Melia japonica), when the young leaves have budded the old ones are still unshed. So many parents continue to flourish while children and grandchildren spring forth. In the centre also are the graceful fronds of the Shida, or Cirajiro (Polypodium dichotomum of Thunberg). This Fern symbolises conjugal life, because the fronds spring in pairs from the stem. In Japan, fronds growing thus uniformly do not suggest equality of the sexes. Between the paired leaves nestle like offspring the little leaflets. Here and there are gohei, the quaint scraps of paper offered to the Shinto gods; according to some, a conventionalised representation of the human form, the offerer devoting himself in effigy to the deities. According to others, these offerings of cut paper represent offerings of valuable cloth—this is the more usual explanation. Almost as conspicuous as the yebi is the orange-coloured Dai dai (the fruit of Citrus bigarada). There is a pun implied here, like the play upon words in English heraldry, for the second meaning of dai dai is generation—may the family-tree flourish. The juice of the Dai dai is prized as a specific against vomiting, as Europeans take lemons as a preventative against sea-sickness. There is a pun, too, in the piece of charcoal beside the Dai dai, for sumi (charcoal) has the second meaning of "homestead.' The Honta Wara, or Fimbaso, a species of seaweed, is a memorial of good fortune. For, about 200 A.D., when the Empress Jingo-Kobo reigned, she concealed her husband's death lest the people should be discouraged in the campaign against Korea. Her troops encamped on the seashore were in danger of defeat from want of fodder for their horses. She ordered the Honta Wara to be gathered from the shore for the horses, and refreshed by this meal they were victorious in battle. At the end of the war she bore a son named Hachiman, who, from the circumstances of his birth, became the Japanese Mars. Another seaweed decoration is the Kobu (Laminaria saccharina). Here also is a pun on the verb yoro-kobi—to rejoice or gladden. The last decoration is the fukutso tsumi, a square of white paper, held in by a red and white string (midsu shiki), which marks a present. This is to be considered a lucky-bag, for its contents are suitable to the season, consisting of kachi guri, roasted chestnuts; kazu-no-ko, the roe of the herring (nishin); kazo-no-tane, the seeds of the Torreya nucifera, used to make sweets; and kushi gaki, the fruit of the Kaki Diospyros, dried on a stick. Kushi kaki becomes gaki in composition, as kawa (river) is changed in Sumida gawa. These decorations are cut down in Tokyo on January 7, in some places on January 3. There is another decoration sometimes used, the daikoko buné, a miniature ship of twisted straw, laden with representations of bales of grain, bits of green, and little ornaments of every kind. The idea of the ship is an offering of first-fruits. *"The Japs at Home," by Douglas Sladen, pp. 60—62.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM WRIGLEYANUM.

This very distinct and handsomely spotted form is in flower in the collection of M. Wells, Esq., Broomfield House, Sale, Manchester (gr., Mr. R Hinds). The sepals and petals are white, veined and suffused with light rose-purple, and bearing each several large, irregularly-shaped, reddish-brown blotches. It was introduced by Messrs. Charlesworth & Co., of Heaton, Bradford, and made its first appearance in flower at the great show of the Royal Botanic Society of Manchester, at Old Trafford, in May, 1893.

A Long-Flowering Cypripedium.

In May, M. Vuylsteke showed at the Antwerp Exposition Internationale d'Horticulture, a well-flowered Cypripedium Chamberlainianum. In November, this same plant was staged at the Chrysanthemum Exhibition, and flowers were open upon the same raceme,

which terminated in three buds. We have before us one of the flowers developed from those buds; the other two will be open soon. Thus the same raceme has borne flowers for eight consecutive months.

CULTURAL MEMORANDA.

A METHOD OF CULTIVATING RICHARDIA ÆTHIOPICA.

WHEN the plants have done flowering, I begin to rest them by withholding water for a time, but not allowing the soil to get very dry, and when frosts are no longer dangerous they are stood out-of-doors. I prefer to lay the pots on their sides, for when out-of-doors they do not require any more attention in regard to watering the soil till potting time, at the end of June. They are then turned out of the pots, and the crowns carefully shaken out and separated. Some single crowns are put in pots of 6 inches in diameter, and others four or five in an 8 or 9-inch pot. They are again put out-of-doors, and grown on till frosts appear imminent, when they are placed in a cool house, never forcing them at any time. I have a continuous display of spathes all through the winter and spring months. The soil used consists of equal parts loam, leaf-mould, sand, and spent mushroom-bed manure. When the pots are well filled with roots, manure-water of some kind is afforded in a much-diluted weak state — strong manuring makes the plants draw so much. This method is, I think, preferable to planting out, and I am sure would prove more satisfactory to growers than planting out. Where, I think, the mistakes of planting out lie, is simply in placing manure immediately in contact with the roots; and then, worse than all, when lifting time comes, a large number of the roots have to be sacrificed in getting them into pots of a moderate size. As a result, there is long sappy growth, and small, almost worthless spathes. I am of opinion that if the old practice of potting in June were tried by our growers of Richardias, finer and more spathes would be obtained. *A. Young, Marston.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

VEGETABLES FOR EXHIBITION.—To exhibitors of vegetables the New Year brings with it more care, study, and attention to excel his past achievements than is the case with those gardeners who cultivate vegetables to supply the table of the employer with the best sort of produce. In the first week of the year some exhibitors sow a pinch of Onion and Leek seed in their garden. I have sown Autumn Giant Cauliflowers thus early. The plants raised from these early sowings will often do uncommonly well, producing good crops, but seeds sown a little later in the winter are more to be relied on. A 6-inch pot, sown with either Leeks or Onions, will raise a sufficient number of plants for this purpose. The pots should be nearly half-filled with crocks, over which some spent Mushroom-bed manure may be put, a mixture of fine loam, leaf-soil, and sand, being used as filling. Having sown the seeds, not too thickly, water gently, and plunge in a hotbed, the materials of which are only about 6 inches from the glass, and covering with a sheet of glass. Another manner of sowing these seeds is to fill small pots with loam, leaf-soil, and a sprinkling of ground-bone, placing three seeds in the centre of each pot, and reducing the seedlings to one of the most promising, and when the pots fill with roots, repotting into warmed soiled.

ROTATION OF CROPS.—In general practice avoid growing the same kind of vegetable for two years in succession on the same ground. A rough plan of the kitchen garden should be drawn, and each year's crop marked upon it for sake of reference. In large gardens where there is usually plenty of space, a regular succession of cropping may be carried out without much difficulty; but where space is limited, two or three crops must be taken in one year from the same piece of ground, and a change of ground is not so easily obtained. If the labour employed is ample, and manures plentiful, the evils of successive cropping may be more or less successfully combated by having the kitchen garden bastard trenched either in alternate years, or better still, annually. I am a great advocate for bastard trenching always, and do it to the depth of 2 spits, sprinkling fresh slaked lime on the spit of soil first thrown into the trenches after the manure, but no lime should be sprinkled on the top spit when dug, this being far more use to the crop if it be done nearer to seed-sowing time. If wireworms give trouble, use a small quantity of finely-sifted gas-lime in addition to the quicklime, although where the soil is trenched, and a dressing of quicklime afforded yearly, little trouble need be apprehended from this pest, or clubbing, and some other evils. Charred earth and the remains of burnt heaps of garden-refuse and trimmings, old mortar, fine charcoal, &c., where the land is heavy and wet, may be advantageously used in both the bottom and top spits. The weather being still open, push on with all this kind of work as quickly as possible, but avoid on any consideration having it done when the soil is sodden with rain.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

PREPARATIONS FOR FORCING. — In some gardens the forcing of early fruit has commenced, but in most it is not before the opening of the New Year that the early houses are closed, and forcing becomes general. Before commencing a season, however, on the result of which so much depends, it is necessary for the fruit grower to arrange, so far as possible, a programme whereby the work of the season may be carried out in a methodical manner. Without the exercise of a certain degree of forethought much would be left to chance, with the probability of an irregular supply of soft fruit for the employer's table; a glut of certain things at one time, followed by scarcity at another. It sometimes happens, however, that he is called upon to supply an extra quantity of fruit by a certain date. Providing due notice has been given, and there are the necessary conveniences, a demand of this sort is easily met by old practitioners, but for the younger men who may be thrown on their own resources for the first time, it is a matter of great moment, as, however good the fruit may be they produce, if it is not forthcoming when desired, it is of little use at a later date. Moreover, the mishap may have for the gardener rather unpleasant consequences. The knowing how to time the different kinds of fruit and their proper rotation, is necessary for success in forcing, and I would urge on every young gardener the need of careful observation and the noting down of the time different kinds required to arrive at a usable condition. The notes and memoranda, if followed through a course of years, would furnish a very interesting and useful store of facts for future reference. The hitherto exceptionally mild season has been favourable to forcing, and though there has been a lack of bright sunlight, the average daily temperature has been such that hard firing has not been needed, and a little ventilation could be permitted on most days in each department, and the Peach trees have accordingly developed stout blooms, and the leaves of Grapevines have gained in texture. Ventilation at this season should be very carefully afforded, or the plants will suffer by reason of the tender growths receiving a check; no favourable opportunity however should be lost in letting a small quantity of fresh air enter the houses, so as to ensure a healthy atmosphere.

VINES: EARLY HOUSE.—The disbudding of the shoots may begin as soon as it can be seen which are carrying the best bunches. Tie down these shoots before they reach the glass, care being used in doing so, as they are very brittle, and easily snap off. In stopping, it is not necessary to do so at any particular joint, and the shoots should be arranged evenly and regularly over the trellis, allowing for their full exposure to the light. Thin the bunches, so as to secure an evenly-distributed and moderate crop, over-cropping and over-crowding of the foliage being adverse to satisfactory results being obtained. As the bunches come into flower, maintain a dryer atmosphere until the berries are set; and giving the Vines a gentle shake several times a day will help to distribute the pollen generally. Should the weather become overcast and damp, a few soft feathers drawn gently over the bunches will assist fertilisation. Keep the day temperature at 75°, which should decline to 65° at night. See that the heat in the fermenting-beds about the Vines in pots does not decline, but add fresh litter and Oak leaves as may be necessary. Water used at the roots should be about 10° higher temperature than that of the house.

SECOND VINERY.—For supplying ripe Grapes towards the end of May and the following month, the Vines should be started at once, and if the Vines have been forced several years, it will not be necessary to bend the points of the rods downwards, such Vines generally breaking regularly for their entire length. With young and vigorous canes, however, it is different, and these should be so managed that the buds burst evenly all over, and not a few only which take the lead to the detriment of the rest. If the roots are out-of-doors, the border should have received some kind of protection against rain and snow, which will have ensured a greater degree of warmth in it than would otherwise be present, and as a consequence the roots will be more easily excited. If this precaution has not been taken, a covering consisting of stable litter and tree leaves, preferably those of the Oak, 18 inches thick, should be laid on the border. If these materials have been prepared, and a gentle warmth induced by fermentation in a heap, the covering will be the more effective. The inside border should receive a thorough soaking, the temperature of the water used not being less than 90°. If a bed of fermenting material which emits no rank vapours can be made on a platform of boards, placed in the vinery, the genial heat and moisture evolved, as well as the ammonia thrown off, will be very beneficial to the Vines. Syringe the rods freely on fine days, and keep a temperature of 50° during the night at first, with a rise of 8° or 10° in the day with sun heat.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

THE proper formation and right kind of embellishment of this part of a garden, of whatever size, are deemed by most persons important matters; and to ensure that the flowering and other plants employed shall afford the expected effect, much care and forethought are required of the gardener. The aspect should be warm, shelter from north and east winds as good as possible, whether it be obtained from walls or plantations of trees and shrubs, and the extent should depend on the size of the dwelling to which it is attached, bearing in mind that a small flower garden in good keeping is better than a large one ill kept. The taste of the owner in the matter of plants to be used will determine the quantities to be cultivated. If a spring garden has to be planted, the situation should be one that is fully exposed towards the south, and it should be well sheltered on the cold side, for Pansies, Wallflowers, Tulips, Hyacinths, and Anemones, which afford the greater part of the display, require shelter from the cold winds if they are to flower as early as possible, and last for a length of time; and yet be removable at the end of the month of May, to make way for the summer bedders. The plants flower late and finish late if much shaded by tall trees, walls, &c., and evergreen shrubs only should form the needed shelter. For the mixed style of bedding, where spring and summer flowers are required, there is nothing more suitable than simple beds cut out of the turf. The intricate designs sometimes used for carpet-beds are not much in favour at the present time for flowering-plants of any kind. The rock-garden and hardy fernery should, when possible, be placed near the flower-garden proper, the fernery being in the shade of trees and rocks. The alpine-garden should be furnished with limestone, millstone, grit, or other rocks and stones placed in an irregular manner, with sufficient crevices, and pockets and ledges, to accommodate the plants. Herbaceous-flowering perennials, many of them of strong growth, should occupy a border 3 or 4 yards wide, in a situation sheltered by banks or borders of shrubs; or, as in some large gardens, it occupies a place on either hand of the walk leading to or in the kitchen-garden itself. If a trellis-fence about 5 feet high bound this border it may be planted with Tea-roses, Honeysuckle, Clematis, American Blackberries, Virginian Creepers, and other trailing plants. The drainage of the garden should be one of the first things to receive attention, especially if the soil is of a retentive nature. The drains in such soil should be placed 12 to 15 feet apart, and should lay 8 inches down in the subsoil, and be covered with rubble to

within 18 inches of the surface. It is of great importance that the outfall drain has a good fall. The depth of soil for the beds in which Pelargoniums, Lobelias, Calceolarias, Begonias, Hyacinths, Tulips, &c., should not be less than 18 inches; for herbaceous plants, 24 inches. All beds should be trenched to those depths, and new turfy loam, a good quantity of leaf-soil, sandy peat, and rotten manure should be added to the staple, with road-grit to keep it open and workable if it be of a stiff kind.

In gardens the recent hurricane ripped the climbing plants and Roses, Ivies, Clematis, &c., from walls and trellises. If broken off and irretrievably spoiled, they should be cut off near the ground level, or below the point of injury. Honeysuckles, Jasmines, and climbing Roses should be well thinned out and trained-in firmly to their supports; standard and dwarf Roses should be well staked and made secure against the wind. They are, as it is, much damaged by being rocked about. It is advisable to afford them a liberal top-dressing of Melon-bed soil and manure. Flowering shrubs which may have been blown over should be placed upright, and made as secure as possible with three strong stakes to each, or by means of wire guys fixed to strong stumps driven into the soil, protecting the stems from chafing by cushions. Large specimens which cannot well be reinstated may be cut off near the ground if they are not worked plants, and they will send up strong shoots from the bottom. Cedars and other Conifers should be relieved when heavy snowfalls occur, taking care in doing so not to injure the branches. A gentle swaying with a long pole bound round the end with soft cloth is the best way.

THE HARDY FRUIT GARDEN.

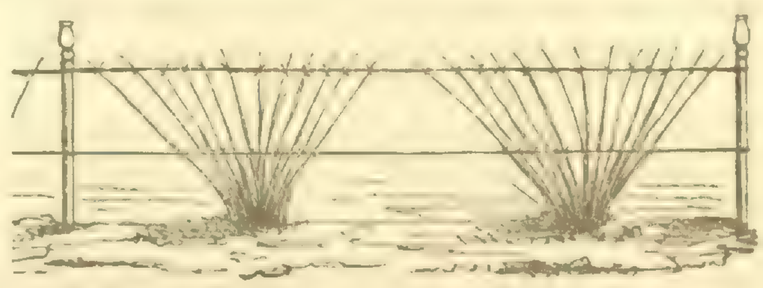
By W. Pope, *Gardener, Highclere Castle, Newbury.*

FRUIT-TREE PLANTING. — Planting should be pushed forward on every opportunity while open weather lasts, and the ground is in a workable condition. Afford each tree a wheelbarrow-load or two of fresh sandy loam, if procurable, well working it in between the roots, which will do much to encourage fibrous rootlets to push forth, finishing off with ordinary soil, and a good mulching of littery manure. Stake and tie loosely all standard and pyramid trees as soon as planted, and wall-trees may all be loosely tied till the soil has settled, when the fastenings may be made more secure. The pruning of all such trees may be delayed for a few weeks. If trees have been recently received from a nursery, replace the nursery-labels with permanent ones at once, as, if this be neglected, they may be lost in the first storm of rain and wind, causing confusion and vexation. If nothing better be at hand, strips of lead, with numbers punched on them, and rolled round a branch, answers perfectly, the corresponding numbers being entered in a book kept for the purpose. For permanent labels both the Acme and the Stratford Imperishable are excellent.

GOOSEBERRIES AND CURRANTS should be pruned at once, cutting away some of the crossing and interlacing branches, the aim of the pruner being to keep the centre of the trees fairly open, and to render the gathering of the fruit an easy matter. Weak side-shoots may be spurred-back to a couple of eyes, and the points of such shoots as touch the ground shortened as desirable, afterwards well dust the bushes with freshly-slaked lime, which, if applied when the wood is wet, will hinder the depredations of birds, and likewise destroy mossy growths. Black Currants may be simply thinned by cutting away any badly-placed or old branches, encouraging a few strong suckers or shoots on each, with a view to cutting away some old branches each year, very much finer fruit being produced on young than on old wood. Cuttings of the above should be inserted without delay, selecting stout and straight shoots, cutting off the tops to about 15 inches, taking out the buds cleanly, excepting three or four at the top [this applies to Gooseberries and Red Currants], and insert about 6 inches deep, in rows a foot apart, and about half that distance between each cutting, treading the soil firmly, and surfacing with a little fine soil as the work proceeds. Cuttings that were struck last year should be lifted and planted in nursery rows, a foot apart each way, cutting back hard to a bud pointing in an outward direction, which will give a suitable foundation to the future bush.

WALL TREES.—Push on with the pruning and nailing of wall trees where not completed, except in the case of Peaches and Nectarines, which may be left till next month. Trees infested with scale should receive a winter dressing with some safe kind of insecticide, applied warm with the garden-engine, or syringe. A cheap and effective dressing may be made by dissolving a small quantity of soft-soap in hot water and adding petroleum in the proportion of 2 oz. to 1 gallon of water, and applying it at a temperature of 120°; care must be taken to keep this well mixed while using, either by stirring, or forcibly churning it up with the syringe. This will also destroy the eggs of any insects that may have been deposited round the buds, or in the crevices of the bark, and the trees will be found to start into growth much cleaner in consequence.

RASPBERRY PLANTATIONS may yet be made, choosing a piece of open, well-drained land, trenching, or bastard-trenching it, and working in plenty of well-rotted rich manure and burnt or charred garden-refuse. If it be intended to train the canes to wires stretched horizontally, plant 2 feet apart in the rows, and 5 feet from row to row, affording a slight mulching of half-rotten manure. The canes should be



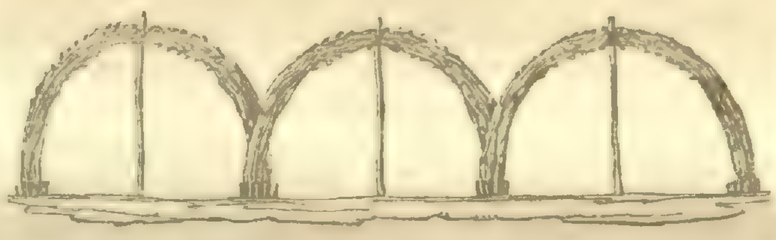


Fig. 2.—Raspberry training.

cut down to a few inches from the ground, or the resulting growths will not be satisfactory. Where only a few Raspberry plants are grown, or training the plants to wires is not desirable, a simple method is to plant at 4 feet apart in the rows, bend the canes over in the form of a bow, and tie to each other, forming a series of low arches, a stake being put in the middle to steady it (see fig. 2).

OUTDOOR GRAPE VINES should receive attention, pruning the stronger shoots to a strong bud, cutting out clean all weak ones, and training the main rods rather thinly; select a few stout, well-placed young shoots near the base, and lay them in to take the places of older branches. The latter are not worth retaining longer than four or five years, young, well-ripened wood being the secret of success in outdoor Grape-culture. Of course it is too much to expect the Black Hamburgh to ripen outside, even in the south, except in some few favoured localities, and during exceptional seasons, but the old White Sweetwater and Black Cluster may generally be depended on even in the worst of seasons, if given a place on a south-aspect wall, with a warm border and good drainage.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

THE INMATES OF THE STOVE.—The present is a good time to get soils, &c., in readiness for potting the plants. An equal quantity of fibry loam, a similar kind of peat, well-decayed leaf-mould, and coarse clean sharp silver-sand, with a liberal sprinkling of charcoal and half-inch bones, mixed well together, and turned once or twice a week for several weeks, will be found an excellent potting compost for using at the beginning of next month. If the soil be prepared at this season, time is saved when at a later date nearly everything is demanding attention. Now is a good time to have the stock of dirty pots washed and stacked in their proper sizes ready for use. Cuttings of Crotons strike readily if put about this date in small pots and placed in strong bottom-heat, covering them with bell-glasses. Suckers of Pandanus, if taken off now, make nice plants for next winter, and they are very useful for furnishing rooms, as they withstand the evils of confinement and shade for a length of time, and being easily propagated, the plants can be thrown away when beginning to have a shabby appearance. The variety P. Veitchii will be found to be the more useful. It is a good plan to purchase a few small Palms each year, and grow them on, in this way working up a good stock of useful subjects in a few years. The following species will be found amongst the most useful Palms:—Kentia Fosteriana, K. Belmoreana, Areca lutescens, A. aurea, Seaforthia elegans, Cocos plumosa, and C. Weddeliana. It is of great importance that all stove plants be kept thoroughly clean, or it is useless to expect them to thrive; and the present month affords a good opportunity of thoroughly overhauling and cleaning them.

THE CONSERVATORY.—This structure should be made as attractive as possible; and now that most of the Chrysanthemums are past, the remaining plants may be placed more thinly. Indeed, at no time should there be overcrowding, the effect aimed at being a light and tasteful arrangement. The place may be brightened at this season of the year by introducing Poinsettias, Calanthe Veitchii, Cypripedium insigne, and the various forced plants, such as Tulip, Lily of the Valley, Roman Hyacinth, &c. Attention must be paid to the cleanliness of the plants, no decayed leaves being allowed to remain, and the paths should be kept as dry as possible. If green or black-fly are troublesome, fumigate the plants with Richards' fumigating compound, a very satisfactory insecticide, having no disagreeable odour, and which does not take the colour from the flowers as tobacco-paper or cloth is apt to do. The temperature of the conservatory should be kept about 55° at night and 60° by day, with a small amount of air admitted on the top ventilators.

THE FORCING-HOUSE.—Batches of crowns and clumps of Lily of the Valley should be put in bottom-heat of not less than 90°, and watered freely. This plant forces more easily into flower now than earlier, and the leaves will come simultaneously with the flower-spikes. Successional batches of Indian and mollis Azaleas, Lilacs, Spireas, Deutzia gracilis should be forced into bloom or forwarded considerably. A few Roses, Lilium Harrisii, Richardias, Dielytra spectabilis, should be placed in a newly-started vinery, to be brought on gradually as they are injured by the high temperature of the forcing-house; Dielytra spectabilis is not nearly so much grown as it deserves to be, it being a most graceful and effective plant for room adornment, or conservatory purposes.

CHRYSANTHEMUMS—These plants having nearly ceased to bloom, no time must be lost in taking cuttings of the best varieties, not propagating every variety, for as there is now such a wide range of choice, only the best should be cultivated. If much decorating has to be done, a good number of the variety Admiral Sir F. Symonds should be grown, it being a first-rate late one, the flowers growing erect, and the habit being bushy. Two very good white ones to come in at the end of the year are Lady Lawrence and Lady Canning; the latter coming into bloom at the present time. Cuttings should be inserted singly in small pots, and placed under handlights or in a frame from which frost can be excluded. They will soon strike. The lights should be taken off every day when there is no frost or rain for an hour, a close atmosphere always maintained causing them to damp-off. Varieties which have not thrown any shoots should be placed in a mild heat to induce shoots to start from the roots, out of which cuttings may be made.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	JAN. 7	1100 Lots of Dutch Bulbs, at Protheroe & Morris' Rooms. Roses, Carnations, Picotees, Hardy Perennials, &c., at Protheroe & Morris' Rooms.
TUESDAY,	JAN. 8	Tuberoses, Gladioli, Pæonies, Roses, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 9	Consignment of Lilies from Japan, Greenhouse Ferns and Plants, Roses, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 11	Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°.4.

The Effect of Electricity on Vegetables.

MR. C. D. WARNER, an American agriculturist attached to the Massachusetts Experiment Station in the United States, has been making a series of very instructive experiments during the last few months to ascertain to what extent vegetables were influenced by electric currents. Two plots of ground, each 6 by 10 feet, were used for the experiment, one being used as a check. Around the test plot was constructed a framework made of 2 by 4-inch timbers, on which were fastened porcelain insulators 4 inches apart; a continuous non-insulated copper wire was strung on these porcelain insulators, and the whole structure was then buried so that the wire should be 2 inches below the surface of the ground. Near at hand was a transformer, a small house in which were placed switches, meters, voltmeter, ammeter, reducer, and resistance lamps. On the eighth of one month, Parsnips, Lettuce, Carrots, etc., were planted in both the plots, the seeds in the electric bed being sown midway between the wires. During the experiment the ground was kept well watered, in order that it might act as a good conductor. The current was alternating, and was applied nightly for about four hours. For the first month the current varied from 12 to 39 ampères, and for the next two months it was maintained at 39 ampères. The voltage varied from 15 to 53. The results were as follows:—Carrots, Parsnips, Salsafy, and early French breakfast Radishes, all showed in the electric plot a substantial increase in weight over those in the non-electrified plot; but, on the other hand, German Turnips and Beets were better without the electric currents. Again, White Strasburg Radishes, Purple-top White Globe Turnips and Parsnips all did better in the electric plot. It was noticed that one-third of a row of Parsley which had been accidentally placed in close contact with an electric wire grew more rapidly than the rest. Eight non-insulated wires were placed among the roots of three Tomato plants of the Champion variety. A current of 39 ampères was used. The fruit on the plants thus treated invariably ripened three to four days earlier than the fruit of other plants used as a check.

It is interesting to compare the results of these experiments at Massachusetts with some of the results that have been obtained of recent years by men of science at home and abroad in the field of electro-horticulture. M. MALTET, in France, found that Beetroot was much influenced for good by electric currents induced in the soil. Mr. SELIM LEMSTROM, in Finland, and also in France, found that the following plants were favourably influenced by electricity:—Wheat, Barley, red and white Beet, Potatos, Beans, Strawberries, Rye, Oats, Parsnips, Celeriac, Raspberries, and Leeks; while, on the other hand, the development of some plants (viz., Peas, Turnips, Carrots, and Cabbages) was more or less interfered with by electricity. In America, the electric-light is already used for the culture of Lettuces, &c., for market in winter. In this country, however, very little work has been done in a field which may yield very fertile results. Our County Councils seem to be taking up the subject of agricultural education, and to be looking after the wants of the farmer; it would be a good thing if they were to institute experiments on the influence of electricity on vegetable growth, in order that our horticulturists and market-gardeners may understand definitely whether electricity is likely to be of any service to them or not. Not a few investigators believe that we have at our disposal a new force which will in a measure render us independent of sunlight. Where natural power is available, an installation would require no very large outlay, and, judging from experience already obtained, the market-gardener would find that he was able to bring on his vegetables during the dark months of the year with astonishing rapidity. But we cannot expect English gardeners to start a new line of business relying only on the data supplied by foreign investigators working in another country under conditions perhaps very dissimilar from their own. We want some practical results obtained at an English station, such as were obtained at Tunbridge Wells by the late Sir WILLIAM SIEMENS, as recorded in our columns at the time. Electricity can be useful to vegetable life in two ways; in the form of insulated systems of wires stretched over the fields, and in the form of the arc lamp in the greenhouse. It is not at all unlikely that in the future we may be able, by the aid of the light of the electric arc, to bring our vegetables, flowers, and fruit to such a state of perfection as we have never realised before.

Trees and Shrubs at Kew.

THE publication of the first part of a *Hand-list* of trees and shrubs grown in the Arboretum at Kew, is too important a circumstance to be passed with the mere mention. One of the great aims of Sir JOSEPH HOOKER when Director was to render the Arboretum as perfect as possible, and to ensure that the trees and shrubs should be as correctly named as practicable. The development of the Arboretum has been steadily pursued, under the existing direction, so that the present instalment of the catalogue really represents the results of many years of labour and research. It is the more noteworthy from the comparatively little outside encouragement given to those who study this class of plants, and from the intrinsic difficulties and obstacles connected with it. We have often had occasion to deplore the lack of interest in ornamental trees and shrubs, a circumstance that of course leads to their elimination from our great nurseries; and yet, were a demand to arise for them, these interesting and beautiful subjects could, for the most part, be grown as easily, and at as cheap a rate, as the commoner stuff which fills the nurseries, and imparts needless monotony to our plantations. It is most important, then, that as full a collection as circumstances will allow, should be kept up in our national and university gardens.

It is equally important that the nomenclature should be accurate. The attainment of this accuracy is an even more difficult matter than in the case of other plants, seeing that the trees and shrubs are usually received in a young state, and that in many cases years may elapse before the flowering, and still more the fruiting stage, requisite for verification, is arrived at. Again, there is not only the innate tendency to variation in species to be reckoned with, but the phases of growth through which the individual itself passes. It sometimes happens, especially in certain Conifers, that these phases are numerous and persistent for a relatively long period. The consequence is, of course, an irruption of many names, and it may be years before those names are found all to apply to one and the same protean tree. A herbarium of garden specimens which has been formed for use in the garden, will, from this point of view, be of inestimable value in the future.

A rough census of the plants gives twenty thousand as the approximate number of species and varieties cultivated at Kew, and of these three thousand are hardy shrubs or trees. Disregarding the older catalogues, which have now only an historic interest, though they attained in their way a greater degree of completeness than has been attained since, it is important to remember that various partial lists have been issued of late years from Kew, such as of the Ferns, hardy herbaceous plants (1853), succulent plants (1856), Aroids (1878), Bromeliaceæ (1879) Aloes, Yuccas, and Agaves (1880), economic Plants (1881), Palms (1882), Primulas (1886), and Orchids (1891). Some of these have been issued separately, others in the *Kew Bulletin*. It is greatly to be desired that they should ultimately be revised and issued in one volume.

The present "hand-list" is devoted to the Polypetalæ only, extending from the Ranunculaceæ to the Cornaceæ. It contains a condensed enumeration of the names, authorities, synonyms, native countries, and principal illustrations. A citation will, however, best show the plan upon which the list has been drawn up:

"CLEMATIS CALYCINA, Ait.; *Bot. Mag.*, t. 959. Balearic Islands.

"C. balearica, Rich. (not Pers.), *Gard. Chron.*, ser. ii. 1878, vol. ix., p. 501."

This is as much as we can expect from a hand-list. The *Kew Index* and PRITZEL'S *Index Iconum*, to be had in all botanical libraries, will supply details to those desirous of ascertaining for instance, what "Ait." means, or of discovering the name of the book, the date of publication, and the page on which the plant is described. Those to whom, from force of circumstances, access to the works above mentioned is denied, may still derive much information from such standard garden-books as NICHOLSON'S *Dictionary of Gardening*, CASSELL'S *Popular Gardening*, THOMSON'S *Gardeners' Assistant*, and other works. Botanists will, of

The Great Screw Pine at Kew.

course, know where to look for the information they require; and, as far as North American trees are concerned, which are so important from our present point of view, will find ample details in the already published volumes of Sargent's magnificent *Silva of North America*. In addition to the systematic enumeration, a very complete alphabetical list is given, which of itself would be very serviceable to gardeners.

We find no mention of the various hybrid forms of Clematis, in particular Clematis Jackmanni, a plant whose garden history is well known, but which is also said, on good authority too, to be native to Japan—a point, by the way, that requires clearing up. Berberis Neuberti × and B. stenophylla × are included, so that the exclusion of the varieties of Clematis is not due to their hybrid origin; and as more than thirty forms of Berberis vulgaris are enumerated, the omission of Jackman's Clematis and its allies would seem to be accidental.

The common Lime tree figures as Tilia platyphyllos of Scopoli, with seven varieties, to say nothing of T. vulgaris of Hayne. The small-leaved Lime is entered as T. cordata of Miller. Over fifty varieties of the common Holly, with an appalling list of synonyms, are set forth. The numerous forms of Acer palmatum are classed under three divisions, viz., the palmatum, the septemlobum, and the dissectum groups. Similarly the genus Prunus is dealt with under various sections. Section Amygdalus includes Prunus Amygdalus the Almond and its varieties. P. persica is the Peach. The group Armeniaca includes the Apricot, Prunus Armeniaca, as well as Prunus triloba. Prunus proper comprises Prunus cerasifera, or the Myrobalan Plum, P. communis, the origin of the domestic Plum, and others. The Cherry group includes the Prunus avium, P. Cerasus, P. pseudo-Cerasus, and others. In the group Padus we find the Mahaleb, the P. Padus, P. serotina, and others. Laurocerasus comprises the common Laurel Cherry, with nine varieties, and the Portugal Laurel, with five forms. Nearly forty species of Spiræa find a place with a great number of synonyms, twenty-four being assigned to S. canescens alone! S. japonica is credited with five varieties, among which we do not find the fine form of Bumalda known as "Anthony Waterer." Roses and Rubi are well represented.

The genus Pyrus, like Prunus, is divided into several sections, thus—(1.) Pyrophorum, under which P. communis, P. cordata, P. salicifolia, and others are comprised; (2.) Malus, including the Pyrus baccata, P. Malus, the origin of the Apple, P. spectabilis, and its lovely Japanese forms; (3.) Aria, which takes in the Whitebeam, P. Aria, and its numerous forms; the fourth group is Sorbus, represented by the Mountain Ash, the true Service, and others. Pyrus arbutifolia belongs to a fifth small group, called Adenorhachis. The sixth group, or the Quince group (Cydonia), includes the Quince, whose native country is unknown, the Japanese Quince, P. japonica, and P. Maulei. Under the seventh group, section Mespilus, are enumerated the common Medlar, and the numerous species of Cratægus whose synonyms and varieties must have given the compiler an infinitude of trouble. Here also are placed the Cotoneaster, the Photinias, Amelanchiers, and others.

Saxifragaceæ include the Deutzias, Hydrangeas, Philadelphus, Escallonias, Ribes. Under Araliaceæ come the Ivies, forms of Hedera Helix, and numbering over seventy so-called varieties, most of which are mere phases of growth or transitory conditions, and some of which may be picked from the same bush.

The general nature of the *Hand-list* will be made evident from the previous remarks. Only those who have endeavoured to frame similar lists can appreciate the patience, labour, and judgment which have been brought to bear upon its production, but they, as well as others, who will have such frequent occasion to use it, will undoubtedly be very thankful for what they have already. They will assuredly feel that form of gratitude which is experienced in anticipation, and will earnestly hope that the remaining portion of so useful a list may not long be delayed.

Linnean Society.—On the occasion of the meeting of the society on Thursday, December 20, Mr. C. B. Clarke, F.R.S., President, in the chair, Mr. Peter Ewing was elected a Fellow. Mr. W. B. Hemsley exhibited a series of specimens and figures illustrating parasitism of Loranthus aphyllus and other plants from the Herbarium, Kew. A paper was read by Mr. Percy Groom, entitled "Contributions to the Knowledge of Monocotyledonous Saprophytes," or plants which are dependent for their existence on the presence in the substratum of decaying organic matter. He observed that, like parasites, they may be divided into those which possess chlorophyll (hemisaprophytes), and those which have none (holosaprophytes). Hitherto very few experiments, he said, had been made on hemisaprophytes, and hence our acquaintance with them was largely speculative. The remarks which he had now to offer referred almost entirely to holosaprophytes, or at least to plants with very little trace of chlorophyll. After an interesting discussion, in which Sir D. Brandis, Mr. H. N. Ridley, and others took part, the meeting adjourned to January 17.

The Gardens of the Royal Botanic Society.—The opening of these gardens to the public will engage the attention of the Fellows at the meeting to be held on the 12th inst. In August last, a resolution was carried at the annual meeting recommending the Council to consider the expediency of admitting the public to the gardens on week days on payment at the gates. The Council has since decided to so open them on Whit Monday, a concession which many of the Fellows deem quite inadequate; and Mr. Rubinstein, the mover of the original resolution, and for some years honorary auditor, has given notice that at the general meeting to be held on the above date he will move, that after March 1 the gardens be opened on Monday, Thursday, Friday, and Saturday in each week on payment of 6*d*., and other days 1*s*.

The Royal Gardeners' Orphan Fund.—A largely-attended meeting of the executive committee was held on the 28th ult, Mr. William Marshall presiding. Among the special donations announced was the sum of £50 10*s*. from the Altrincham Gardeners' Society, per Mr. C. Hewitt, secretary; the Scottish Horticultural Association, £5, per Mr. J. Vallance; Bristol Chrysanthemum Society, sale of flowers, £5 5*s*.; the Stockport Chrysanthemum Society, £2 2*s*.; the Ware and District Gardeners' Mutual Improvement Society, £1 2*s*.; Mr. J. Rogers, Ware, 6*s*.; and Mr. G. R. Allis, Old Warden Park, Biggleswade, 5*s*. From boxes came the following sums—Mr. J. Burn, Abbey Park Gardens, Leicester, £7 5*s*.; Mr. J. B. Stevenson, Bournemouth, £1 7*s*. 3*d*.; Mr. H. A. Burbury, Birmingham, £1 10*s*.; and W. J. H. Witty, Nunhead, £1 3*s*. Mr. A. J. Brown, Chertsey, 13*s*. 6*d*.; Mr. H. Herbst, Richmond, £5 5*s*.; Messrs. W. Thomson & Son, Clovenfords, £3 13*s*; and Mrs. Bowerman, Hackwood, Basingstoke, 5*s*. A letter was read from Mr. Geo. Bunyard, of Maidstone, resigning his seat on the committee. A financial statement of a very satisfactory character was submitted by the hon. secretary.

Royal Agricultural Society.—Cider, perry, honey, bottled fruits, and jam, are articles of consumption, in which gardeners and farmers are alike interested, and the production and quality of which the Royal Agricultural Society desire to promote. With this intent, the Society in its schedule recently published offers prizes to the amount of £286, to be competed for at Darlington in the last week of June next.

Hazel Flowering.—On the 29th ult., one bush of Hazel was in full flower at Ealing, near London. The earliest previous record that we can find is January 15.

Winter-flowering Carnations.—We have received from Mr. W. J. Godfrey, of the Exmouth Nurseries, some blooms of tree Carnations Reginald Godfrey and Miss Mary Godfrey, two very excellent varieties for winter-flowering. Reginald Godfrey is a fine flower of rich pink, and very fragrant; and Miss Mary Godfrey is a very pure white variety, of first-class merit. Both of them have a good calyx, and their merit has been attested to by the Royal Horticultural Society's awards of merit.

The Veitch Memorial Fund.—By an oversight the address of the Secretary, Mr. A. H. Kent, is given 7, Doria Road, Fulham, S.W., in our last issue, p. 782. It should have been 44, Doria Road.

The Metropolitan Public Garden Association.—At a recent monthly meeting of this body it was announced that the construction of the riverside garden at the Wharf, Battersea, was progressing apace. It was agreed that steps should be taken towards the laying-out of the disused burial-ground at Chapel Place, Bermondsey, that endeavour be made to obtain two vacant sites in Walworth and Deptford—the Fishmongers' Company promising £600 towards the first-named; that an offer be made to lay out a garden on the Albert Embankment; and also to lay out an additional portion of All Hallow's churchyard, London Wall. Of other subjects brought forward were negotiations for opening to the public Clarence Gardens and Munster Square, N.W.; Arbour Square, and the churchyards of Bromley-by-Bow, E., and St. Mary, Battersea, S.W.; and the New River Company's garden in Canonbury; the providing of some open spaces in Southwark; the laying-out of St. Mary Magdalene's ground at Chiswick, and the Friends' Burial Ground at Bermondsey; and the acquisition of a recreation ground in Hermit Road, Plaistow, E., towards which the Association have collected nearly £300 during the month, leaving a balance of £792 necessary to complete the purchase.

A Foreign Flower Market in Covent Garden.—There is a shed of a somewhat plain barn-like style of architecture approaching completion in the open space abutting on Tavistock Street, which will accommodate when finished the stands of the dealers in foreign flowers. Hitherto these dealers have had no portion of Covent Garden Market set apart for the sale of their goods, and it has been considered that in many ways it will be an advantage to have this part of the trade carried on in a separate building. The building, which measures about 60 feet by 40 feet, and is perhaps 30 feet in height to the apex, is situated at the eastern end of the open market, therefore it is but a step or two from the Flower Market—the centre of the home flower trade of London.

Blessings in Disguise.—From a citation before us we learn that M. de Wildeman has been examining the swellings on the roots of Clerodendron Bungei occasioned by eel-worms (Heterodera radicicola), and thinks it not improbable that this is a case where host and parasite confer reciprocal benefit one on the other (symbiosis). We are afraid this is too charitable a view.

'Insects and Insecticides."—This is what its title states, a practical manual concerning noxious insects and the method of preventing their injuries. It is copiously illustrated, and though adapted especially for the United States, is also largely applicable here. The author is Dr. Clarence Weed, and his book may be obtained through Messrs. Williams & Norgate.

THE NATURAL HISTORY OF PLANTS.—The eighth part of this valuable and comprehensive work, the translation of which is issued by Messrs. BLACKIE & SON, under the superintendence of Dr. F. OLIVER, contains an account of the reproductive organs in the several classes of the vegetable kingdom, illustrated by excellent woodcuts. The structure and nature of the ovary and anthers of flowering plants are illustrated by numerous references to teratological appearances. We do not, however, see in what particulars Professor KERNER's notion as to the nature of "inferior ovaries" differs from the current views of the best authorities in plant morphology, many of whom are, we should have said, in full accord with Professor KERNER. May we hope that in addition to a full index, a comprehensive synopsis of contents will be added to the volume when complete.

PALM SEEDS.—Raisers of Palms, says one of our Riviera correspondents, are perfectly aware that success is dependent on the freshness of the germ of the seeds when sown, and yet it appears unaccountable that the quantity of seed produced annually in the Riviera gardens is so little in demand. Probably the reason is either that it is not known, or that the south of France is insufficient to convince those who are not acquainted with its climatical conditions to form an idea of the gigantic specimens to be found here. Seeds obtained from native habitats often lose their power of germination, owing to the lapse of time in transit; but here they may be picked when ripe and sent to almost any part of Europe in a week. It is now several years since Phœnix tenuis commenced to produce seed, which then sold at the rate of 15*s.* to 20*s.* per 1000 (and chiefly to German firms), but now, owing to the quantity produced, they have fallen to 1*s.* per 1000, and are very little in demand. One tree will produce 3 or 4 cwt., the great clusters often breaking down with their weight. Phœnix reclinata also produces seed in abundance, but there is rarely any demand for it. Livistona chinensis is one of the most productive, and the seeds, if allowed to remain, will germinate before falling to the ground. Livistona (Corypha) australis, although not so productive as the former, may be had in quantity in some of the gardens, where they have obtained gigantic dimensions. The seeds of this species keep but a very short time after ripening. Cocos flexuosa and its varieties are now producing seed in quantity, and had it been known a few years ago, there would not be the scarcity of plants of a decorative size as I am now aware is the case. Chamærops humilis, and C. excelsa bear fruit when very young. All the Sabals fruit freely, and Areca sapida and Brahea nitida will produce sufficient seed in one year to supply any demand. Each year sees the flowering and fruiting of other species, the plants having attained maturity, and under the influence of a tropical sun during the summer, they are as prolific as in their native habitat.

MESSRS. JAMES VEITCH & SONS.—Messrs. James Veitch & Sons, of the Royal Exotic Nursery, Chelsea, have given their procuration to JAMES HERBERT VEITCH (who has been with them several years) and to JOHN GOULD VEITCH, sons of their late partner John Gould Veitch.

ANNUAL REUNION OF WORKMEN.—The gardeners engaged in the Springfield Nurseries at Rothesay, belonging to Messrs. DOBBIE & Co, held their annual social evening on Friday the 28th ult. The meeting, which was attended by about sixty couples, was held in the lesser public hall, and was much enjoyed.

EMIGRATION.—We take from the circular issued by the Emigrant's Information Office, 31, Broadway, Westminster, S.W., the following particulars:—Emigrants to Canada should prepare to start in March or April; the only demand is for domestic servants, for experienced farm labourers, and for men able to take up land. In New South Wales there is no demand for more labour, except for domestic servants. South Australia and Tasmania are fully supplied with all kinds of labour. There has been a great demand lately for land suitable for sugar-growing along the north coast of Queensland, at Mackay, &c, the sugar industry being in a prosperous condition. Land about Bundaberg also, in the south, is being taken up by farm labourers and others for sugar-growing. In Western Australia the gold-fields have been very busy, but only experienced miners with a little money can hope to succeed. Work in New Zealand has with the return of spring become much more plentiful, and there is a large decrease in the number of men travelling on the road; with the exception of Western Australia, it is the only Colony which offers a fair opening to mechanics and other skilled workmen at the present time. The system of opening up the Crown Lands in New Zealand, and letting them in areas of from 50 to 100 acres to workingmen, the Government paying for felling the bush and adding the cost to the price of the land, has been a marked success. Nominated passages to Cape Colony have just been withdrawn from mechanics and artisans, and female domestic servants are now alone eligible for them; men are warned against emigrating to the Cape, unless they have secured employment beforehand. In Natal there has been a fair demand for a few bricklayers and plasterers at Durban, but otherwise the colony seems well supplied with mechanics. Emigrants to that colony should remember that the ordinary trades, such as those of brickmakers, navvies, bootmakers, coalminers, railway porters, gardeners, waiters, etc., are to some extent in the hands of Indian coolies, or of coloured natives working for low wages.

FASCIATION is one of the commonest of malformations, but the reason of its production is not clearly made out. Recently M. G. CUBONI, in the *Bulletino della Societa Botanica Italiana*, has seen reason to attribute its appearance in Spartium junceum to the attacks of a mite (Phytoptus sp.). This is not unlikely, but if so, it is strange the mite should not have been discovered before. Growers of Cockscombs would surely have detected the creature were it generally present.

PRESENTATION TO MR. J. D. ABBOTT.—A very interesting meeting took place at Eynsford on the 21st ult., on the occasion of presenting a purse and illuminated address to Mr. J. D. ABBOTT, on his vacating the position of head-gardener at Lullingstone Castle, the country seat of Sir WM. HART DYKE, Bart., M.P. There was a large gathering of friends and neighbouring gardeners. Mr. R. CANNELL was unanimously elected to preside.

SOCIÉTÉ NATIONALE ET CENTRALE D'HORTICULTURE DE FRANCE.—M. D. BOIS, one of the assistants in the Botanical Department at the Jardin des Plantes, has been elected editing secretary to the above Society, in place of the late M. DUCHARTRE.

FORESTRY HONOURS.—The "honours diploma" for the science and practice of forestry has been granted by the Grand Ducal Forestry College at Eisenach, in the Duchy of Saxe-Weimar, to Mr. JAMES WILLIAM WATT, eldest son of Mr. JAMES WATT, in which Government Academy of Forestry he has been studying. As his name indicates, this dux of the Government Academy of Forestry is the eldest son of Mr. JAMES WATT, J.P., Knowefield Nurseries, Carlisle. Prior to taking his course of study at Eisenbach, Mr. JAMES WILLIAM WATT had worked for one season at a large seed establishment at Erfurt, in Germany. Having now taken his degree in forestry, he will henceforth be associated with his father, the head of the seed and nursery firm of Messrs. LITTLE & BALLANTYNE, Carlisle.

CYPRIPEDIUMS.—A neat little morocco-bound pocket-catalogue containing an enumeration of Cypripediums, both species and hybrids, has just been printed by R. I. MEASURES, Esq., Cambridge Lodge, Flodden Road, Camberwell, S.E., whose gardener, Mr. H. J. CHAPMAN, undertook the laborious task of compiling it, taking as a basis the smaller second edition containing only the plants in Mr. MEASURES' collection at that date, and which was published in 1889. The large number of orchidists who are specially interested in Cypripediums will be glad to know that they can obtain copies at 3*s.* 6*d.* (postage extra). When it is considered that the prime cost of each catalogue is 1*s.* 8*d.*, and that Mr. MEASURES arranges to give 1*s.* to the Gardeners' Royal Benevolent Institution, and a similar sum to the Gardeners Orphan Fund for each copy sold, it will readily be seen that Mr. MEASURES' motives are purely to assist others in the study of the subject, and to render help where it is needed. Over 850 species, varieties, and forms are enumerated under their registered names, and the work is as perfect as one in which the name of the plant is given in alphabetical order can be. But, unfortunately, the same crosses have sometimes been named by different people with different names, and it is necessary to hunt through the whole to detect it. Or it may be desired to know whether a certain cross has been named. To facilitate this, Mr. CHAPMAN or some other patient individual should go over the work again, giving the name of the species first, and the names of the progeny last. Thus, C. barbatum × insigne = Ashburtoni ×, C. barbatum × venustum = melanophthalmum ×, C. barbatum × superbiens = superciliare ×, and so on, until all the crosses with each have been enumerated.

IMPORTING LAWNS.—This is the latest phase of American cuteness. With the increasing development of civilization in the States, there is a pressing demand for lawns, such as adorn our country residences and suburban villas; and as the American gardeners find it extremely difficult to raise lawns from seeds in many parts, one of their government experimental stations has actually voted a sum approaching £200 to meet the expenses of an expert, who is now on a foraging expedition to this country, and actually taking turves from our old parks and commons—choosing the choicest piece of fine Grass he can lay hands on. If reports are correct, he has shipped many heavy loads for the purposes of ultimately putting a verdant surface upon the burnt-up face of his sun-cured country. As he has been here before on the same errand, no doubt the initial experiment was successful, or his enthusiasm would not be so great. Probably he has at heart the observations of his countrywoman, Mrs. BEECHER STOWE. "Grass," she says, "is an art and science, in Britain it is an institution. Nothing but vistas of verdure, wide sweeps of short growth, thick and vividly green." Here is an impression for him to study, but surely we cannot allow our lovely islands to be taken away piecemeal in this manner!

"DICTIONNAIRE PRATIQUE D'HORTICULTURE." We have frequently had occasion to allude to the French translation of NICHOLSON's *Dictionary*, and which has now reached its thirty-third *livraison*. The translator, M. MOTTET, has incorporated much new matter, so that the work is indispensable to those familiar with the French language. It is published by M. O. DOIN, Place de l'Odéon, Paris.

INJUDICIOUS HYBRIDISATION.—M. RODIGAS, the Director of the School of Horticulture at Ghent, suggests that the decay observable in the persistent leaves of many plants of Cliveia may be attributable to the employment of pollen from Amaryllis and Hippeastrum, the leaves of which are deciduous. This is a very ingenious and feasible suggestion, the accuracy of which could easily be tested.

SPRAYING CROPS.—Some day our cultivators will recognise the desirability of spraying their crops, as Hop-growers already do, and will then be glad to turn to the pages of a little treatise by Dr. CLARENCE WEED, to know why, when, and how. The pamphlet contains little more than a hundred pages, and is well illustrated. It is published at New York by the Orange Judd Company, at a low price, and may be obtained from Messrs. WILLIAMS & NORGATE.

PANDANUS ODORATISSIMUS.

[SEE SUPPLEMENTARY ILLUSTRATION.]

THE big Screw-Pine, which for the last twenty years has been one of the most striking features of the Palm-house at Kew, had to be sacrificed last year because it had overgrown its position. It stood opposite the entrance at the north end of the house, its branches stretching from floor to roof, and from side to side, pressing against the glass all round. It had been kept within bounds as much as possible by thinning and stopping; but as the branches when cut never started lateral growths, although they forked naturally, nothing could be done to save the plant when once its leaders reached the roof.

Before its removal, it had about forty branches, each bearing a huge tuft of foliage, and it measured 30 feet in height, with a diameter of 40 feet. Its weight would be about 6 tons.

The illustration represents the decapitated trunk before removal preparatory to its being placed in the Museum. The main branches were 9 inches in diameter, slightly thicker above than below, and from their bases sprang about one hundred aërial terete roots, 3 or 4 inches in diameter, solid and woody, like the trunk, and, like it, covered with short, tubercle-like spines. These roots never branched till they reached the ground, except when the apex was injured or removed. The longest was 8 feet long, and unbranched above-ground. It is worthy of note, that whilst the branches invariably ceased to grow if the top was cut away, the roots could be made to branch again and again.

I am unable to give the exact history of this specimen, which travellers declared was finer than any ever seen in the tropics. It is mentioned and figured in Philip Henry Gosse's delightful little book, *Wanderings in the Conservatories at Kew*, published in 1856; and J. Smith, in his *Records of Kew*, published in 1880, says it was 20 feet high in 1860. This is, I believe, an error, as a photograph dated 1868 represents it as not more than 15 feet high, with three branches, the central one only being forked. Mr. Worthington Smith made a drawing of it in 1876, when it would be about 20 feet high. It was then planted in a large tub, but in 1882 a sunken pit was built for it, and it was by this means lowered about 5 feet.

Twelve years ago it fruited for the first time, and it since has produced cone-shaped fruits almost every year. Being a female, the seeds were infertile, though the heads were larger than those described from wild plants. Last year the plant produced five heads; they were drooping, 1 foot long, 9 inches in diameter, and composed of about 150 confluent wedge-shaped drupes, each 3 inches long and 2 inches across the top. They remained green, and did not assume the orange-yellow colour of wild specimens.

According to Aiton, in *Hortus Kewensis*, P. odoratissimus was introduced into England in 1771 by M. Richard. I have not heard of a male plant of this species flowering in Europe, but a male of a similar species, P. reflexus, sometimes produces its long drooping tails of white flowers, in which the flour-like pollen is very abundant, and is sweet to the taste as well as deliciously fragrant. Indian women are said to use the pollen as a hair-powder, because of its sweet odour. Good pictures of a male inflorescence and the female cone of P. odoratissimus will be found in the north gallery, Nos. 246 and 692. The species is a native of the East Indies, China, and Mauritius. Sir Joseph Hooker reduces it under P. fascicularis in his *Flora of British India*.

It is only in large houses, such as that at Kew, that these tropical giants can display their full grandeur. Cultivators who know P. utilis, the best-known garden ally of P. odoratissimus, can form some idea of what that plant would become if it had space and full liberty. I believe the Kew plant would have attained to twice the size it did if it had been possible to have afforded the space for it. *W. W., Kew.*

FIG. 3.—WHITE CHRISTMAS STOCK.

CONTINENTAL NOVELTIES

A WHITE CHRISTMAS STOCK.

AMONGST several novelties in annuals figured in the catalogue of M. Ch. Lorenz, Erfurt, Germany, is a white Christmas Stock, as shown in fig. 3. This variety is said to attain its full beauty at the very close of the year, thus furnishing excellent materials for the florist at a time when they are most needed. The seed should be sown about the middle of April in a cold frame, and afterwards pricked-off into small pots, and placed in a shady spot in the open, until protection from frost is necessary.

HOME CORRESPONDENCE.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—I had anticipated that nothing would have arisen to cause me to revert to anything further respecting this excellent society and its working, but I am evidently misunderstood. I said nothing as to the mode of voting by the subscribers. Like "Enquirer," I simply called attention to so many candidates being probably carried in through the influence of the treasurer and committeemen, making less influential efforts fruitless and useless. I am further indeed sorry that Mr. Veitch implied that I have timed an opportunity. This I emphatically deny; there are no grounds, neither does any one entertain such ideas. I consequently pass on to the more important circular I received, and which was probably posted to all subscribers at the same time; a copy can, therefore be readily obtained, and the candidate questioned as to his authority for using the names it bears. I hope the guilty person will be brought forward and censured, and, if possible, made an example of. I suggest there should be a small committee chosen to draw up a report, and also to amend the laws and regulations relating to canvassing, and lay the same before every subscriber, for such circulars are more than a liberty, are very mischievous, and a serious injury to any institution, saying nothing of the anguish to the probably more deserving non-elected. I am sure Mr. Veitch will cheerfully agree to this, for he says:—"I hold that in my official capacity it is not right that my name should be used in favour of any candidates." Yet he himself sends out leaflets printed on his own firm's note-paper, headed with a crown; so he not only uses his own influence, but that of royalty also, to weighten the claims of his candidates, both in this and a sister society for fatherless children. I received the same, asking for my votes in favour of an orphan of one of his own men, Alfred Crafter; also for J. E. Pratt, whose mother keeps a public-house at Bath, to enable them to be placed on the Royal Gardeners' Orphan Fund, the election taking place on February 8. True, Mr. Veitch is not treasurer to this fund, but he is a vice-president, and officiates at its large meetings more than any other person, which is in every way as effectual. I further observe on the voting sheet of the same Institution that only six children are to be elected to its benefits; he has actually nominated (with his full Chelsea address), no fewer than four candidates out of thirteen putting up, thereby making the chances of the others exceedingly narrow. Further, Mr. Veitch says all this kind of thing is very objectionable, and declares he is no more in love with the system than I am; yet all this display of influence has been openly going on for years. I have ceased even attending the two annual dinners for some time; places and speeches cut and dried, and got ready like the dinner. Fresh energies and young blood are assiduously avoided, and how his actions can be reconciled with his statement in your last issue, and mine as set forth in my first letter, I am wholly unable to understand. *H. Cannell.*

—— Allow me, in your columns, to thank Mr. Ingram for his very courteous reply to my note in the *Gardeners' Chronicle* for Dec. 29, p. 782. I had read the rule he refers to respecting the powers of the committee in the matter at issue. I could

not give the name of the candidate whose fitness was doubted as a proper recipient of the pension. As I knew nothing of the matter personally, my object in writing was to have cleared up any doubts that might arise in the minds of those subscribers who, like myself, are not in touch with the committee. The difficulty might be obviated in the future by the age when each candidate began his gardening career being stated on the note that is appended to the names on voting papers. I know it is necessary the committee should reside within an easy distance of London, though I have often thought that by issuing voting papers to all subscribers, those residing at a distance from London might have an opportunity of joining in the selection of the committee. In saying this, I do not for a moment wish to infer that either the present or past committees have not done their duty well. The great success of the institution, especially during the past fifteen years, precludes the very idea of such being the case. Any little efforts I have made to influence my brother gardeners to become subscribers, have been done on the following grounds, viz, 1, self interest; 2, duty; and last but not least, human sympathy. There is, I think, a better appreciation of its merits abroad than there used to be, and I have hopes that in time every gardener worthy of the name will feel it to be his duty to become a subscriber. I often wish it were possible for non-subscribing gardeners to see the names with appended notes of each candidate that are issued annually to subscribers only. How few of us who read these notes can say for certain that our own names, or the names of those dear to us, may not be on some future list? Fivepence per week for fifteen years does not seem a large sum to ensure us £20 or £16 per year, as the case may be, should we need it. I am sometimes met with the remark, the pension is a small one. My reply is "nothing" would be smaller; and in these days of cheapness generally, £20 a year well expended, will go a long way in purchasing the real needs of life for an aged couple living, say, in a small cottage in the country. I know something of the many calls on a gardener's salary, in bringing up and educating a large family; and the serious illnesses and consequent expense we are all of us liable to. I also know something of payments to benefit societies, insurance, &c. Yet in my humble opinion, there is nothing on the board that will repay a gardener better as an old-age pension (should he require it), than by becoming a subscriber to our good old institution. He should also do all he can to bring its claim before those able to help, whom he comes across in his journey through life. Should any non-subscribing gardeners trouble to read this note, I appeal to them to become either yearly subscribers or life members at the very first opportunity, and I am sure they will never regret doing so. *H. J. Clayton, Grimston, Tadcaster.*

—— I am glad our secretary has come forward and given some answers to Mr. Clayton, on p. 782. Mr. Ingram quotes the Rule III., section 2. The rule runs thus: Head-gardeners or their foremen are eligible for a pension after twenty years' service. Now, which end of a man's life does he begin to be a gentleman's gardener? would any gentleman take a man for his gardener who had followed the trade of a butcher or barber until he had reached the age of twoscore years, or would any gardener take a similar person for his foreman, or any nurseryman such a man as an assistant-seedsman? an alien tradesman of the above age might as well seek to be an assistant-chemist as an assistant-seedsman in a nursery business—the idea is preposterous. According to the rule, a market-gardener must have cultivated five acres of land for twenty years. Mr. Banister never did that, or I have been much misinformed. The true state of the case is this: Mr. Banister was a shoemaker until he was considerably over forty years of age. He then commenced to grow a few plants for sale. He prospered for a time, and then failed disastrously. Two of his friends, who are not gardeners nor nurserymen, paid a guinea each to the funds of the Gardeners' Royal Benevolent Institution, thus making themselves members; they then immediately nominated Banister, and used influence to get votes. If any candlestick-maker who can prove he has grown a bit of Stonecrop in the socket, is to oust the regular gardeners of their rightful pension, then, I say, gardeners must look to their position, and speak with no uncertain voice through the columns of their own *Gardeners' Chronicle. W. Denning, Member of Committee, Heathfield Nursery, Hampton, Middlesex.*

LYCORIS AUREA.—Owing to the difficulty that has been experienced in the past in flowering this very beautiful bulbous plant, the following note from a correspondent in China may be of interest:—"The temperature they grow in varies from 93° in the height of summer, when they are resting, to 55° to 60° in winter, when they are growing; sometimes for a few days in January we go to 40°, or lower, but that is for but a short time. When they make their leaves there is absolutely no rainfall, or next to none. When they rest it is our wet season. It is a most lovely thing. I think it the most beautiful bulbous plant I have ever seen." That the above treatment followed in this country will lead to success is, I think, most probable. At Kew last September they flowered a number of bulbs received, when at rest, from China. These are now growing as freely as Narcissi in a temperature of 55°. I have also plants in a like temperature growing well, which, when their foliage dies down, I shall shut up in a sunny frame, and water sparingly. The beautiful Lycoris squamigera is, I fancy, to be grown under the same conditions as Amaryllis Belladonna. Anyhow, it is quite hardy. Lycoris sanguinea is a comparatively unknown plant, I believe, and the drawing shows a fine spike of very beautiful orange-red flowers. *R. W. Wallace, Colchester.*

PROFITABLE TOMATO CULTURE.—At the close of a very disappointing season, good crops of Tomatos are few and far between. Scarcity of sun and cold winds proved disastrous in many cases, especially in cold-houses. The following description of a good crop shows what can be done with little means if care and skill are practised. The plants were grown by a friend of mine, in a cold house facing south. Along the front of the house were ten large pots (I think the size was No. 2); into these pots two plants were put. The plants were afterwards topdressed, and the degree in which they succeeded was such that had I not seen them myself I should have deemed it incredible. The total weight of fruit yielded an average of 29½ lb. for each pot of two plants, or nearly 15 lb. per plant. I saw them in July, and each plant was then carrying 10 to 12 lb. of fruit. My friend's house being a cold one, he sows late, and the crop at that time was hardly at its best. However, the sight of the green and colouring fruit I shall not forget for some time. The variety was a very carefully-selected sample of Horsford's Prelude, which in size resembles a Tangierine Orange, nearly round in shape; the colour is a deep crimson, and the flavour, when fully ripe, is equal to the best dessert fruit in cultivation. Of a few more varieties grown, including Challenger, Comet, Oldfield Gem, and a variety of Perfection; Challenger stood best the test of a bad season. *J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

THE LATE HEAVY GALE.—The gale of the 22nd ult. caused great destruction in this district (York), uprooting large trees of Beech, Elm, and Lime, and doing much damage to the roofs of dwelling and glass-houses. It was preceded by a sudden fall of the barometer of 1½ inch, within twelve hours after which it again rose as quickly, with fine mild weather till the 28th, when there was a renewal of the storm, but without the violence of the 22nd; and since there have been experienced heavy snow-storms, wind S.W. to N.W., barometer ranging from 28·50 to 30·20. *B. Wadds.*

THE DIVINING ROD AT WORK.—"Enquirer" and others, whom one might suppose to be interested in such matters, seem to give the "twig" and its simple and successful application the cold shoulder. I remember a trained engineer, accustomed to reservoir construction and water-works, condescending to attend, but with undisguised contempt, one of John Mullins' trials with the divining-rod, and I shall never forget the face of the man when he saw Mullins stepping over the ground with his rod, and marking out with his heel the mains, branches, and drains, as if they had been open ditches. "Poor Mr. ——," said one of the spectators, "I was sorry for him." John Mullins, from Wilts, is one of the most successful operators, and has been employed on the estate here and in the neighbourhood several times. I conducted him, and there were present a number of gentlemen. We have large reservoirs, but a scant gathering ground, and John was sent for to prospect the ground. I supplied him with twigs cut from Paul's Scarlet Thorn. He first struck water, some depth down, in a dry field, and traced it for a long distance, and over a fence into a wood to a stone cistern, made many years before for estate use, where a spring existed. This he did, going forward alone on ground where he had never been before. I had myself forgotten the old cistern till I saw him get into the wood, when I suspected where he would finally land. Next, he struck a small supply about 10 feet deep, about 50 yards from the reservoir. The person who made the reservoir said there could be no water there, owing to the lie of the strata, &c. "Dig where I tell you," said John; and they dug, coming on the dry rock as was foretold. About 2 feet down this rock, however, the water came up in a small but steady volume, and filled the hole up. A pipe was led into the reservoir, and in dry summers that pipe is still about the only one that continues to trickle. In this way he discovered many runnels under the ground, the existence of some of which were known to the natives, the others were not suspected. A clergyman, who was very sceptical at the outset, set the man into his garden alone, telling him to take casts across his lawn and shrubberies, and see what he could find. The clergyman then went into the vicarage, turned on all his water-taps, and watched the man from one of his upper windows. When he had finished, it was found that he had pegged out with perfect accuracy the line of the main-sewer from the vicarage, laid deep, consisting of 9-inch sanitary-pipes, but of which not the faintest sign existed above-ground. He told the vicar he was not the first of his cloth he had converted, for he had operated blindfolded before Bishop Magee of Peterborough, and convinced him, receiving a gift from the bishop for his cleverness. Once, when here, he exhibited his powers before Mr. Ewing, late Curator of the Sheffield Botanic Garden, who was much surprised. John Mullins is a plain, unaffected working-man, who has worked at his business from nearly the Land's End to Dundee, to my knowledge, and now does nothing else I believe. He has no explanations to offer, and attempts none, and good-naturedly submits to have liberties taken with him that scientists would not stand. I have seen two gentlemen holding the ends of the "twig" close to John's hands, and a third holding his hands to see that he exerted no muscular force, and the "twig" wriggling and jumping like a live thing at certain spots above water. Wet seasons are the worst seasons to work in, as there is then water everywhere, and a permanent supply may not be found so easily. Some years back, when there was some discussion in the *Standard* about Mullins' powers, a well-known engineer in London wrote to me asking if I could really expect an experienced engineer like himself to believe that an illiterate man could do things that science with all its aids could not accomplish? My reply, after communicating with Mullins, was that Mullins felt no anxiety about his own reputation in any fair test of his powers, and that he would meet him and his friends, and pit himself against them in pegging out an invisible water-course above-ground, where they could find it, half-way between here and London; but the challenge was declined, and I closed the correspondence. On another occasion, a frequent and able correspondent of the *Gardeners' Chronicle* proposed, in one of our contemporaries—in relation to a proposal that Mullins should exhibit his powers at some great flower show—that if he (Mullins) failed, the rod be "laid about his own back" as an impostor. I offered to act as intermediary between Mullins and this party, even on these terms, with the additional proviso, however, that if Mullins succeeded the rod should be laid on the other party's back, and that I laid it on, but my friend has been considering my challenge for several years and has not yet responded. He will no doubt read this, and may have something to say now. A little book has been long published about Mullins, in which his success in providing estates with water is attested by numbers of well-known gentlemen. *J. Simpson, Wortley.*

THE LINDLEY LIBRARY.—An exhibition of books and pictures is a new idea, but there is no reason why it should not be attempted. A first attempt might certainly be made in the rooms at 117, Victoria Street. But we ought to have a catalogue of the Lindley Library first, so that we might know what books to exhibit. I have two books before me as I write, *Paradise Retrieved*, plainly and fully demonstrating the most beautiful, durable, and beneficial method of managing and improving fruit trees against walls and in hedges, contrary to Mr. Laurence and others upon gardening, together with a treatise on *Mellons and Cucumbers*, by Samuel Collins, Esq., of Orchester, in Northamptonshire. "Satis est servare Repertum. Claudian. Sold over against the Maypole, in the Strand. 1717." Collins never allowed ladies to walk near his Melons, p. 106.

"I have found," says he, "the consequence of this so fatal, that for many years past (though they have been welcome to walk the rest of the garden), I have been obliged at that time of fruiting to deny their entrance into the Mellonry." He knew a good deal about fruit trees, but he evidently did not like the ladies. He one day "found near a dozen trees with their fruit dimpled and spotted as if the smallpox had been rife amongst them, but this came by freedoms the ladies had taken in the gardener's absence to satisfy their curiosity." The "pismires" also bothered him as much as the ladies. I have another book, published in the reign of Charles II., and dedicated to him—the *Anatomy of Plants, with an Idea of a Philosophical History of Plants*, by N. Grew, M.D., Fellow of the Royal Society, and of the College of Physicians, 1682; there are eighty-three full-page plates of engravings, dissections of plants, &c., greatly magnified to show the cells, &c. *Essex.* [Still a valuable book, and most interesting historically. England had the lead in vegetable anatomy in those days. Ed.]

LOBELIA CARDINALIS.—I was glad to observe Mr. Ward calling attention to this beautiful plant in the *Gardeners' Chronicle*, p. 759, of the last volume, for in addition to its being a good subject to plant in herbaceous borders, it is excellent for beds. One of the most effective beds here last summer was an oval-shaped one that was planted with clumps of this species, at a distance of 1½ foot apart, with a carpet formed of Viola Bluebell, and a few plants of Abutilon Thomsoni, variegated variety, dotted amongst them; and the various colours of these plants in flower and foliage, made it a very attractive object in the garden throughout the season. In addition to its being a plant easily increased, it may be readily raised from seed, which if sown in gentle heat in the month of February, affords plants fit for planting out towards the end of May, giving a good display of bloom throughout the autumn. The L. cardinalis variety Queen Victoria, which has dark bronzy foliage, is by some preferred to the type, and seeds of this variety are obtainable at the best seed shops. In cold districts the roots should be taken up in the autumn and placed in cold frames. *D. Elkins, Trewsbury.*

—— One of our finest beds in summer has for many years been Lobelia cardinalis, variety Queen Victoria, which has dark foliage and more intense bright coloured flowers. We always plant the Lobelias about 15 inches apart, and fill in with Alyssum variegatum, which arrangement has the advantage that both may be planted much earlier than the ordinary run of bedding plants, as both withstand a few degrees of frost, assuming they have been properly hardened off. This immunity from injury by slight frosts also enables them to last much longer in beauty in the autumn; indeed, they frequently last right into the first winter months. Early planting is one of the secrets of success with this plant; for if they are not put out until the usual bedding-out time, they never do so well. We generally put them out in April or early in May, filling in with Alyssums at the same time, and in well manured soil, and a different bed being chosen for them each year. Before the Lobelias flower, the bed is made attractive with the light-coloured foliage of the Alyssum and the dark leaves of the former. Lobelia cardinalis is easily raised rom seed, which, if sown early, will flower the sa e year; but old plants taken up in the autumn afte flowering, potted or put thickly into boxes, divid- i and potted-up early in the year, say about Feb uary, make the best and strongest plants. *W. H. Holak, Redleaf, Penshurst.*

FRUIT OF THE EGG-PLANT.—I believe that the fruit of the Egg-plant (like that of the Tomato) is an excellent remedy for those suffering from liver complaints. In India and other tropical countries where it grows, it is very much used as a vegetable, cooked or uncooked, and is commonly known in India as the Brinjal. Curried it is delicious, and it is a good tonic and alterative. I believe that if fruit-growers would direct their attention to the culture of this plant in this country they would soon find it become very remunerative. At present its virtues are very little known, but if successfully cultivated and well advertised it would soon become as popular as the Tomato. *Alexander Paterson, M.D.Edin.* [The Aubergine, sometimes seen in our markets, is the fruit of a variety of the egg-plant. Ed.]

WATER-TIGHT STOKEHOLES. — Your correspondent, "W. P. R.," in his note on the above, *Gardeners' Chronicle*, p. 758, in the last volume, says that bricks and cement are very expensive items, and walls made with these materials not a success, for after a few years the water will surely find its way through them, and no repairing will render them watertight. We have here two iron tanks put in, inside of brick and cement tanks, one wrought-iron let down whole, the other is of cast-iron in sections, put together with nuts and screws, filled in with iron filings, which answer admirably. There is no necessity for the flow and return pipes to go over the top of the tank, as holes may be cut in the sides or end, and the pipes passed through, a flange being bolted on with packing below or rubber rings to keep out the water. Our tanks and boilers were put in by Mr. Hazel, of Dorchester, and the former has been surrounded with water nearly to the top for the past five weeks. I would prefer a boiler in a tank 2 feet or so below its work, with free circulation, rather than 2 or 3 feet above it, with an elevated reservoir, and a dribbling return to the boiler. Perhaps some of your abler readers will give their experience of aboveground boilers shortly. *W. H. S.*

FLORISTS' FLOWERS.

MARKET CHRYSANTHEMUMS.

It is remarkable how the old Source d'Or, with its bright orange-buff flowers, still holds its own as a market variety. It is grown to an enormous extent because it is so attractive and so free, and on the whole, so well managed. It is one of those warm colours which attract the eye and allure the sense as the period of mid-winter is reached, when bright colours are needed as a contrast to the prevailing dreariness without. It is said that W. H. Lincoln, the large golden-yellow variety, is being grown for market because of its freedom and bright colour, and is expected to become as popular as Source d'Or. L. Canning (Craig, 1888), is also coming to the fore, and though originally classed as a mid-season variety, is proving valuable for late work. Lady Fitzwigram is proving an invaluable early variety, and appears destined to take the place of Madame Desgranges and its varieties. It is comparatively new, but rapidly finding its way into culture. The new white Niveum is also a very promising late white variety. In looking at the display in the windows of the flower-shops in London, one sees how the white Japanese prevail over the incurved, indeed scarcely an incurved variety put in an appearance at the Christmas season.

Early Chrysanthemums as Window Plants.

An enquiry reached me the other day as to whether any of the early Chrysanthemums can be grown as window plants. The required conditions were dwarf habit, if possible not more than two feet in height, and the production of flowers as large as those of the later-flowering varieties, a further stipulation being made that the plants were to bloom in August and onwards. As these conditions appeared to considerably narrow the selection, I applied to Mr. H. Shoesmith to make one, and he recommends Lady Fitzwigram, white, to flower in August and September; Ryecroft Glory, August and September; Comte F. Lurani, rose, shaded with white; Louise, blush white; John Shrimpton, crimson; Le Rhone, yellow; Souvenir d'une petite Amie, white; and L. Canning, white, very late. The culture of such may be set forth in a few words. The cuttings being obtained, they might be struck in a box in a window, and kept through the winter, then be potted singly in small pots, and afterwards in larger ones, be placed out in the open in April or early in May, and returned to the window to bloom. Success in such a case will depend largely upon the skill of the grower, the attention given to the plants, and the convenience for growing them.

Single Chrysanthemums.

There is this advantage about the single Chrysanthemums, that a number of them are late in flowering. I have this season grown a small collection in a cold house, and I find the three latest are the Rev. J. Renky, amaranth; Purity, white; and Admiral Sir Thos. Symonds, yellow; the last quite fresh on December 24, though in a house in which no fire-heat is employed. The three varieties I have named are all large-flowering, and the blossoms are produced in good bunches. There is this advantage about the single Chrysanthemums, that they need little or no disbudding, as most of the varieties come large enough without it; and, as far as my experience goes of the few varieties I have grown, they are generally of moderate height, none of them too tall, and as I have a collection of evergreen plants, I keep in my cold house during the winter—Aralia, Yucca recurva, variegated Box, Saxifraga ligulata, hardy Ferns, and such like, the single Chrysanthemums go well with them. In the absence of any warmth but such as is derived from solar influences, the flowers suffer through damp and fog, but they kept me gay up to Christmas. I think one of the surprises at the recent December exhibition of the National Chrysanthemum Society was the single Chrysanthemums. They were shown in bunches of three blooms, with long stems, but it must be admitted the ordinary twelve stands were too small to show them off to advantage, and another season it will probably be required they be shown in bottles of water, so as to prevent crowding. Then the time has come when it is likely to be required that the larger-flowered varieties be shown by themselves, and the small by themselves. I am well aware this is setting up a somewhat arbitrary distinction, but there need be no great difficulty on the part of exhibitors and judges in differentiating them for show purposes, and with a season or two's experience, a more definite line of cleavage may become necessary. One thing appears certain, that the single Chrysanthemums must play a more important part in the future at the midwinter exhibition of the National Chrysanthemum Society, and a recommendation will be made to the general committee to set apart some additional classes in which they can be shown, and it might be requisite to increase the number of blossoms shown in a bunch in one or two of the classes—a course which might be followed with advantage if the bunches are shown in bottles of water. I think a meed of praise is due to Mr. William Wells, Earlswood, Redhill, for the persistency with which he keeps the single varieties before the public at the various exhibitions, and also as a raiser of new varieties. *R. D.*

Chrysanthemum Mrs. Langtry.

This single-flowered, sweet-scented Chrysanthemum is one of the most useful of the section for decorative purposes; the florists in this district pronounce it a gem for their work, giving a colour that is scarce at this season. *B. Wadds.*

LAW NOTE.

BOULTON & PAUL *v.* FRAZER'S EXORS.

In the Chancery Division, before Mr. Justice Stirling, Boulton & Paul *v.* Frazer's Exors., was an action commenced on September 17 by Messrs. Boulton & Paul, of Rose Lane Works, Norwich, horticultural builders and wire-netting manufacturers, against Messrs. Frazer's Executors, of the Palace Plain Works, Norwich. Plaintiffs alleged that the defendants had wrongfully, without the consent of the plaintiffs, printed, published, distributed, and exhibited in catalogues, price lists, and advertisements, and otherwise parts of the plaintiffs' copyright catalogues, also that the defendants had wrongfully and without the consent of the plaintiffs copied, imitated, or caused to be copied, or colourably imitated, and had distributed and exhibited, or caused to be distributed and exhibited, in such catalogues, price lists, and advertisements, as aforesaid, copies or colourable imitations of the plaintiffs' said copyright drawings. The claim of the plaintiffs was for—1, an injunction to restrain defendants, their servants, or agents from printing, publishing, distributing, exhibiting, or otherwise circulating any catalogues, price-lists, or advertisements, being or containing infringements of the copyright in the plaintiffs' catalogues, and from copying or colourably imitating, and from exhibiting, distributing, or otherwise circulating copies or colourable imitations of plaintiffs' drawings; 2, damages for such infringements; 3, the

delivery of all such pirated catalogues and price-lists, and any copies or colourable imitations on blocks or otherwise of illustrations in the plaintiffs' catalogues, and any copies or colourable imitations of plaintiffs' said drawings which are in the possession of defendants, their servants, or agents, or damages for the detention or conversion thereof. By an order made in Chambers on D c. 11, the action was settled upon the defendants consenting to an injunction being entered against them with costs, and the damages were assessed at £25. *Eastern Daily Press, Dec.* 28, 1894.

GAS-FIRED BOILERS FOR GREENHOUSES.

THE use of coal-gas for greenhouse-heating is a question of considerable interest to many, and I believe the actual working results have never yet been published in a complete form. I have had gas-fired boilers, more or less in use, for the last eighteen years, and during this time experiments have been made under exact working conditions. By utilising the flue-heat, a very simple matter with a gas-fired boiler, practically the whole theoretical duty can be obtained as useful work, as the products of combustion can be cooled down to within 20° of the temperature of the house, without interfering with the steady working of the flue.

Copper boilers are frequently considered to be the best, but unless the water is kept very clean, there is always a liability to deposit of dirt on the bottom, which interferes with the proper working of the boiler, and causes liability to overheating and burning the bottom out, an accident which does not occur to cast-iron boilers.

As regards cost, this varies enormously with the minimum temperature required. In an ordinary winter, a house 20 feet square, span-roofed, 12 feet high to ridge, glass all round, but well protected from winds, will require an average of 7¼ cubic feet of gas per hour for six months, to maintain a minimum of 45°. It is not possible to say that a certain gas consumption will give a certain rise of temperature over the outside; this is only possible in a dead calm, a strong wind will more than double the fuel consumption for the same heating effect, and the only reliable guide is the average for the whole season.

How the cost will vary with the minimum temperature kept, may be shown by the thermograph record for a single week. Taking as an example the week ending December 2 last, to maintain a minimum of 35°, firing would have been needed for 25 hours; 45°, 145 hours; 55°, 168 hours. The average mean temperature for the week is 42°. It will be seen that the actual temperature of the house is a very secondary matter in itself, and by far the most important point is the length of time the temperature is required. For instance, taking a house of such a size that each degree rise of temperature costs 1*d*. for 24 hours, in the week in question the thermograph record shows the cost of a minimum of 35° would be 7½*d*., a minimum of 45°, 5*s*. 2½*d*.; and of 55°, 11*s*. 1*d*. This is on the supposition that an automatic regulator is used, and no waste is permitted. My experience with automatic regulators is not long, as it is unsatisfactory; they are too delicate and require too frequent skilled adjustment to be practical in ordinary use in unskilled hands. If the week in question had been a stormy one, with strong winds, the gas consumption would have been at least doubled.

The daily differences are so great that no average can be taken for less than the whole season. The greatest difficulty as regards cost is the constant tendency of amateurs to keep up an unnecessarily high temperature; a cold greenhouse, with a minimum of 35° costs very little, a warm greenhouse or conservatory does not need a minimum higher than 42°; even in the land of the Banana and Orange, the mornings are often bitterly cold.

Comparative cost of gas and coke.—Under equal conditions of economy (which are not practicable), with the two fuels, 19 cubic feet of ordinary coal-gas are equal to 1 lb. of dry good coke; it will be nearer the actual working figures if we take 19 cubic feet of gas as being equal to 2 lb. of coke, used carefully under ordinary good conditions; and from these figures the actual comparative cost can easily be calculated. I pay here 4*s*. per 1000 cubic feet of gas, and the 19 feet will cost just one penny. Common gas-coke costs, delivered here, 13*s*. 6*d*. per ton, and at this rate we get 14 lb. for one penny, the working cost would therefore come out at seven times the cost of coke, and this may be taken as the actual difference for continuous work on anything but a very small scale; the largest house which should be attempted with gas fuel, if cost is any object, would be about 20 feet square, with a minimum of 45° or less.

Whilst on this subject, it is worthy of mention that a very tiny gas-fired boiler in Wardian or window-cases greatly increases the use and beauty of these when managed judiciously, not so much on account of the temperature, but rather from the power of drying and controlling the ventilation and state of the air inside the case. I have found from experience, that the gas burnt has not the slightest effect on the plants, in fact, burnt gas appears to have little, if any, effect on any plants, provided the atmosphere is kept in proper condition—by no means an easy matter in a living room where gas is used for lighting purposes, unless the plants are enclosed in a glass case. *Thos. Fletcher, F.C.S., Grappenhall, Cheshire.*

TOMATO EXPERIMENTS.

OWING to the immense demand for the Tomato fruit in the general market, and for canning purposes, as also its extensive domestic culture, this fruit has become in many of the States of America a most important crop, and it has apparently been more widely and thoroughly investigated at the various horticultural experimental stations than any other garden product.

According to a recent estimate there were canned in the United States in 1892 no fewer than 3,223,165 cases of Tomatos, each case containing two dozen cans. In the State of New Jersey alone the estimated area of Tomatos grown in 1889 for canning and for the general market was 17,000 acres, worth more than £200,000. The value of the Tomato crop in Virginia in 1889 was estimated at about the same figure.

To aid this important industry, the experimental stations in a number of States have made investigations with a view to increasing the yield of the Tomato, and augmenting the profits of the Tomato grower. These researches have embraced studies of injurious insects, of the various diseases affecting the plant, tests of methods of transplanting, general culture, training, and manuring. The physical character and chemical composition of the crop has also been ascertained.

CULTURE.

At the Ohio station it was observed that the finest, if not the earliest, Tomato fruit was secured by selecting seed from the first good fruits, or from plants giving the most early fruits.

The effect of using immature seed was tested at the New York Station through several years, and the degree of greenness at which seed would germinate seemed rather remarkable. The green seed was found to mature its fruit earlier, but the vigour of the plant was impaired. As practical lessons it was suggested that the Tomato might be rendered more productive and earlier by a treatment reducing the native vigour of the plant, as by growing on poor, dry soil, &c.; and that the health of the plant is dependent in a measure upon the quality of the seed used. Frequent or at least some transplanting of seedlings, to secure stocky robust plants, is recommended.

Experiments were made at the Maryland Station comparing pot-grown plants for setting with those transplanted in the ordinary way, with results regarded as decidedly in favour of the former method. There was no wilting or checking of growth, and the pot-grown plants produced more fruit than the transplanted, a large part of it earlier in the season.

The supporting of Tomato bines on a stake, frame, trellis, or platform has been tried, with the result that some form of support is in all cases approved, at least for garden practice. Training to a single stem, supported by a stake, is found to greatly increase the yield per square foot of land, gives earlier fruit, and decreases the injury from rot.

Experiments have been tried at the New York Cornell Station on the practice of winter forcing of Tomatos, which it is judged, may be carried on with profit, though it requires close attention. Some of the points made are that an abundance of sunlight is essential, a rich soil liberally fertilised is demanded, that winter Tomatos like a brisk bottom-heat, and that in mid-winter the flowers must be pollinated by hand.

MANURING.

Investigations with fertilisers upon Tomatos have been very numerous. Most of these tests indicate that nitrate of soda is a manure especially suited to the Tomato—in fact, in the States, it is considered almost a specific for this plant, with that of other applications.

The Thirteenth Annual Report of the New Jersey State Agricultural Experiment Station just issued, shows the effect of different quantities and different methods of application of nitrate of soda upon the yield of Tomatos per acre, which is indicated in detail in the following comparisons:—

Comparison of Average Increased Yields of Tomatos.

	Baskets.
Yield from unmanured land	315
Increased yield due to mineral manures alone ...	99
Increased yield due to twenty loads of farmyard manure	165
Average increased yield due to nitrate soda alone	153
Average increased yield due to a mixture of nitrate soda and mineral manures	154

Variations in Increased Yield of Tomatos due to different Methods of Application of Nitrate of Soda.

(Nitrate of Soda used alone).

	Baskets.
160 lb. per acre in one application	131
160 lb. per acre in two applications	125
Gain from one application	6
320 lb. per acre in one application	157
320 lb. per acre in two applications	200
Gain from two applications	43

(Nitrate of Soda and Mineral Manure Combined).

160 lb. per acre in one application	157
160 lb. per acre in two applications	126
Gain from one application	31
320 lb. per acre in one application	154
320 lb. per acre in two applications	149
Gain from one application	5

A study of the above tabulations shows, that in the present instance nitrate of soda was less effective than farm-yard manure, but more effective than the mineral elements, phosphoric acid, and potash, and that nitrate of soda alone, or in connection with minerals, was equally effective. In the comparison of yields from different quantities of nitrate, it is shown that when used alone the larger quantity is much more effective than the smaller; whilst, when used with the mineral element, the smaller quantity was the more effective. But taking the average of four years' experiments, the results show that as a fertiliser for Tomatos—

1. Nitrate of soda is superior to both farmyard manure or mineral fertilisers alone.

2. Nitrate of soda alone is, on the whole, but slightly less effective than a complete manure, supplying both nitrogen and minerals.

3. When small quantities of nitrate are used, the second application is advantageous.

4. Large quantities (320 lb. per acre) of nitrate are more effective than small quantities (160 lb. per acre).

Although it was shown by the individual experiments, at the New Jersey Station, of 1890, 1891, and 1892, that the direct application of phosphoric acid and potash was unnecessary, the average results indicate that the best effect from the use of nitrate of soda is governed, other things being

equal, by the condition of—1. Quantity applied. 2. Method of application. 3. A full supply of phosphoric acid and potash. *J. J. Willis, Harpenden.*

(To be continued.)

Obituary.

Mr. Charles Collins.—We regret to learn from the *Journal of Horticulture*, of the death of this conscientious and accomplished journalist. He died quite suddenly on the 26th ult., while entering a railway train, after carrying one of his children to the station, Mr. Collins, as we learn from an obituary notice in the *Journal*, was occupied in his younger days in the gardens at Sandbech Park, Wortley Hall, and Howick Hall. Collins was very severely handicapped by an impediment in his speech which interfered with his progress as a gardener, he, therefore, turned his attention to the horticultural press, becoming attached to the reporting staff first of *Amateur Gardening* then of the *Gardeners' Chronicle*, and latterly of the *Journal of Horticulture*. In each case he manifested so conscientious a desire to fulfil his duties to the utmost, and to improve his naturally good abilities, that he secured the high esteem of his employers, who will cordially share in the sympathetic obituary notice which appears in the *Journal* of January 3.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending December 29.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1894.	Accumulated. Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1894.	Rainfall. Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	10	23	+ 376	— 102	5 +	234	53·8	6	30
1	3 +	7	30	— 58	aver 0	1 —	202	34·3	10	33
2	4 +	11	23	+ 72	— 125	4 —	208	25·5	30	30
3	4 +	11	23	+ 101	— 182	2 —	205	26·9	25	33
4	5 +	22	14	+ 103	— 207	2 —	196	27·4	17	30
5	3 +	22	13	+ 176	— 215	2 —	193	33·2	27	34
6	5 +	21	6	+ 127	— 159	5 —	219	49·7	8	31
7	4 +	23	4	+ 267	— 212	1 —	213	38·3	10	31
8	4 +	26	4	+ 166	— 141	2 —	214	45·0	17	35
9	5 +	23	0	+ 93	— 84	1 —	231	38·3	10	29
10	4 +	27	2	+ 110	— 134	1 —	212	43·7	10	31
*	4 +	43	0	+ 361	— 40	1 —	221	38·8	17	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending December 29, is furnished from the Meteorological Office:—

"The *weather* was less unsettled than of late during the greater part of the week, although occasional slight rain was experienced in nearly all places. By the evening of Friday, however, the conditions had become rough over the entire Kingdom, and especially so in the north, where squalls of cold rain or sleet prevailed very generally, with thunder and lightning in the west and north.

"The *temperature* continued above the mean, the excess ranging from 3° in 'Scotland, N. and E.,' and 'England, S.,' to 5° in the 'Midland Counties,' 'Scotland, W.,' and 'Ireland, N.' Towards the end of the week, however, it fell rapidly, and the air became dry and keen. The highest of the maxima were recorded either on the 24th or 25th, when they ranged from 58° in 'England, S.W.,' and 55° in 'Scotland, N.' to 49° in 'Scotland, E.' The lowest of the minima were registered either on the 28th or 29th, and ranged from 26° in 'Scotland, N. and E.,' and 'England, N.W.,' to 33° in 'England, S.W.,' and to 43° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in 'Scotland, N., but was less in all other districts, the fall in 'England, N.E.,' being extremely slight.

"The *bright sunshine* was fairly abundant for the time of year in most parts of England, but very little was experienced in Ireland and Scotland. The percentage of the possible duration ranged from 30 in 'England, N.E.,' 27 in 'England, S.,' and 25 in 'England, E.,' to 17 in 'England, S.W.,' and the 'Channel Islands,' and to 8 in 'Scotland, W.,' and 6 in 'Scotland, N.'"

Markets.

COVENT GARDEN, *January* 3.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	4 0	12 0
Aspidistra, per doz.	12 0	30 0	— various, doz.	5 0	12 0
— specimen, each	5 0	15 0	Ficus elastica, each	1 0	7 6
Chrysanthemums, per dozen ...	6 0	15 0	— small, per 100	4 0	6 0
Cyperus, per dozen	4 0	10 0	Foliage plants, doz.	9 0	24 0
Dracæna, each ...	1 0	5 0	Marguerites, p. doz.	6 0	12 0
Erica hyemalis, doz.	12 0	18 0	Mignonette, p. doz.	0 0	6 0
— various, doz.	9 0	12 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	— specimens, ea.	10 6	84 0
			Primulas, per dozen	4 0	6 0
			Solanums, per dozen	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	6 0	8 0	Mimosa (French), per bunch ...	0 9	1 0
Azaleas, doz. sprays	0 6	1 3	*Orchids*:—		
Bouvardias, p. bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 0	2 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Chrysanthemums, per 12 blooms ...	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
— per 12 bunches	4 0	8 0	Roses, Tea, per doz.	1 0	2 0
Eucharis, per dozen	3 0	4 0	— coloured, p. dz.	2 0	4 0
Gardenias, per doz.	3 0	4 0	— yellow (Maréchals), per dozen	6 0	9 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0	— red, per dozen	1 0	1 6
— 12 sprays ...	0 6	0 9	— (French), red, per dozen... ...	1 6	2 6
Hyacinths (Roman), doz. sprays ...	0 10	1 0	— (French), yellow, per dozen ...	1 0	2 0
Iapageria, 12 blms.	1 0	2 0	Stephanotis, dozen sprays	4 0	6 0
Lilac (French), per bunch	5 0	6 0	Tuberoses, 12 blms.	0 4	0 6
Lilies of the Valley, doz. sprays ...	1 6	3 0	Violets, Parma (French), p. bch.	3 6	4 6
Lilium Harrisii, per dozen	4 0	8 0	— Czar (French), per bunch ...	1 9	2 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0	— doz. bunches	1 0	1 6
Marguerites, 12 bun.	1 0	3 0	— (English), per dozen bunches ...	1 6	2 0
Mignonette, 12 bun.	2 0	4 0			

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, p. sieve	3 0	4 0	Grapes, Muscat, per lb.	2 6	4 0
— Dessert, ½-sieve	2 6	3 0	— Muscat, 2nd quality, per lb.	0 9	1 0
Grapes, 1st quality, black, English, lb.	1 0	2 0	Cobs, per 100 lb. ...	25 0	27 6
— English, 2nd quality, per lb.	0 6	1 0	Pine-apples, St. Michael, each ...	2 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, per lb. ...	1 0	1 6	Potatos, Channel Islands, per lb. ...	0 6	0 7
Cauliflowers, per dozen	1 0	1 6	Onions, per bush. ...	1 6	2 0
Cucumbers, per doz.	6 0	8 0	Seakale, p. punnet...	1 3	1 6
Mushrooms, per lb. ...	0 6		Tomatos, per lb. ...	0 3	0 6

Potatos.

There has been, during the week, a general run on first-class Potatos at an advance of 5*s.* to 7*s.* 6*d.* per ton. The best samples off dark soils have also commanded quick sales and better prices than last week. *J. B. Thomas.*

Seeds.

London: *January* 2.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that no activity worth mentioning has yet sprung up on the seed market. American Red, Canadian Alsyke, and English Trefoil are unchanged. White Clover seed keeps in disfavour; buyers in this country appear resolutely determined, before purchasing same, to await the approaching increased offerings from Germany. For yearling home grown Cow grass, there is a good inquiry. Lucerne tends upwards. Canary and Hemp seed are steady. The colder weather improves the trade for Peas and Haricots. White and Scarlet Runners are firm. There is no alteration in either Mustard, Rape, or Linseed.

Fruits and Vegetables.

Borough: *January* 1.—Quotations:—Cabbages, 1*s.* 6*d.* to 2*s.*; Savoys, 2*s.* to 2*s.* 6*d.* per tally; Brussels Sprouts, 10*d.* to 1*s.* 3*d.* per half sieve; Greens, 1*s.* to 1*s.* 6*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* 9*d.* to 2*s.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Celery, 4*s.* to 8*s.* per dozen bundles; Onions, English, 2*s.* to 3*s.* per cwt.; do., foreign, 1*s.* 9*d.* to 2*s.* 3*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.* per barrel; other sorts, 8*s.* to 10*s.* do.; Pears, 1*s.* 6*d.* to 3*s.* per bushel.

Stratford: *January* 1.—The supply to this market during the past week has been excellent, and with a large attendance of buyers, a brisk trade was done at the undermentioned prices:—Cabbages, 2*s.* to 2*s.* 6*d.* per tally; Savoys, 2*s.* 6*d.* to 3*s.* per tally; Greens, 5*s.* to 7*s.* 5*d.* per dozen bunches; Cauliflowers, 1*s.* to 1*s.* 6*d.* per dozen; ditto, 5*s.* to 6*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; do., 30*s.* to 40*s.* per ton; Carrots, household, 25*s.* to 30*s.* per ton; do., cattle-feeding, 15*s.* to 20*s.* per ton; Parsnips, 2*s.* 6*d.* to 2*s.* 9*d.* per bag; Mangels, 14*s.* to 18*s.* per ton; Swedes, 10*s.* to 16*s.* per ton; Onions, English, 40*s.* to 60*s.* per ton; do., Dutch, 48*s.* to 50*s.* per bag; do., Valencia, 5*s.* to 5*s.* 6*d.* per case; Apples, English, 2*s.* 6*d.* to 4*s.* 6*d.* per bushel; do., American, 12*s.* to 14*s.* per barrel; Brussels Sprouts, 1*s.* 2*d.* to 1*s.* 3*d.* per half-sieve.

Farringdon: *January* 3.—Quotations:—Seakale, 10*s.* per dozen; Curly Kale, 1*s.* per bushel; Savoys, 4*s.* to 5*s.* per tally. Cauliflowers, 1*s.* 3*d.* to 2*s.* per dozen; Carrots, 2*s.* 6*d.* dozen bunches; Parsnips, 2*s.* 6*d.* per cwt.; Horseradish, 1*s.* per bundle; Sprouts, 1*s.* 6*d.* per sieve; Celery, 10*s.* to 12*s.* per dozen; Apples, Canadian Baldwins, 12*s.* to 15*s.* per barrel; Beetroot, 3*s.* per cwt.; Chestnuts, 12*s.* to 15*s.* per bag.

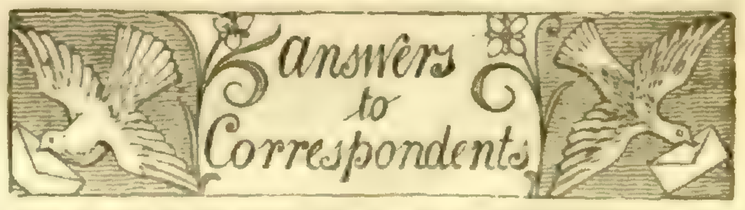
Enquiries.

"He that questioneth much shall learn much."—Bacon.

Cupressus Balfouriana, *Lemoine*, imperfectly described in Gordon, *Pinetum*, ed. 2 (1875), p. 79. Can any reader say where this is to be procured, or what it is?

Passiflora Pfordtii.—Can any reader refer to the origin of this name?

West African Trees.—A correspondent asks for information as to the local and botanical names of the trees in Western Africa which are utilised in commerce. Our correspondent should be a little more precise in his requirements.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Bones Accidentally Burned: *Nemo.* The burning will have reduced the bones to the condition of lime, and as lime forms a capital dressing for land that is too rich in vegetable matter, such as old gardens, and for land in which stone-fruits, Nuts, Vines, &c., are cultivated, you will doubtless find plenty of use for it.

Crinum [nobile?]: *Humming.* The bulbs, if received in a dry state, and unpotted, may be potted at once after cleaning away some of the looser parts of the outer skin round the neck and washing them in tobacco-water of some considerable strength, to kill mealy-bug and red-spider. For potting-soil, use turfy loam, peat, charcoal, and sand. Pot firmly, with one-third of the bulbs

above ground, and at first in pots that will just contain the bulbs; when well rooted at end of first year, shifting into much larger pots. Stove species require a temperature when in full activity of 70° to 80°, and when at rest 55° to 60°. After flowering, a partial rest is required.

FICUS ELASTICA: *A. B.* Market growers raise their plants from "eyes," and cuttings of two-year-old shoots.

GRAPES: *Amateur.* The black Grape is West's St. Peter's, a smallish but good-keeping variety, provided it is ripened in September. Your Lady Downes are not keeping well because of their not being perfectly ripened. The white mould is not the cause of, but is consequent upon, the decay of the skin of the berries, and begins at the top where the weight of the berry causes a rupture of the skin round the footstalk, or at the bottom where moisture collects. Where there is a water-tank in a vinery not securely shut off with a close-fitting slab of stone or wood, or not provided with a cover at all, the bunches should be cut in November and placed in bottles of water kept in a cool dry room; or the tank should be emptied of water, as the moisture always arising from a large body of water hastens decay in Grapes left on the Vines.

GREEN OR BLACK FLY ON HOUSE PEACHES: *X Y. Z* Diluted tobacco-water, soft-soapy water, Quassia-water, or Richard's X.L. All Vaporizer.

HÆMANTHUS KALBREYERI: *Humming.* Same as Crinums of the tropics, but with more perfect rest in a cool house, and at all times but little pot-room.

LATE WHITE-FLOWERED CHRYSANTHEMUM: *A. B.* See a note by R. D. in "Florists' Flowers," present issue, p. 19.

MARKET CHRYSANTHEMUMS FOR CUT BLOOM: *E.W.N.* In pots mostly, growing them out-of-doors so long as it is advisable, and then in cool houses.

MILDEW ON PEACH TREES: *Gardener, Barnet.* The best fungicide is the Bordeaux Mixture, to make which, use 6 lb. sulphate of copper, 4 lb. lime, and 22 gallons of water. Mix first the lime, and then stir in the sulphate. You may use it at the above strength on trees out-of-doors, but for your indoor trees a solution somewhat weaker may be used. You can readily ascertain if it does harm. More than one application may be necessary if the mildew is very prevalent. Having got rid of the mildew, you may put Strawberries in the house.

NAMES OF PLANTS: *Manx.* 1, Abelia rupestris; 2 Eupatorium Weinmannianum; 3, Chorozema varium; 4 Maranta Makoyana; 5, Cobœa scandens; 6, Pandanus graminifolius.—*W. K., Waterford.* 1, Briza media; 1*b*, Festuca geniculata; 2, Lagurus ovatus; 3, Panicum capillare; 4, no specimen; 5 and 12, Polypogon monspeliensis; 6, Briza maxima; 7, Aira capillaris; 8, Festuca geniculata; 9, Eragrostis pilosa; 10, no specimen; 11, Bromus squarrosus.—*W. T.* Ilex dipyrena—*W. H. P.* The seed of Trapa bicornis.

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SHAMROCK: *C. G.* The plant most commonly employed on St. Patrick's Day is Trifolium repens, although T. minus and some other plants are occasionally met with under the name. Trifoliums belong, as you suppose, to the Clovers.

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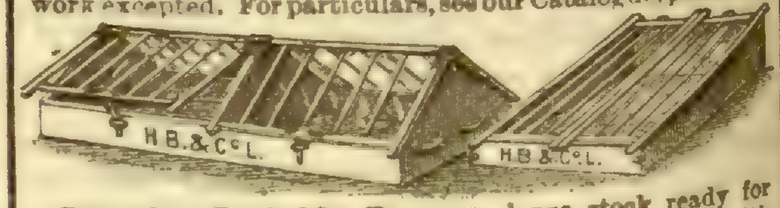

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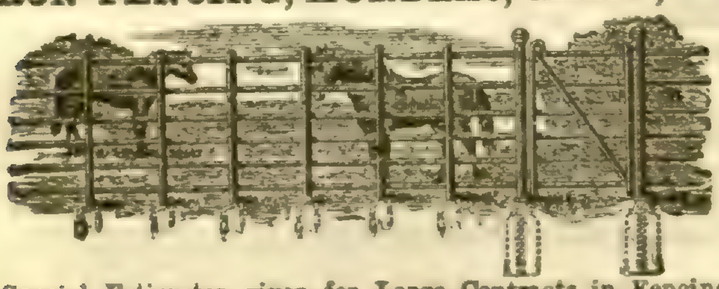

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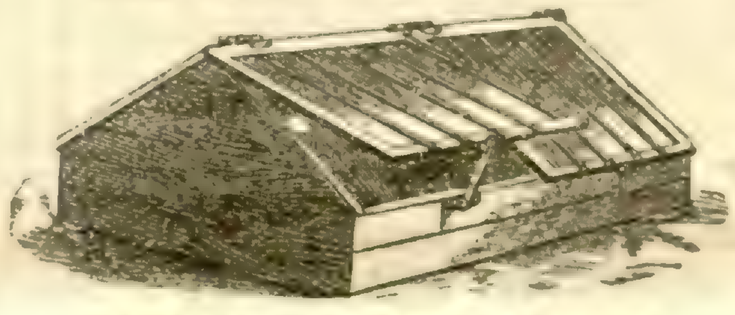

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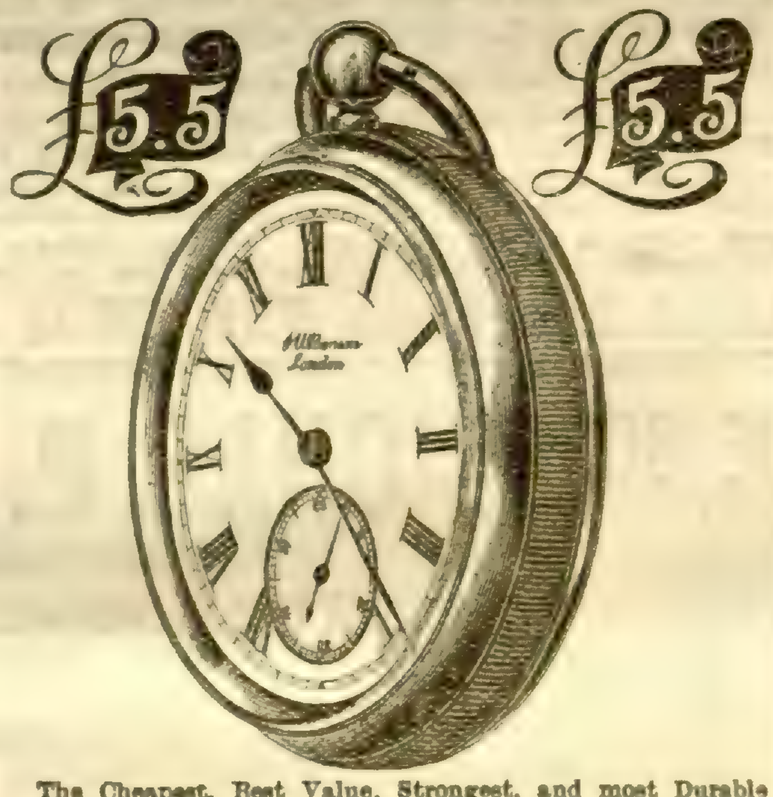

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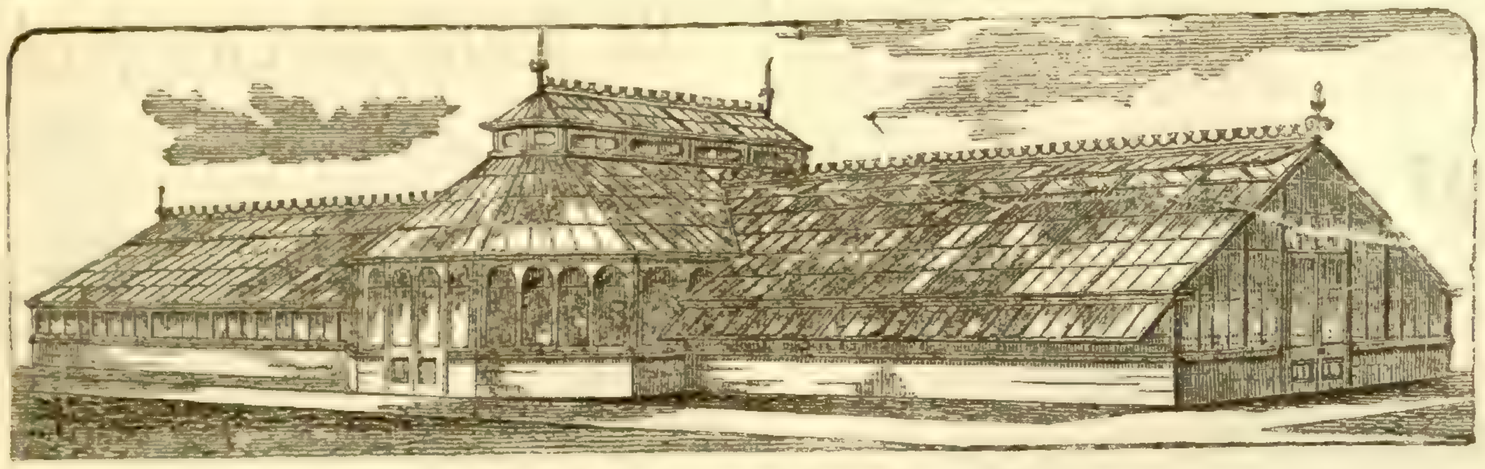

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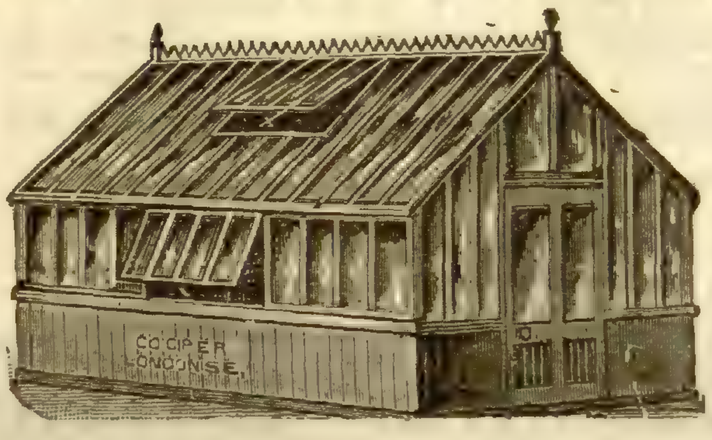

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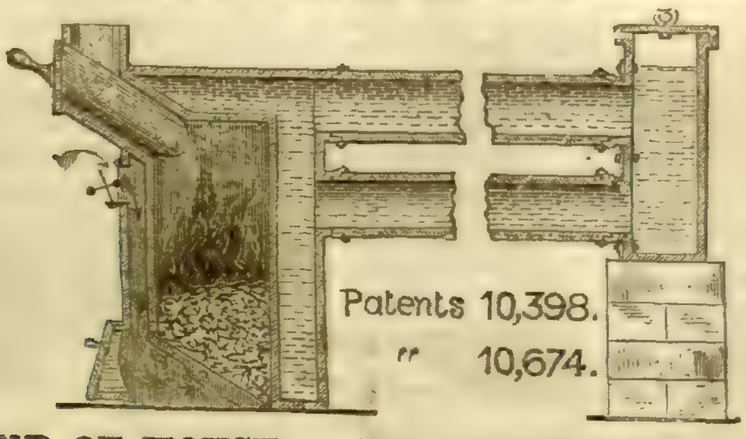

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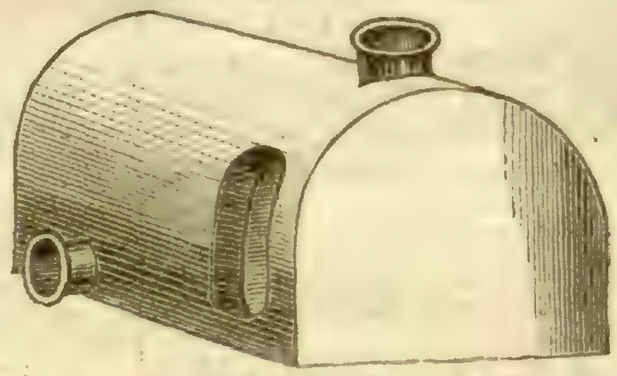

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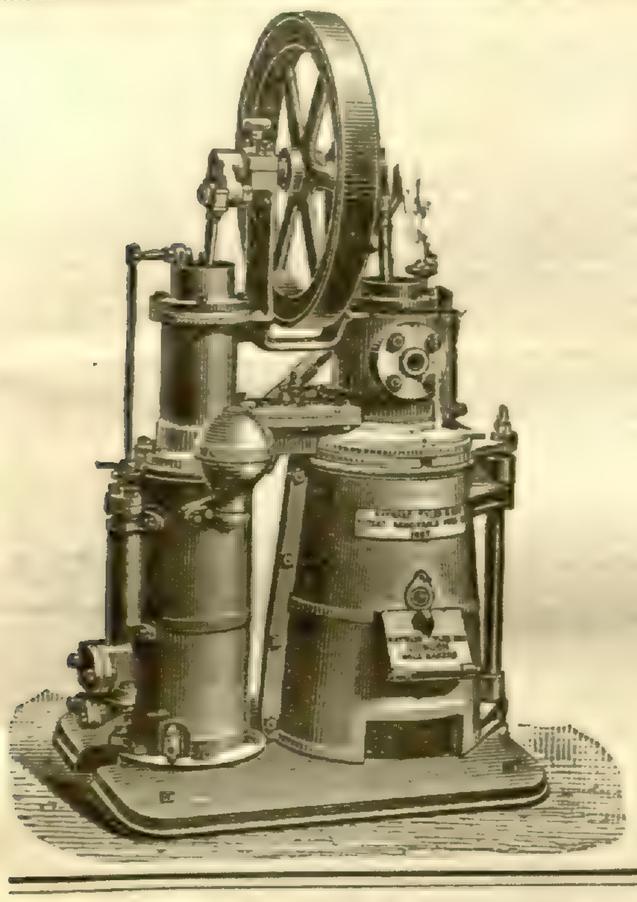

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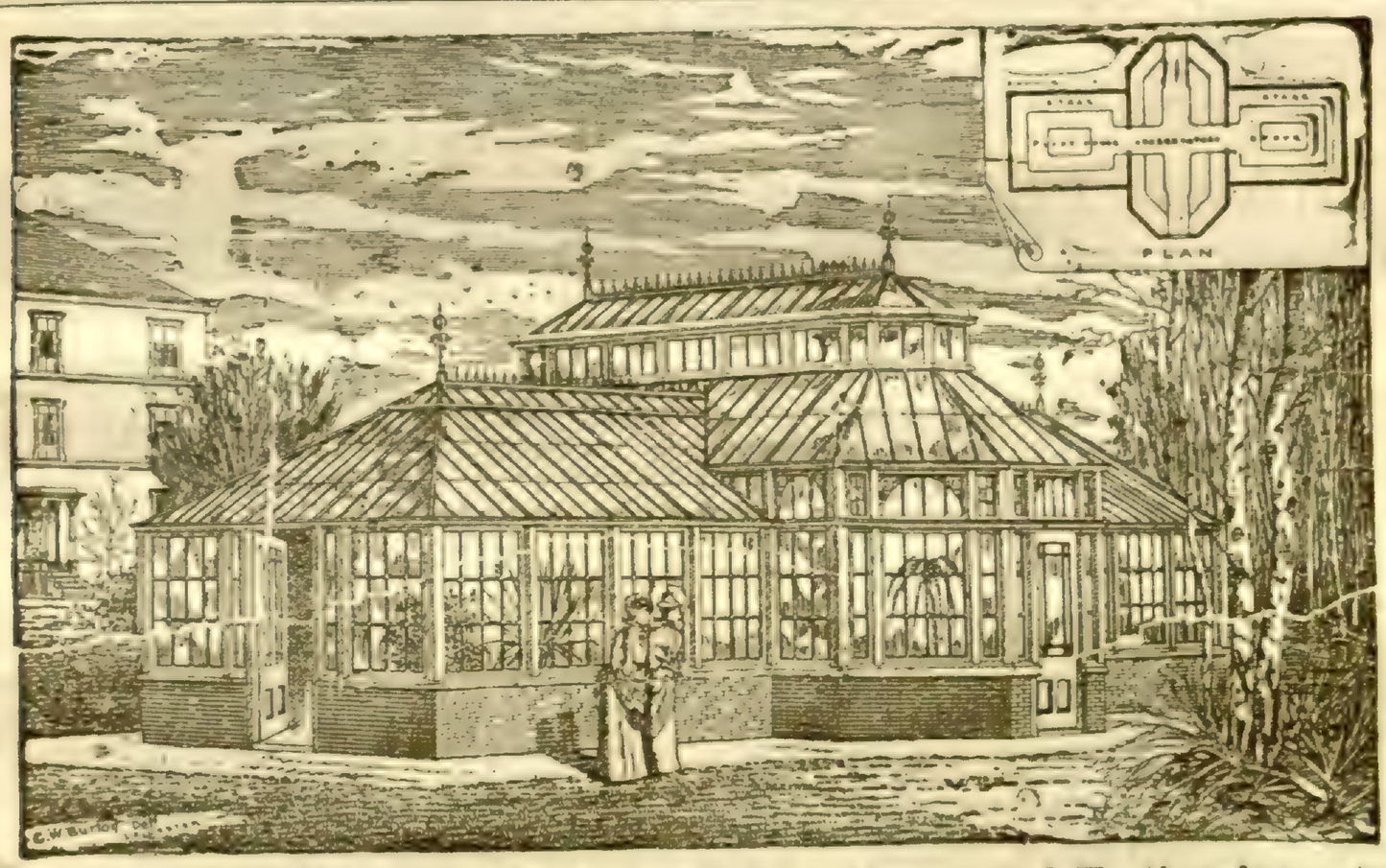

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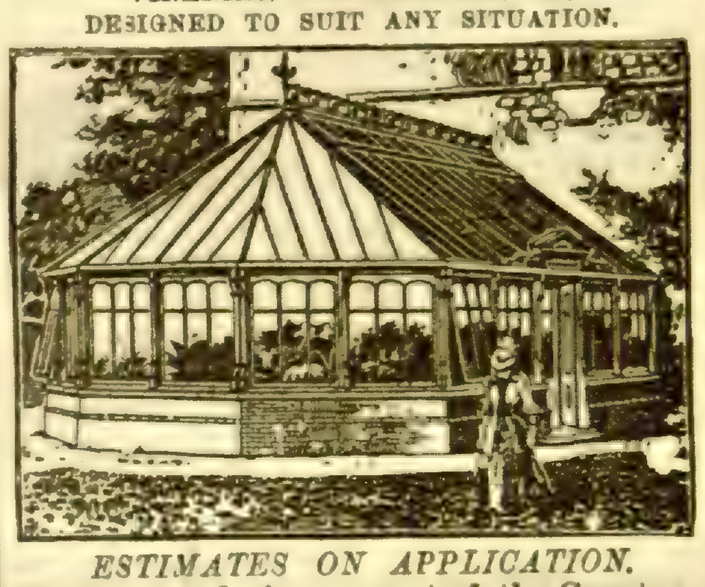

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To the Trade.

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FOREMAN.—Age 24; ten years' experience in good gardens. Early and Late Forcing of Fruit, &c., and good all-round man. Excellent references. Two years as Foreman in previous situation. Table Decorations.—PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

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FOREMAN.—Age 28; good experience. References satisfactory. Character good.—GARDENER, 5, St. Peter's Terrace, West Lynn, Lynn, Norfolk.

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FOREMAN, in the Houses.—Age 24; well-experienced in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants. Good references.—G. ISAAC, 12, Roberts Road, Exeter.

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FOREMAN, in good private establishment.—Married, age 38. Experienced in large places; good references.—J. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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13	M	
14	Tu	Roy. Hort. Soc. Coms. ; Hort. Club.
15	W	Roy. Bot. Soc. Summer Exhibition.
16	Th	
17	F	Roy. Bot. Soc., Lecture at 4 o'clock.
18	S	
19	S	*5th Sunday after Easter. Rogation Sunday.*
20	M	
21	Tu	Roy. Hort. Soc. Temple Show (3 days).
22	W	Devon County Agric. Soc. Sh. at Torrington
23	Th	*Ascension Day.* [(3 days .
24	F	Lin. Soc. Anniversary. Roy. Bot. Soc. Lecture.
25	S	Roy. Bot. Soc. Meeting.
26	S	*Sunday after Ascension.*
27	M	Mean temp., Chiswick, 57°.5.
28	Tu	—29 W.
30	Th	Bath, W. & S. Co.'s Soc., at Taunton (4 days) ; [Birm. Bot. Sh. of Pansies, &c. (2days).
31	F	Manchester Bot. Soc. ; Roy. Bot. Soc. Lecture.

Day of M.	Day of W.	
12	W	Roy. Bot. Soc. special Floral Fete.
13	Th	
14	F	Roy. Bot. Soc. Lecture at 4 o'clock.
15	S	Roy. Bot. Soc. Meeting.
16	S	*1st Sunday after Trinity.*
17	M	18 Tu
19	W	R. Bot. Soc. Promen. York Gala (3 days).
20	Th	Linnean Soc. Meet.
21	F	Roy. Bot. Soc. Lecture at 4 o'clock.
22	S	Sun rises, 3h. 45m. ; sets, 8h. 19m.
23	S	*2nd Sunday after Trinity*—24 M...Mids. Day.
25	Tu	R. Hort. Soc. Coms.
26	W	Richmond Hort. & Rose Soc. Sh. ; R. Bot. Soc. [Mus. Prom.
27	Th	Nat. Rose Soc., Southern Show, Gloucester.
28	F	Devon and Exeter Hort. Soc., Rose and Gen. [Fl. Sh. R. B. S. Lecture.
29	S	R. Bot. Soc. Meet.
30	S	*3rd Sunday after Trinity.* Mean temp., [Chiswick, 62°.6.

Day of M.	Day of W.	
13	S	R. Bot. Soc. Meet. Mean temp., Chiswick, 63°.3.
14	S	*5th Sunday after Trinity.*
15	M	—16 Tu
17	W	Nat. Rose Soc. North. Sh. at Derby ; R. Bot. Soc. [Mus. Prom.
18	Th	
19	F	
20	S	Manchester Bot. Soc. Rose Sh. in Town Hall.
21	S	*6th Sunday after Trinity*—22 M
23	Tu	R. Hort. Soc. Coms. Sun r., 4h. 12m. ; s., 8h. 0m.
24	W	R. Bot. Soc. Mus. Prom. : Durham, Northbland.. [and Newcastle Soc. Sh. (3 days).
25	Th	—26 F...*St. Anne.*
27	S	Roy. Bot. Soc. Meeting.
28	S	*7th Sunday after Trinity.*
29	M	
30	Tu	M. J. Berkeley died, 1889.
31	W	R. Bot. Soc. Prom. Mean temp., Chisw., 63°.2.

Day of M.	Day of W.	
13	Tu	Roy. Hort. Soc. Coms.
14	W	
15	Th	
16	F	Mean temp., Chiswick, 62°.3.
17	S	
18	S	*10th Sunday after Trinity.*
19	M	Felling Floral and Hort. Soc. Sh. (2 days).
20	Tu	Black Game Shooting Begins.
21	W	Shropshire Hort. Sh., Shrewsbury (2 days).
22	Th	Aberdeen R. Hort. Soc. Sh. (3 days). Sun r.. [4h. 58m. ; s., 7h. 8m.
23	F	
24	S	
25	S	*11th Sunday after Trinity.*
26	M	
27	Tu	R. Hort. Soc. Coms. ; Brighton N. Hort. (2 d.)
28	W	Harpenden Hort. Soc. Show.
29	Th	
30	F	
31	S	Day long, 13h. 36m.

SEPTEMBER.

MOON'S CHANGES.
Full Moon, 4th, 5h. 55m. morn.
Last Quarter, 12th, 4h. 51m. morn.
New Moon, 18th, 8h. 55m. after.
First Quarter, 25th, 6h. 23m. after.

Day of M.	Day of W.	
1	S	*12th Sunday after Trinity.*
2	M	
3	Tu	Mean temp., Chiswick, 59°.6.
4	W	Sun rises, 5h. 19m. ; sets, 6h. 40m.
5	Th	
6	F	Professor Pringsheim died, 1894.
7	S	
8	S	*13th Sunday after Trinity.*
9	M	
10	Tu	
11	W	R. Caledon. Hort. Soc. Show (2 days).
12	Th	
13	F	
14	S	
15	S	*14th Sunday after Trinity.*
16	M	
17	Tu	Hugh Low died, 1893.
18	W	Dr. Johnson born, 1709.
19	Th	Sun rises, 5h. 42m. ; sets, 6h. 5m.
20	F	
21	S	
22	S	*15th Sunday after Trinity.*
23	M	
24	Tu	Mean temp., Chiswick, 56°.1.
25	W	
26	Th	R. Hort. Soc. Fruit Sh. Crys. Pal. (3 days).
27	F	
28	S	
29	S	*16th Sunday after Trinity. Michaelmas Day.*
30	M	

OCTOBER.

MOON'S CHANGES.
Full Moon, 3rd, 10h. 47m. after.
Last Quarter, 11th, 2h. 34m. after.
New Moon, 18th, 6h. 10m. morn.
First Quarter, 25th, 11h. 4m. morn.

Day of M.	Day of W.	
1	Tu	Pheasant shooting begins.
2	W	Mean temp., Chiswick, 54°.5.
3	Th	
4	F	Faringdon Fair.
5	S	Sun rises, 6h. 8m. ; sets, 5h. 29m.
6	S	*17th Sunday after Trinity.*
7	M	
8	Tu	Nat. Chrys. Soc., Early Exhibition.
9	W	
10	Th	
11	F	*Old Michaelmas Day.*
12	S	
13	S	*18th Sunday after Trinity.*
14	M	
15	Tu	Roy. Hort. Soc. Coms. Hort. Club.
16	W	
17	Th	
18	F	
19	S	Night long, 13h. 34m.
20	S	*19th Sunday after Trinity.*
21	M	
22	Tu	
23	W	
24	Th	
25	F	Sun rises, 6h. 43m. ; sets, 4h. 46m.
26	S	Mean temp., Chiswick, 47°.3.
27	S	*20th Sunday after Trinity.*
28	M	
29	Tu	Royal Hort. Soc. Coms.
30	W	Jno. Keats, poet, born, 1796.
31	Th	*All Hallows' Eve.*

NOVEMBER.

MOON'S CHANGES.
Full Moon, 2nd, 3h. 18m. after.
Last Quarter, 9th, 11h. 7m. after.
New Moon, 16th, 5h. 11m. after.
First Quarter, 24th, 7h. 19m. morn.

Day of M.	Day of W.	
1	F	Mean temp., Chiswick, 45°.7.
2	S	[sets, 4h. 29m.
3	S	*21st Sunday after Trinity.* Sun rises, 6h. 59m. ;
4	M	
5	Tu	Nat. Chry. Sh. at Ry. Aquarium (3 d.) ; Brighton New
6	W	[Hort. Chry. (2d) ; Southpton. R. H. Chry. Sh. (2 d .
7	Th	Devon and Exeter Hort. Soc. Chrys. Sh. (2 ds.) ; [Hornsey (2 days).
8	F	
9	S	Royal Bot. Soc. Meeting.
10	S	*22nd Sunday after Trinity*—11 M.
12	Tu	R. Hort. Soc. ; Kingston Chry. Show (2 days).
13	W	Bournemouth and Dist. Chrys. Sh. (2 days) ; [Birmingh. Chry. Show (2 days).
14	Th	
15	F	Sheffield Chry. Soc. Sh. (2 ds.) ; Stockport Ch. [(2 days) ; Eccles and District Chry. Soc. Sh. (2 ds.) ; [Scot. Hort. Soc. Chry. Sh. Edinburgh (3 ds.)
16	S	
17	S	*23rd Sunday after Trinity.*
18	M	
19	Tu	
20	W	Sun rises, 7h. 29m. ; sets, 4h. 3m.
21	Th	
22	F	Manchester Bot. Chry. Sh., in Town Hall (2 ds.).
23	S	R. Bot. Soc. Meet. ; Mean temp. Chiswick, 41°6.
24	S	*24th Sunday after Trinity.*
25	M	
26	Tu	Royal Hort. Soc. Com.
27	W	
28	Th	Washington Irving died, 1859.
29	F	Night long, 15h. 49m.
30	S	

DECEMBER.

MOON'S CHANGES.
Full Moon, 2nd, 6h. 38m. morn.
Last Quarter, 9th, 7h. 9m. morn.
New Moon, 16th, 6h. 30m. morn.
First Quart., 24th, 5.21 mrn.—Full Moon, 31st, 8.31 aft.

Day of M.	Day of W.	
1	S	*1st Sunday in Advent.*
2	M	Mean temp., Chiswick, 41°.3.
3	Tu	Nat. Chrys. Soc. Winter Exhibition (3 days).
4	W	
5	Th	Sun rises, 7h. 51m. ; sets. 3h. 50m.
6	F	
7	S	
8	S	*2nd Sunday in Advent.*
9	M	
10	Tu	Grouse shooting ends.
11	W	
12	Th	
13	F	Dr. Johnson died, 1784.
14	S	Roy. Bot. Soc. Meeting.
15	S	*3rd Sunday in Advent.*
16	M	
17	Tu	R. Hort. Soc. Coms. Hort. Club.
18	W	
19	Th	Sun rises, 8h. 5m. : sets. 3h. 50m.
20	F	
21	S	*St. Thomas.*
22	S	*4th Sunday in Advent.*
23	M	
24	Tu	R. Bentley, botanist, died, 1893.
25	W	*Christmas Day.*
26	Th	Bank Holiday.
27	F	Mean temp., Chiswick, 37°.8.
28	S	*Innocents' Day.*
29	S	*1st Sunday after Christmas.*
30	M	
31	Tu	Earl of Beaconsfield born.

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JANUARY.

MOON'S CHANGES.
First Quarter, 4th, 7h. 52m. morn.
Full Moon, 11th, 6h. 50m. morn.
Last Quarter, 17th, 10h. 55m. after.
New Moon, 25th, 9h. 26m. after

Day of M.	Day of W.	
1	Tu	Mean temp., Chiswick, 36°.8.
2	W	*Gardeners' Chronicle* first issued, 1841.
3	Th	Sun rises, 8h. 8m.; sets, 4h. 1m.
4	F	
5	S	
6	S	*Epiphany.*
7	M	
8	Tu	
9	W	Fire Insurance expires.
10	Th	
11	F	
12	S	Roy. Bot. Soc. Meeting.
13	S	*1st Sunday after Epiphany.*
14	M	
15	Tu	Royal Hort. Soc. Coms. Hort. Club.
16	W	
17	Th	Linn.; Gard. R. Benev. Ann. Meeting.
18	F	German Empire declared, 1871.
19	S	
20	S	*2nd Sunday after Epiphany.*
21	M	
22	Tu	
23	W	Canon Kingsley died, 1875.
24	Th	Sun rises, 7h. 52m.: sets, 4h. 33m.
25	F	
26	S	Mean temp., Chiswick, 38°.5. Roy. Bot. Soc.
27	S	*3rd Sunday after Epiphany.*
28	M	
29	Tu	
30	W	First Lifeboat built, 1790.
31	Th	

FEBRUARY.

MOON'S CHANGES.
First Quarter, 3rd, 0h. 16m. morn.
Full Moon, 9th, 5h. 23m. after.
Last Quarter, 16th, 1h. 9m. after.
New Moon, 24th, 4h. 44m. after.

Day of M.	Day of W.	
1	F	Pheasant shooting ends.
2	S	
3	S	*4th Sunday after Epiphany.*
4	M	Mean temp., Chiswick, 39°.3.
5	Tu	Thomas Carlyle died, 1881.
6	W	Sun rises, 7h. 33m.; sets, 4h. 56m.
7	Th	Linnean Soc. meets.
8	F	Roy. Gard. Orphan Fund, Gen. Meeting.
9	S	Roy. Bot. Soc. Meeting.
10	S	*Septuagesima Sunday.*
11	M	
12	Tu	R. H. Soc. & Gen. Meet. Hort. Club. Ann. Meet.
13	W	
14	Th	
15	F	
16	S	
17	S	*Sexagesima Sunday.*
18	M	
19	Tu	
20	W	Mean temp., Chiswick, 39°.4.
21	Th	Linnean Soc. meets.
22	F	Sun rises, 7h..3m.; sets, 5h. 25m.
23	S	Roy. Bot. Soc. Meeting.
24	S	*Quinquagesima. Shrove Sunday.*
25	M	Nat. Chrys. Society, Annual Gen. Meeting.
26	Tu	
27	W	*Ash Wednesday.*
28	Th	Corn Laws repealed, 1849.

MARCH.

MOON'S CHANGES.
First Quarter, 4th, 0h. 40m. after.
Full Moon, 11th, 3h. 38m. morn.
Last Quarter, 18th, 5h. 32m. morn.
New Moon, 26th, 10h. 25m. morn.

Day of M.	Day of W.	
1	F	
2	S	
3	S	*Quadragesima. 1st Sunday in Lent.*
4	M	
5	Tu	Sun rises, 6h. 39m.; sets, 5h. 45m.
6	W	Mean temp., Chiswick, 41°.3.
7	Th	Linnean Soc. meets.
8	F	
9	S	Roy. Bot. Soc. Meeting.
10	S	*2nd Sunday in Lent.*
11	M	
12	Tu	Hort. Soc. Coms. Hort. Club.
13	W	
14	Th	
15	F	Manchester Bot. Soc. Show (2 days).
16	S	
17	S	*3rd Sunday in Lent.* St. Patrick's Day.
18	M	
19	Tu	
20	W	Roy. Bot. Soc. Spring Show. Devon & Exeter Sh.
21	Th	Linnean Soc. meets.
22	F	Sun rises, 6h. 1m.; sets, 6h. 14m.
23	S	Roy. Bot. Soc. Meeting.
24	S	*4th Sunday in Lent.*
25	M	
26	Tu	R. H. Soc. Coms.; Brighton and Sussex New [Hort. Sh. (2 days).
27	W	—28 Th...Mean temp., Chiswick, 44°.5.
29	F	
30	S	Crimean War ended, 1856.
31	S	*5th Sunday in Lent.*

APRIL.

MOON'S CHANGES.
First Quarter, 2nd, 9h. 28m. after.
Full Moon, 9th, 1h. 43m. after.
Last Quarter, 16th, 11h. 22m. after.
New Moon, 25th, 1h. 11m. morn.

Day of M.	Day of W.	
1	M	
2	Tu	Royal Society obtained its Charter, 1663.
3	W	Roy. Cal. Soc. Spr. Sh. (2 days). Shropshire
4	Th	Linnean Soc. [Hort. Soc.
5	F	
6	S	R. Bot. Soc. Meet. Sun rises, 5h. 27m.; sets.
7	S	*Palm Sunday.* [6h. 39m.
8	M	Mean temp., Chiswick, 47°.2.
9	Tu	R. Hort. Soc. Coms.: Birmingham Bot. Soc.
10	W	[Spring Sh. (2 days); Hort. Club
11	Th	
12	F	*Good Friday.*
13	S	
14	S	*Easter Sunday.*
15	M	Bank Holiday.
16	Tu	
17	W	Benjamin Franklin died, 1790.
18	Th	Linnean Soc. meets.
19	F	
20	S	
21	S	*1st Sunday after Easter. Low Sunday.*
22	M	
23	Tu	R. Hort. Soc. Coms. Meet.
24	W	Durham, Northumberland, and Newcastle
25	Th	[Bot. and Hort. Soc. Sp. Sh. (2 days).
26	F	Sun rises, 4h. 44m.; sets, 7h. 12m.
27	S	Manchester Bot. Soc. Sh.; R. Bot. Soc. Meet.
28	S	*2nd Sunday after Easter.*
29	M	
30	Tu	Mean temp., Chiswick, 50°.7.

MAY.

MOON'S CHANGES.
First Quarter, 2nd, 3h. 44m. morn.
Full Moon, 8th, 11h. 59m. after.
Last Quarter, 16th, 5h. 44m. after.
New Moon, 24th, 0.46 aft.—First Quart., 31st, 8.48 mrn.

Day of M.	Day of W.	
1	W	Mean temp., Chiswick, 51°.0.
2	Th	Linnean Soc. Meets.
3	F	R. Bot. Soc., Lect. at 4 o'clock.
4	S	
5	S	*3rd Sunday after Easter.*
6	M	
7	Tu	
11	S	R. Bot. Soc. Meet. Sun r., 4h. 10m.; s., 7h. 59m.

JUNE.

MOON'S CHANGES.
Full Moon, 7th, 11h. 0m. morn.
Last Quarter, 15th, 11h. 28m. morn.
New Moon, 22nd, 9h. 51m. after.
First Quarter, 29th, 2h. 1m. after.

Day of M.	Day of W.	
1	S	
2	S	*Whit Sunday.*
3	M	Bank Holiday. R. H. Soc. of Southampton Sh.
4	Tu	Mean temp., Chiswick, 59°.2.
5	W	Roy. Bot. Soc. Musical Promenade.
6	Th	Linnean Soc. Sun r., 3h. 47m.; s., 8h. 9m.
7	F	Roy. Bot. Soc. Lecture at 4 o'clock.

JULY.

MOON'S CHANGES.
Full Moon, 6th, 11h. 29m. after.
Last Quarter, 15th, 3h. 31m. morn.
New Moon, 22nd, 5h. 32m. morn.
First Quarter, 28th, 8h. 36m. after.

Day of M.	Day of W.	
1	M	
2	Tu	
3	W	Croydon Hort. Soc.; R. Bot. Soc. Mus. Prom.
4	Th	—5 F.
6	S	Nat. Rose Soc., Gt. Sh. at the Crystal Palace. [Sun rises, 3h. 53m.; sets, 8h. 16m.
7	S	*4th Sunday after Trinity*—8 M.
9	Tu	R. Hort. Soc. Coms.; Wolverhampton Hort

AUGUST.

MOON'S CHANGES.
Full Moon, 5th, 1h. 51m. after.
Last Quarter, 13th, 5h. 19m. after.
New Moon, 20th, 0h. 56m. after.
First Quarter 27th, 5h. 43m. morn.

Day of M.	Day of W.	
1	Th	
2	F	Sun rises, 4h. 26m.; sets, 7h. 46m.
3	S	Roy. Hort. Soc. of Southampton (2 days).
4	S	*8th Sunday after Trinity.*
5	M	Harrow Weald Soc. Sh.; Beddington, Carshal [ton H. S. Sh.; Fawsley Cot. Gar. Sh.
6	Tu	—7 W...R. Bot. Soc. Prom.
8	Th	Taunton Dean Hort. Soc. Show

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NOTICE TO ADVERTISERS.

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Tuesday, January 22.—*continued.*

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MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 16, at half-past 12 o'Clock precisely.
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The Poll will open at 3 P.M. and close at 4.30 P.M. precisely.
The Voting Papers have all been issued. Any Subscriber who has not received one will oblige by communicating with the Secretary.
After the Annual Meeting, and at the same place at 6 P.M. the usual Friendly Supper will be held, presided over by GEORGE A. DICKSON, Esq., of Chester. The Committee will heartily welcome to this gathering, friends and supporters of the Institution who may desire to be present, tickets for which may be obtained on application to the Secretary.
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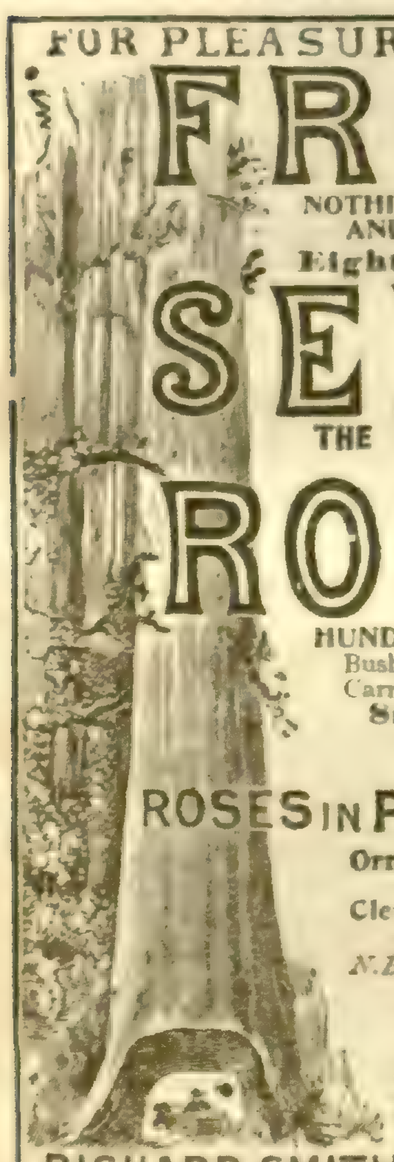

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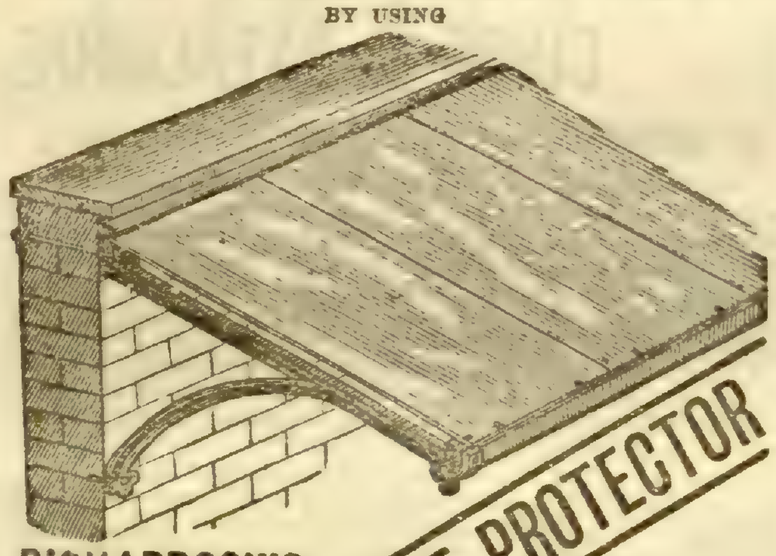

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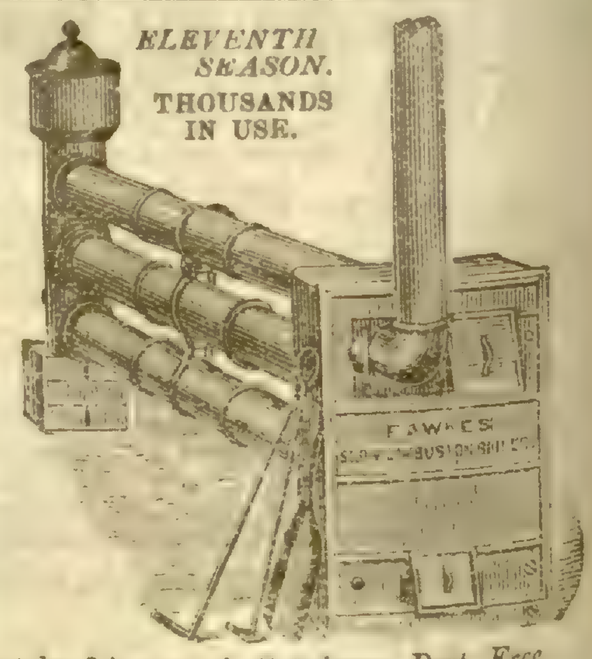

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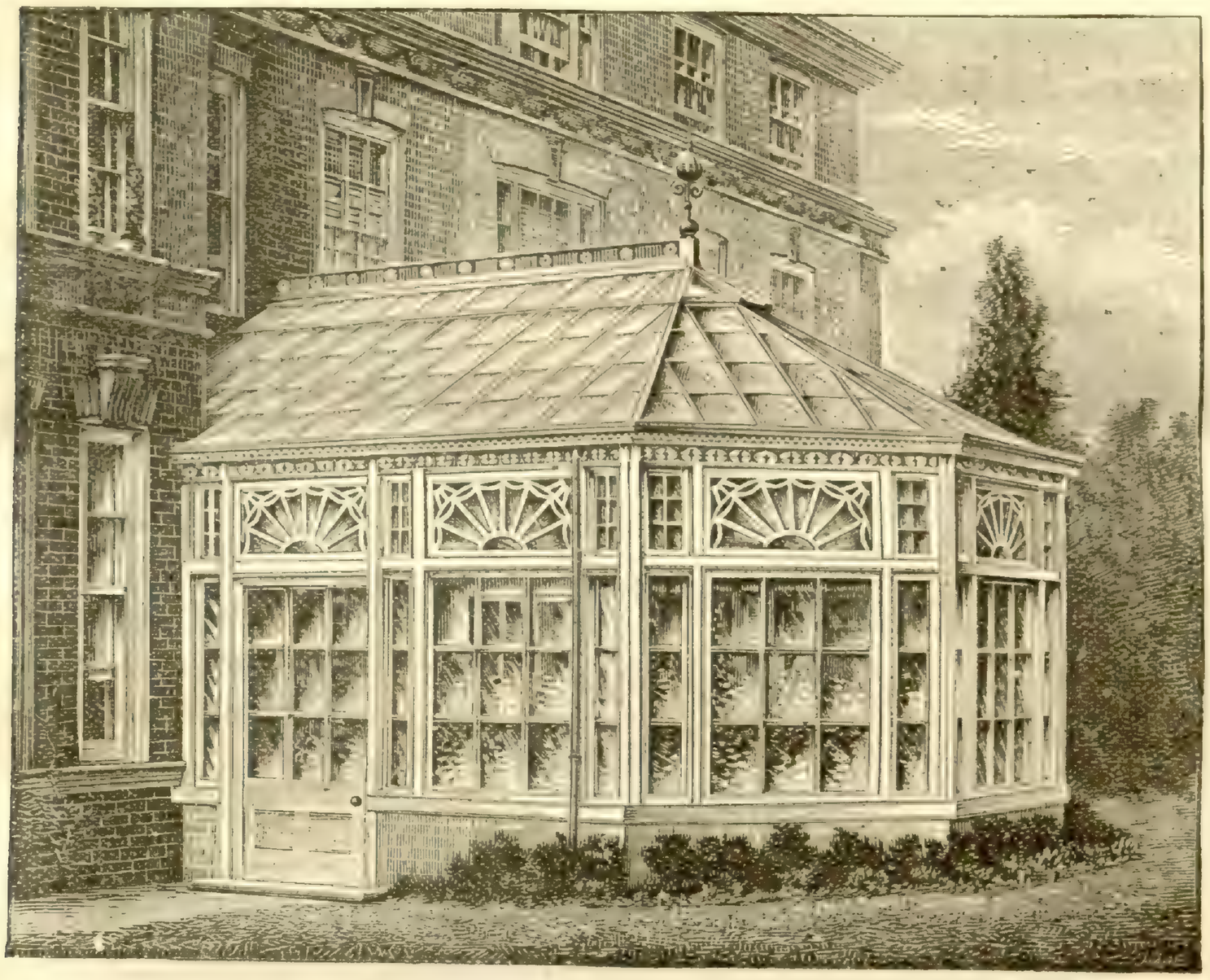

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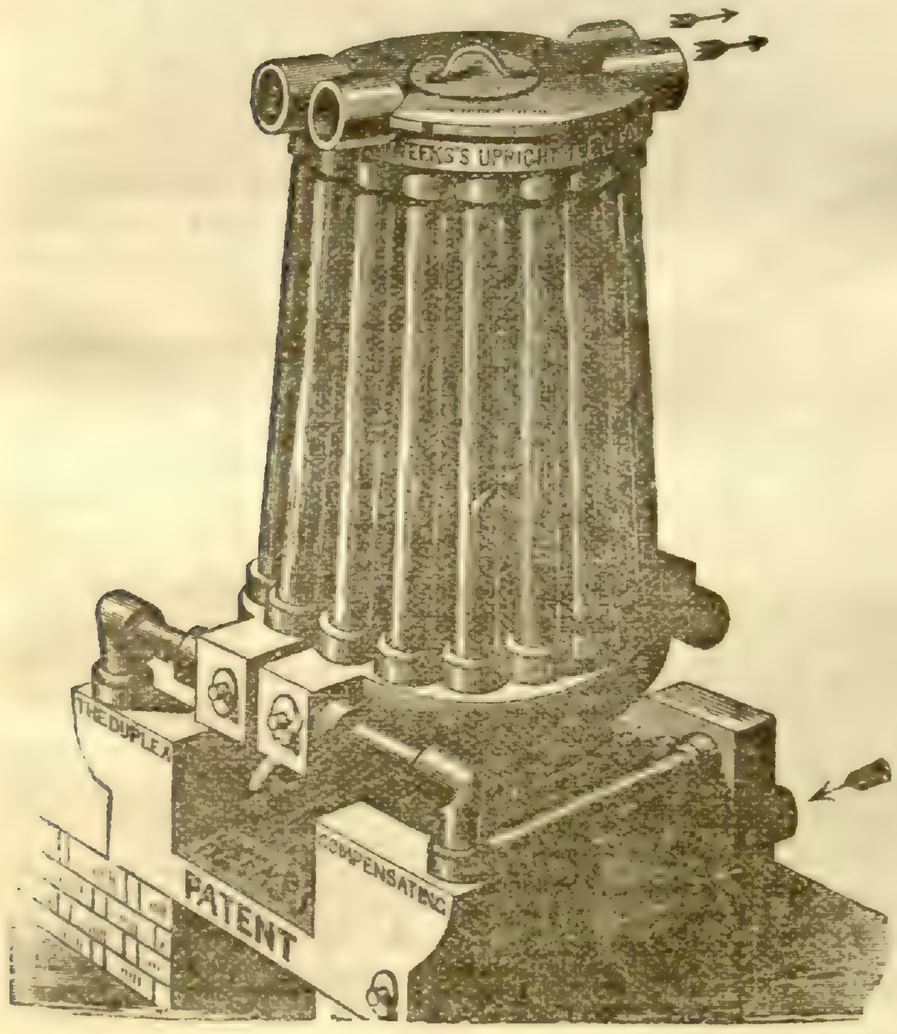

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THE

Gardeners' Chronicle.

SATURDAY, JANUARY 12, 1895.

ST. OSYTH'S PRIORY, ESSEX.

THIS, the beautiful residence of Sir John Henry Johnson, is one of the oldest places in the county. It is some 1200 years since St. Osyth (or Osgith) lived her devoted and romantic life on this creek of the Colne. She was the daughter of Grithewald, who ruled over the people of Surrey as a tributary of Wulfhere, King of the Mercians—a good Christian, evidently, who assisted Erthemwald, then Bishop of London, in the founding of Chertsey Abbey in 666. From her childhood, St. Osyth's life seems one of legend and romance. Her parents compelled her to marry Sigher, King of Essex; but immediately after the wedding the King was enticed forth to chase a white stag before the doors of the palace. St. Osyth embraced the opportunity, and fled, and took the veil. Her husband, who loved her much, and deserved a better fate, forthwith bestowed upon her the town of Chich, as it was then called, afterwards known as St. Osyth, in order to enable her to maintain a nunnery for her residence. Here she lived with her companions in peace, considering the perilous character of the times, until one autumn day in 685 a band of pagan pirates from Denmark approached the place and seized St. Osyth. They did their utmost to convert her to their faith, and failing, the chief ordered her head to be struck off. And the legend is, that St. Osyth took up her head in her hands, and under angelic guidance ran to the church, which she had caused to be built near the nunnery, knocked at the door with her blood-stained hands, and then fell dead. Her tomb thenceforward became a healing shrine for all manner of diseases—and obviously proved a potent factor in the making of St. Osyth.

Soon after the Norman Conquest, St. Osyth herself became prioress with large and various endowments, the priests and canons being men of ability and deserved influence. At the dissolution of the monasteries the priory was at the height of its prosperity, and had an abbot, a prior, fifteen canons, and its possessions comprised nineteen manors in the counties of Essex and Suffolk, and the advowsons of five churches, besides mills, houses, and tithes in every parish. Its total revenue exceeded £680 per annum, a large income in those days, when a fat ox could be bought for twenty-four shillings, and a good fat fowl for twopence-halfpenny.

At the dissolution a large portion of the Priory buildings had been newly erected, including the magnificent gateway, and the great hall, and the church was in course of enlargement and adornment. It was, however, peacefully surrendered to King Henry VIII. on July 28, 1539, and after various struggles for its pos-

*

session was sold by the King on June 1, 1553, for £3,974 9*s.* 4½*d.*, to Lord Darcy, Chamberlain of the King's Household. The Priory, which had been a religious house for more than 400 years was forthwith transformed by its new owner into a nobleman's country seat. Masons and carpenters were set to work, gardens and lawns laid out, and several of the trees in the park and gardens of to-day were probably planted at this period. This first lay proprietor of the Priory found favour with Queen Elizabeth, and twice in her royal progress through the county, viz., in July, 1561, and August, 1579, she honoured him with her presence at Osyth, staying two days on her first visit, and three in her last. The third Lord Darcy was created Viscount Colchester by James I., and Earl Rivers by Charles I. The Priory came into the family of Savage, in the county of Chester, through marriage of Lord Darcy's eldest daughter, whom the king created Countess Rivers in her own right. During his residence here in 1642 a furious mob sacked the Priory, ripped off the tapestries, and stole all the plate and money in the house. The Priory remained in possession of the Earls of Rivers for seventy years, though they seldom lived in it. The last Earl Rivers died in 1712, and Parliament passed an Act settling the Priory and its lands on his daughter, Bessy Savage, who married Frederick, third Earl of Rochester. This earl refurnished the Priory as his country seat. His son, the fourth Earl, was a friend of George II. and George III. George III. visited him at St. Osyth twice, and on one occasion presented the Earl with fine portraits of his Queen and himself in their coronation robes by Allan Ramsay. These pictures now hang in the great drawing-room of the Priory.

For 140 years the Priory was held by the Earls of Rochford and Nassau, until it became the property of the two daughters of Mr. W. F. Nassau, on the death of that gentleman in 1857. Of them it was purchased by its present owner, Sir John W. Johnson, in 1863. Few proprietors could have more reverently preserved the spirit and fame of the past, while adapting the Priory to the comforts and convenience of modern life. Possibly, hardly a vestige of St. Osyth's nunnery or church can be found, and comparatively little of the first Priory, yet here on the old spot are to be found what was best in the old service and the old spirit. The first sight I saw in passing through the old gateway was a score or so of happy children from the East-end slums of London at dinner. These were the guests of the proprietor of the Priory, whose custom it is to ask them down in battalions throughout the summer, and to give them the free run of his parks and pleasure grounds, and free bed and board until their bleached faces rejoice and blossom as the Rose. On similar generous principles the Priory grounds and tower are free to all every week-day throughout the year, excepting Good Friday and Christmas Day, at a charge of 6*d.* per head, the proceeds going to the restoration of the church, which sadly needs repairing. Great numbers avail themselves of this privilege from Clacton-on-Sea and other places. It need hardly be added that the annual flower show is also held in the Priory grounds.

From the Abbot's Tower a fine view of the surrounding grounds, gardens, parks, woods, and surrounding country is obtained. To the north, the fields and woods of Thorington, Fratting, The Bentleys, and Wedy form rich masses of verdure and beauty. Away to the east may be seen the houses and water-tower of Clacton; far away to the south extends the green expanse of the St. Osyth marshes, fading into the wide open sea, while to the west lie the estuaries of the Rivers Blackwater and Colne, the low ridge of Musea Island, and the group of masts in the busy harbour of Brightlingsea.

The Priory is entered through the great gateway from the northern side of the village green, here called The Bury, a name unique, so far as I am aware, for a public ground. Can it have originated in the fact that The Bury was the meeting place for parish councils in the old times, or from the fact that it is so close to the church, or churchyard? or was it the dust-bin of primitive ages, or the place for burying valued treasures in troublesome times? The Priory is 400 years old, but little injured by the tooth of time. The vacant niches are supposed to have been filled with the figures of St. Osyth, St. Peter, and St. Paul, to whom the church is dedicated. In the groined roof of the rich architecture may be traced the head of the saint, the white stag (already referred to), the heads of kings, monks, bishops, and various symbolic devices. The monastery was rebuilt in the reign of Henry VII. The well-kept richly-furnished lawn extending from the gateway to the front of the present mansion, occupies the site on which the old monastery stood. But little of this now remains, though some of the buildings near the Clock-tower, the chapel, and the fine chimneys of the Tudor period demand mention. Special notice should be taken of the great window of the present building that forms the great drawing-room. It was built by John Vintner in 1527, the last abbot but one, and richly adorned inside and out with the coats of arms of the Bishop of London and other benefactors, together with his usual device and initials, a bunch of Grapes, a tun of wine, and J. V. As this was before the era of glasshouses, it almost proves to demonstration that at St. Osyth in these times Grapes were ripened fit to eat, and wine made in plenty from home-grown Grapes from the open and from walls.

FIG. 4.—ST. OSYTH: THE GARDEN FRONT. (SEE P. 37.)

On other sides the present Priory is supported by lawns, large and fine kitchen gardens, remarkably well furnished and cultivated, the stables, part of the old buildings, &c. The rustic work, clothed chiefly with Roses, Clematis, Virginian Creepers, Ivies, Jasmines, is boldly designed, and cleverly carried out, forming a link between the past and the present. The Priory gardens of to-day cover about 10 acres, six of which are kitchen gardens, well furnished with collections of fruits and vegetables, most of which did well last season. Good collections of Apples, Pears, and Plums are grown, the Apples being almost equal to those of the two latter, a trinity of successes somewhat rare last year.

Raspberries were also exceptionally fine—a special variety, something like the Norwich Wonder, but paler and taller in cane, being extensively grown. This is possibly a local variety, and it is highly appreciated. These gardens have long been famous for the quantity and quality of the Strawberries in the open air and in pots, large fine breadths of the British Queen, President, and Sir Joseph Paxton being grown. About 900 are grown in pots, and a supply is maintained from Easter until the earliest come on in the open air. The favourites for forcing here are the President, Sir Joseph Paxton, and British Queen, in the order named, the rule being to stick to the old well-proved sorts until they are fairly beaten by newer or better kinds. The Queen seems at its best here.

Vegetables of all sorts are well grown; Peas and Onions remarkably so; Realisation, a remarkably fine Marrow, about 7 feet high, being the only late Pea grown. The Wrinkled Sunrise is the favourite second early, over 3 feet high, a marvellous cropper of good flavour; Veitch's Selected Early being the favourite early. Great quantities of Onions, over 60 sacks last year, are grown remarkably well here, the chief variety

being the Priory Globe, of perfect shape, excellent quality, and a good keeper. Some fine Tripolis are also grown, and last until the middle or end of August.

There are thirteen glass-houses in the kitchen garden, mostly in two ranges, the upper range consisting of large Vinery, Peach-house, stove and Cucumber house, the lower range of two late Vineries, early Peach-house, intermediate house, span-roofed house for Melons and Tomatos, and large conservatory. These houses were well furnished with healthy plants and good crops of fruit, the chief Grapes grown being Black Hamburgh, Alicantes, Lady Downes, Muscat of Alexandria, Mrs. Pince, Muscat Hamburgh, and Madresfield Court, the latter a special favourite here, being remarkably well grown, and free from cracking. A good many Vines are also grown in pots for early forcing, and the gardener, Mr. Kent, who so admirably manages this fine old place

Fig. 5.—St. Osyth: front of house, showing oriel window. (see p. 37.)

with a staff of ten men, assured me that he can do the Madresfield Court best in pots, as the roots are more at command than when planted in a border. I have noted this also in other places, so that now it might almost be accepted as an axiom that the surest antidote to the cracking of the Madresfield Court Grape, is to grow it in pots.

Two very large Fig trees clothe an enormous area of the walls of the Priory, they are supposed to be about 300 years old, and seldom miss a crop; they used to be covered with glass, and warmed by a flue, of which some traces still remain. But for many years the glass and artificial heat have disappeared, though the trees are carefully cultivated and protected in winter; they are in robust health and covered with fruit. The varieties are different, one being probably the Brunswick, and the other the brown Turkey. There is also a Mulberry-tree, much older than the Figs, and which bears enormous crops every year. The lawns and pleasure grounds are well furnished with trees and shrubs, flower-beds, herbaceous borders, &c., fine collections of the latter being grown.

A very fine Tulip-tree of great age and height is found here, also one of the oldest Acacias in the kingdom, said to be the oldest but one in England; also Lombardy Poplars, bought and planted by Lord Rochford from France when he was Ambassador in the time of Queen Anne.

The park, which is well clothed with Oaks, Limes, &c., above, and bracken below, covers 323 acres, and here the East-end London children have swings and other amusements, and two days a week they are also taken in batches in carriages to the beach. Surely the best spirit of St. Osyth still lives in the present owner of the Priory, and his joys must be multiplied by twenty-five through every fresh batch of waifs and strays that he invites to share his pleasures with him. *F. R. H. S.*

New or Noteworthy Plants.

CYPRIPEDIUM INSIGNE CITRINUM

(*Hort. Truffaut*).

This name has been given on account of the bright lemon colour of the lip and petals. The upper sepal is broadly oval, with the lateral margins much revolute (nearly as much so as in C. Spicerianum), the apical area is pure white, the central area pale apple-green, with fewer spots than in the type. Spots yellowish-brown, very pale. Petals spreading, margin slightly undulated, pale lemon, with apple-green shade towards the base and a few emerald-green veins. Lip helmet-shaped, larger than in the type, with narrower lateral lobes of a bright lemon colour. Staminode lemon-yellow, with an orange tubercle in the centre. Scape erect, red-brown.

This fine variety, much in the way of the famous C. insigne Sanderæ, is more highly-coloured than C. Dallemagneanum, presented at the last National Horticultural Society of France Exhibition last spring in Paris, and was awarded at the last meeting of the same Society a First-class Certificate. *Georges Truffaut.*

Cineraria albicans, *N. E. Brown, n. sp.*

A specimen of this novelty was recently sent to Kew by Mr. Gumbleton of Belgrove, Queenstown, Ireland, who informs me that he received it from Mr. Adlam of Natal; Kew also possesses a plant of it that was received from Mr. Thompson of Ipswich. It does not appear to be much of a catch, horticulturally speaking, but it is never safe to predict unless you know; and, on account of its white foliage, it may turn out to be a useful and desirable plant for bedding or decorative purposes. The following are its botanical characteristics:—

A perennial with sub-herbaceous stems, 1 to 1½ foot high, or perhaps more, clothed with a white cottony tomentum, as are also both sides of the leaves, the peduncle, pedicels, and involucre; the latter is, however, sometimes nearly glabrous, except at the base. Leaves with petioles ½ to 1¼ inch long, distinctly auricled at the base, and with blades ¾ to 1½ inch long and broad, somewhat reniform, or nearly circular in outline; cordate at the base, 5 to 7 lobed, the lobes usually trilobulate, and many-toothed. Corymb terminal, few-headed, 2 to 2½ inches in expanse, its branches ½ to 1 inch long, bearing 1 to 3 flower-heads, which are 7 to 8 lines in diameter, and of a clear yellow. Involucre 2½ to 3 lines long, of about 12 to 14 narrow-oblong acute scales, with a few shorter and narrower scales at their base. Corolla of the ray-florets 4 lines long, of the disk-florets 2½ lines long.

Although this was received from Natal by Mr. Gumbleton, it may perhaps be a native of the Transvaal, as a specimen in the Kew Herbarium, of what I take to be the same plant, was collected by Rehmann (No. 6825) at Standarton in the Transvaal. *N. E. Brown, Kew.*

Pteris (Litobrochia) regia, *Jenm., n. sp.*

Stipites stout, erect, freely aculeated, several feet long, the base dark, scaly; fronds subdeltoid, tripinnate, spreading, 5 to 6 feet long and wide, the lower branches largest, more compound, and deeper on the inferior side, chartaceous, light green, naked; rachis, costæ, costulæ, and ribs wood-brown, glabrous, the former sparsely prickly; pinnules connected with an open obliquely-rounded sinus, or entirely disconnected and contiguous, or twice or thrice their own width apart, 3 to 4 inches long, ⅓ to 1½ inches wide, serrate-acuminate, the larger ones, usually in the central part, irregularly cut into oblique acute, serrate-pointed lobes, 2 lines wide, ¾ inch long, with an acute or rounded sinus between; veins very fine, freely areolated, outer branches free; sori continuous, just interrupted in the sinus, not reaching the outer part. Jamaica; 3000 to 4000 feet altitude, in damp forest of the eastern parishes. Communicated by Mr. Hart. This is a large species, 10 or 12 feet high, with broadly-spreading fronds, having the general aspect of gigantea, but differing by the larger pinnules being regularly or irregularly deeply pinnatifid, and by its paler colour. P. longi-bracteata, Ag., of which I have not seen specimens, is also near gigantea (indeed, Mr. Baker's description in *Annals of Botany*, vol. v., No. xviii., p. 167, is exactly that of gigantea); but this differs from both by the pinnules being in part (mostly irregularly, but regular where it occurs), pinnatifid. Except under close acquaintance the identification of some of the larger species of Litobrochia is dubious, in the absence of the root-stocks, which, as a rule, afford reliable specific features. *G. S. Jenman.*

Novelties of 1894.

(*Concluded from p.* 10.)

Stove and Greenhouse Plants.—New species of the above, if difficult and expensive to introduce from foreign countries, are always looked on with special favour, and it is pleasant to note that this branch of plant-importation is being revived, chiefly by the efforts of Messrs. F. Sander & Co., of St. Albans, and Messrs. Linden, of Brussels, both firms having done good service in introducing useful and handsome plants.

MESSRS. F. SANDER & Co,

from their recently-instituted new plant department, which has attained such remarkably large proportions in a very short period of time, have, during the year, exhibited and received Certificates for the following sterling novelties, besides exhibiting many more, of which the future will bear witness. Their Anthurium Scherzerianum var. Mundyanum is the largest and richest-coloured of all the known varieties. Bougainvillea glabra Sanderiana, which forms a dense bush covered with bright mauve bunches of flowers and floral bracts, is no doubt a market plant of the future; Browallia speciosa major, called by some West Indian Forget-me-not, is a distinct improvement, and a plant which will be appreciated, for it is of a rich blue colour, and may be had nearly always in bloom; Heliconia illustris and its variety rubricaulis, two noble foliage plants; Passiflora Jenmani, a new yellow species of a distinct type; Ptychographis Augusta, a grand new Palm; and Nepenthes Mastersiana superba, a fine example of that favourite species. Continuing the intercrossing of some of the pretty Sonerilas and Bertolonias imported by them, Messrs. Sander have, during the year, brought into notice a new break in Sonerilas with great beauty in the foliage, and furnishing fine heads of bright rose-pink flowers, which has been obtained by crossing varieties of S. orientalis with S. margaritacea and S. Hendersoni varieties. The best of the new ones were S. Duke of York, S. E. Bohnhof, S. H. Walter, S. Gemma, S. Mrs. H. Walter, and S. W. P. Bound. Of another and equally pretty class are S. venusta, S. Victoriæ, S. ornata, S. speciosa, S. illustris, and S. Silver King, all of handsome foliage and winter-blooming habit.

Another set of handsome-foliaged, winter-flowering plants, which have been successfully worked by Messrs. Sander, by crossing Begonia socotrana with varieties of B. Rex, have been shown as Begonia Sander's Winter Queen, Sander's Winter Perfection, and half-a-dozen other distinct varieties, bearing the same sectional appellation. The foliage of all is neat, and variously and handsomely decorated with silver on green of different tints. They afford handsome foliage all the year round, commencing to flower in the autumn, and continuing in bloom during the dullest months of the year. What more could be expected to make favourite garden plants? Of other worthy plants accredited to Messrs. Sander are Begonia Rajah, a very effective and quaintly-marked plant; Eriocnema Sanderæ, a gem among dwarf foliage plants; and a fine set of new Coleus.

MESSRS. JAMES VEITCH & SON

have successfully continued the intercrossing of the various plants now so intimately associated with the name of the firm, and of these the most beautiful and worthy of the past year have been Amaryllis Major Wilson and A. Olympia, two fine varieties of the Champion strain, with broad orange-scarlet segments; A. speculum, of a new tint of crimson-scarlet, with rosy shade; A. Gem, A. Hilda, and A. Vigil, fine light varieties; and A. Rowena and A. Capella, deep crimson selfs.

Of greenhouse Rhododendrons, a new race has been started in R. Mrs. John Heal, obtained by crossing the dwarf, bushy R. multicolor with R. Princess Beatrice, of the jasminiflorum section. The habit of the new hybrid is dwarf and compact, like an Indian Azalea, and with bunches of pure white flowers. Of the same strain there is a prospect of all colours. Of the other class, the best novelties are R. Ne Plus Ultra, a rich crimson-scarlet; and R. Niobe, a clear pale primrose. A set of seven new dwarf and finely-coloured Caladiums were shown by Messrs. J. Veitch & Sons at the Royal Horticultural Society in July, and four of them received Awards of Merit. The new strain of Streptocarpus continues to improve, and the increasing favourites, Phyllocactus, have secured awards for P. Romeo, light red, with pale purple edge; P. Jessica, a beautiful soft rose-coloured variety; and P. Orion, light orange with purple centre. Other good subjects of Messrs. Veitch are Begonia Margaritana, with bronzy leaves, thickly dotted with silver Gloxinera × Brilliant, a curious hybrid between Gesnera pyramidalis and a Gloxinia; Nepenthes mixta sanguinea, a splendid Pitcher-plant; Sarracenia Willsii, a very fine dwarf hybrid; and Physalis Francheti, a noble plant for decorative purposes.

MESSRS. LINDEN,

on the occasion of the Temple Show in May last year, brought out some remarkable new plants, which were much admired, and received the awards they duly merited; many of them were new Ferns, which will be mentioned under that head. Of the other species and genera, the most remarkable were the new forms of the handsome Begonia platanæfolia, viz., decora, illustris, and pulvinata, all of charming tints of green, variously marked with silver; six new Marantas, of which Maranta Massangeana atrata, M. M. illustris, and M. M. Florentina, were the best; Begonia Lansbergii, a remarkable stately plant, and Caladium adamantinum, a pretty new Peruvian species.

MESSRS. J. LAING & SONS'

tuberous Begonias continue to supply novelties, although the differences showing improvement over some of the older favourites are often only discoverable with difficulty. In them, Messrs. John Laing & Son, Messrs. Cannell, Ware, and others, steadily pursue their search for Novelties, and have each succeeded in getting their best ones stamped with Awards of Merit. Messrs. Laing, too, have during the year shown a number of good new Caladiums, which they specially cultivate; some improvements in Cliveas, which they are working well; and Gloxinia Stanstead White, the best pure white variety; Nicotiana affinis variegata, and Anthurium John Laing, a wonderfully fine form of the A. Andréanum class, and with indescribably deep blood-red shining spathes, much darker than the type.

MESSRS. B. S. WILLIAMS & SON,

from their fine collection of Amaryllis select as novelties, A. Holloway Belle, one of the most beautiful and distinct of its class; and some other good plants. Among their new plants which have been certificated is Dracæna Princess May, one of the best for decorative purposes; and they advance three distinct Caladiums, viz, Bernard, Wagner, Donna Carmen Macedo, and Rio de Janeiro; while they announce their arrangement for distributing in Europe the phenomenal American Chrysanthemum Philadelphia, which has secured so many high awards, and so many admirers both in England and America.

FERNS.

These, as usual of late, have been recruited chiefly by garden hybrids or sports, all more or less got by chance. The most remarkable and beautiful of these is certainly the Polypodium Schneideri of Messrs. Jas. Veitch & Son, and whose broad, plume-like, glaucous fronds tell plainly that it is a cross between the old Polypodium aureum and the hardy P. vulgare elegantissimum. Messrs. Veitch also have one of the neatest of new hardy Ferns in Scolopendrium vulgare scalariforme.

Mr. H. B. May, by the nature of his extensive operations in raising market Ferns, must necessarily take the lead in new things of that character. During the past year he has shown some fine novelties, the best of which were Adiantum tenellum, A. Schneideri, A. plumosum, and A. Hemsleyanum, all elegant and distinct; Asplenium Mayii, A. Drueryi, and A. incisum, three singularly-fimbriated sports or hybrids of A. Baptistii, Pteris biaurita argentea, P. gracilis multiceps, and other Pteris, destined to be great market plants of the future; and Lygodium dichotomum polydactylon, one of the few tasselled climbing Ferns, and a most elegant and striking one it is. Messrs. W. & J. Birkenhead, of Sale, have followed well in the same direction, and received Awards for Hymenophyllum chiloense, Pteris cretica sempervirens and others; and the Pteris cretica cristata Torrancei of Messrs. Stroud Brothers is an equally promising market Fern, but the name will never be admitted.

Messrs. Linden, l'Horticulture Internationale, Brussels, at the great Temple Show, were the only exhibitors of newly-imported novelties in Ferns of the year, to any extent, and a brave show they made. Considering the large number of fine species not in cultivation to be found in herbaria, the many worthy things which have been described in the *Gardeners' Chronicle* by Mr. G. S. Jenman during the past year, and the certainty that a vast number exist which have never been seen even by botanists, it is a wonder that the importation of these favourite plants is so little worked. The best novelties in Ferns (and which, if not new to science, are new to gardens) sent out during 1894 by Messrs. Linden are Adiantum Claesianum, an elegant species, with bright green fronds, the pinnæ of which bear clear silver variegation; a pretty set of slender-stemmed Tree-Ferns, in Alsophila Marshalliana, Cyathea Mastersiana, C. pygmæa, and Hemitelia Lindeni.

MISCELLANEOUS.

Bulbous plants for greenhouse culture received augmentation in Nerine × Stricklandi (Fothergilli × pudica); Nerine appendiculata, a new extension of the novel Pancratiform section; and Cyrtanthus O'Brieni, an elegant orange-yellow species; both of the last-named being discoveries of that ardent Natal botanist, Mr. J. Medley Wood. Handsome and useful hardy plants are Rhododendron Schlippenbachii, R. Princess William of Wurtemburg, and Magnolia Watsoni of Messrs. Veitch.

Chrysanthemums and Dahlias have been worked for novelties as of yore, and our recent reports of the novelties shown render it unnecessary to touch on them again; and the scores of new varieties of Carnations, Pelargoniums, and other florists flowers, all of which have novelties announced, would require too much space to deal with. Their distribution is safe in the hands of Messrs. Cannell & Son, Turner, and Keynes, Williams & Co., and the other firms who make specialties of such plants.

The following are some of the novelties illustrated in the *Gardeners' Chronicle* during 1894: Begonia Rajah, August 25, p. 213; Begonia President Carnot, October 6, p. 399; Chrysanthemum Hairy Wonder, November 3, p. 539; Crinum Roozenianum, February 17, p. 199; Githopsis specularioides, September 1, p. 245; Magnolia Watsoni, August 18, p. 189; Physalis Franchetii, October 13, p. 441; Rhododendron Schlippenbachii, April 14, p. 469; Rhododendron Princess Wm. of Wurtemburg, May 12, p. 597; Trochodendron aralioides, June 9, p. 725.

WINTER FLOWERS AT CLIVEDEN.

THE death of Mrs. Astor, at Cliveden, has again brought this place into notice, and with a view of looking through the houses to see what changes had taken place, I recently made a call on Mr. Wadds, the gardener. Many alterations have been made since the acquisition of the estate by the Hon. W. W. Astor. As far as the gardens are concerned, perhaps the principal may be considered the formation of two large walled-in kitchen gardens, one of about 2 acres on the site of some old buildings, situated to the left of the entrance near the gardener's house, to be devoted chiefly to the culture of choice fruits. The other is 17 acres in extent, and enclosed by a 10 foot wall. This is situated on the Berks side of the Thames, and is to be devoted to vegetable culture. The outside of the walls of this garden are to be covered with Ivy, with various fruit trees on the inside. The plant and fruit-houses have been thoroughly renovated, and a new and spacious Mushroom-house built, a large supply of Mushrooms being required by the family.

Foliage plants not being cared for by the late Mrs. Astor, a special effort had to be made to provide an abundance of flowering plants, and a look through the houses now proves that Mr. Wadds has been quite equal to the required demands. Perhaps the

most noteworthy subject now in flower is a large number of Euphorbia fulgens, arranged in one of the stoves so as to make a kind of avenue the whole length of the house. The plants are all in 5-inch pots, and grown from spring-struck cuttings, each plant carrying sprays from 1 to 2 feet in length of their rich orange-scarlet flowers. This is one of the most effective plants for winter decoration, and for vase work they last a long time in a cut state. A large quantity of Calanthe Veitchii is also grown, and a number of the plants in one of the houses, arranged with Adiantum cuneatum for a base, had a good effect; the majority of the spikes I noticed carried from two to three dozen blooms.

Carnations are also a specialty, the principal variety now in bloom being Winter Cheer, the flowers bright scarlet, of good form, and one of the best for winter-flowering. I noted one plant with fifteen fully-expanded blooms, and all are grown in 5½-inch pots. Cyclamens in another house were blooming in profusion; and Roman Hyacinths, of which thousands are forced, were in strong evidence. Also Lily of the Valley and Primulas, both single and double-flowered.

In the warm conservatory, a large batch of Poinsettias, arranged with Palms, had a telling effect; while in an adjoining house, rather cooler, a hundred plants of Chrysanthemum Golden Gem were most effective; also many large bushes of Azalea amœna, and a variety of Goldfussia, with pale blue flowers. *C.*

ODONTOGLOSSUM GRANDE.

Some of these malformed Orchids which are so very common and so very queer in aspect, become more easy to understand when a little diagram or ground plan is constructed as in fig. 6. The flowers represented came from Mr. Lucas, of Warnham Court. In the one to the left hand, one sepal is present, two lateral petals, an imperfect lip opposite the sepal, and a central column. In the flower to the right hand there is but one sepal, a lip, and a column. The flower is thus reduced to two segments only.

Orchid Notes and Gleanings.

STAUROPSIS GIGANTEA, *Bentham.*

This species, better known under the name of Vanda gigantea, Lindley, is but little cultivated in gardens, probably because it is not one of the free-flowering species; but when it is well grown and flowered, as I saw it exhibited in the spring of last year by Mr. James Wood, gr. to E. Hopper, Esq., Morpeth, it is a striking plant. There were four spikes on this plant, two of them had each fourteen flowers upon them; one had seven flowers and the other five flowers, or a total of forty flowers. The plant flowered on April 18; and it is singular to record that the first plant which flowered in England opened its first flowers on April 21, 1858. This plant was in the collection of Robert Warner of Chelmsford. It is figured in the *Botanical Magazine* from a plant that flowered in the nurseries of Messrs. Veitch at Chelsea, in April, 1860. This stamps it as a spring-flowering species. I had it in cultivation for many years, and found it did best near the roof, and if not too closely shaded. The plant has flowered recently in the collection of Mr. F. Wigan, Clare Lawn, East Sheen, as stated in Veitch's *Manual of Orchidaceous Plants. J. Douglas.*

CATTLEYA CITRINA.

A very fine healthy plant of this distinct Cattleya was exhibited last spring with three fine flowers upon it, by Mr. Peter Doig, gr. to G. Ainsworth, Esq., Selly Lodge, Consett. This plant is figured in the *Bot. Mag.*, t. 3742, and had been grown in an upright position. The then Editor, Sir W. J. Hooker, remarked that the plant is of easy growth. This is correct for the first three or four years after it has been introduced; but it is one of those plants which have a tendency to degenerate, unless cultivators can hit on its exact requirements, which few of them do. The only amateur known to me who has succeeded in mastering the details of its culture is the Rev. F. D. Horner, who has grown it for many years in a house with Dendrobiums, Cattleyas, Vandas, and a general collection of Orchids. His plants are fastened to blocks hung close to the roof of the house over the pathway; they are watered freely when growing, and are seldom kept very dry. Of course, they are suspended with the top of the plants downward. There is nothing so very particular in Mr. Horner's treatment. I have seen the plants several times, and one would say that the culture is easy enough. *J. Douglas.*

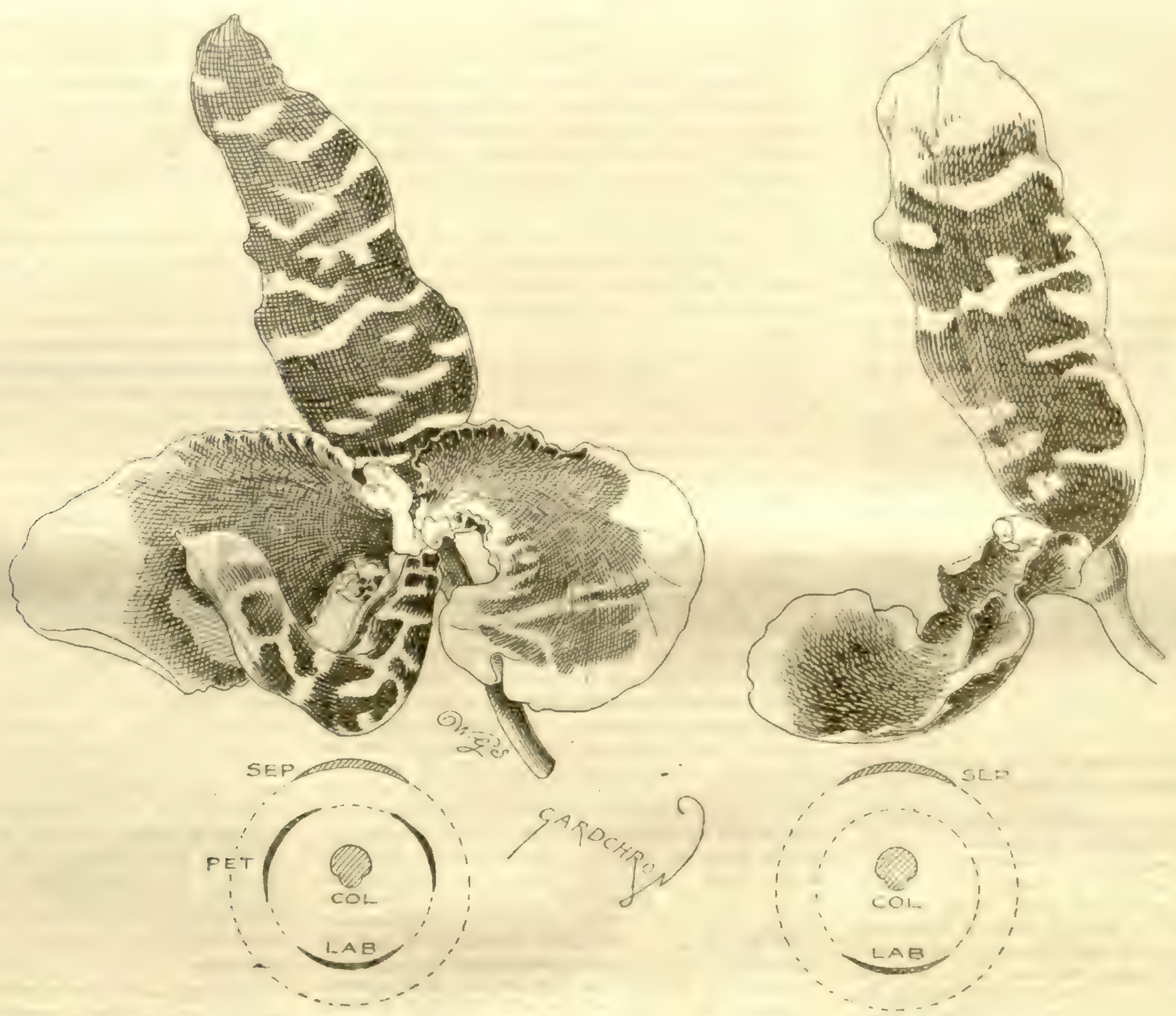

Fig. 6.—MONSTROUS FLOWERS OF ODONTOGLOSSUM GRANDE. (SEE TEXT.)

The eleventh decade of New Orchids described the *Kew Bulletin* by Mr. Rolfe, has been issued in the November number of that publication. The decade comprises the following:—Bolbophyllum pteriphilum, collected in Penang by Curtis, and which flowered at Kew in September; Lanium Berkleii, a Brazilian species flowered by General Berkeley and Messrs. Sander & Co.; Epidendrum Pfavii, a stately Costa Rican species, described as a truly superb plant, growing from 4 to 6 feet high, clothed with lanceolate-acute leaves, and bearing at the summit numerous racemes of pinkish-purple flowers, with a white disc to the lip. Polystachya villosa was flowered by Mr. O'Brien in September, 1890; it is a native of the Upper Zambesi. Chondrorhyncha bicolor is an interesting addition to the genus from Costa Rica.

Catasetum Lemosii is a Brazilian species with tawny-yellow flowers, and the lip light green with some yellow inside; it flowered with M. Robison, Esq., of Didsbury. Catasetum Randii, a small-flowered Brazilian species. Ornithidium nanum, a West Indian species, not much exceeding 1 inch in height, sent from the Rotterdam Zoological Gardens. Trichocentrum Hartii, sent from Trinidad, by Mr. Hart, and flowered also by Sir Trevor Lawrence. Sarcochilus crassifolius, a species of unknown origin, which flowered in the collection of M. Van Imschoot.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

CARDOONS.—Cardoons left in the open, although protected by soil and other coverings put on to blanch them, may not be secure from severe frost. If possible, lift them, and carefully lay the roots in damp sand in the root-house.

JERUSALEM ARTICHOKES may now be all lifted, selecting those of a fair size and best shape for seed. I believe, by careful selection of seed, the strain may be much improved. The white variety, being such an improvement on the old red in regard to shape, I would discard the latter altogether.

PARSLEY.—Cold frames or pits not being always at hand, to keep up a good supply of this herb it will be well to protect that outside as much as possible from frost, and from cold east winds. Boards, mats, old lights, and other contrivances may be pressed into service for the purpose.

FRENCH BEANS.—Where these are grown in pots, a sowing should be made every other week. Keep them close to the roof-glass, and avoid giving those in flower too much moisture. A few degrees less heat during severe weather will be better than having the pipes very hot, which induces red-spider to appear. Syringe with very weak soot-water occasionally as an aid to keep this troublesome pest in check. If sown in pits they will need well covering up at night to avoid excessive heating of the pipes; for the earliest batches, I think growing them in pots is preferable to pits.

PARSNIPS.—These may be left in the ground for some time yet; cover them with litter to keep out the hardest frosts, and remove it at other times. Lift and store them all just before growth commences, or the flavour will be strong.

PEAS.—Where sown outside in December, a ridge of soil should be drawn upon each side of the rows, to protect them from cold east winds. They will also be greatly assisted by placing a few Spruce or other branches on either side. Keep a sharp look-out for mice. A dusting with a little soot and fine wood-ashes in mild damp weather will protect them from many vermin. Sow in pots, boxes, turf, troughs, or any other contrivances, for planting outside, but aim at keeping them as dwarf and sturdy as possible.

SEAKALE.—Lift all that will be required for forcing, and from the trimmings select all roots that are large enough for next season's planting, but refuse any which have dark discoloured patches inside when cut. Lay those selected in soil ready for preparing on the first wet day. If Seakale is still forced by manure under pots outside, a batch may now be started. For late Seakale I must say I still prefer this old-fashioned way of treating it.

ASPARAGUS.—Where Asparagus is lifted and forced in pits, be careful that there shall be no break in the supply of this useful vegetable, but the pit system is an extravagant method of forcing. Permanent beds fitted with bricked sides, wooden frames, and shutters for the top, may be forced every other year by means of litter, and will, if well looked after through the summer, produce better results. A bottom-heat of 50°, and 55° for top, will be found quite sufficient for this.

LETTUCE.—Sow a pinch of early Paris Market, Veitch's Golden Gem, or any other favourite early variety, in boxes where a heated pit cannot be spared for these. Keep the seedlings when they appear close to the roof-glass in not more than 55° of heat. When large enough, prick them out into boxes or pits in light rich soil. If pits are not available, they may be finished off in boxes, but in this case they will require to be again transplanted, keeping them from 3 to 4 inches apart each way.

HOT BEDS.—Collect leaves and stable-litter for the making of hotbeds, as these will be in frequent request in the garden now.

SEEDS.—To a beginner the selection of these will be a difficult task, owing to the many varieties given in our catalogues, all bearing good characters. A few well-tried varieties are to be preferred for keeping up a good succession of vegetables. New varieties, however, from reliable sources should certainly be given a trial, in order to test their quality and suitability for the locality. It is imperative to know and consider what will be required in the kitchen, and also to consult the taste or fancies of our employers. If orders are placed now, they are likely to get good attention from the seedsmen, and there will be little risk of disappointment.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

TEMPERATURES.—During severe weather every precaution must be taken to husband all the heat possible by securing the ventilators, avoiding unnecessary traffic through the houses; and wherever possible, covering the houses at night with heavy mats or blinds, or at least the lower part of the roof, which will not only prove a saving in fuel, but afford a more humid and growing temperature within the house. It will be better to allow the temperature to decline a degree or two than to have excessively hot pipes.

VINES.—Vines in succession-houses from which the Grapes have been cut should be pruned at once. If these are old, do not prune too closely, but select a good plump bud, even if it is several joints from the rods; but as this system will cause long spurs in the course of time, young canes should be trained up, and as they come into bearing, the old ones can be cut back. Remove only the loose bark, and wash the rods with soft-soap and water, using it as hot as possible. Thoroughly cleanse the house, and after removing the surface-soil from the border, add a little fresh material. Keep the house as cool as possible until it is intended to start the Vines.

PEACHES AND NECTARINES.—The trees in the earliest house are now in flower, and syringing for a few days should cease, but damp the floor and borders during fine days. Ventilate freely when external conditions are favourable, and lose no opportunity when the pollen is dry to go over the blooms with a camel-hair brush. If the borders received a good soaking before the blooms expanded, this should be sufficient until the fruit is set, but the border must be watched, especially near the hot-water pipes. The night temperature should not fall below 55°, rising 10° during the day. The second house, if closed now, will provide ripe fruit during June, but hard forcing need not be attempted; better results are obtained by a gradual increase of warmth as the season and growth advances. Syringe the trees, and maintain a moist atmosphere, with a slight warmth in the pipes. Sudden changes, dryness at the roots, and a dry atmosphere, often cause the flower-buds to fall.

MELONS.—Sow two seeds in some 3-inch pots of those varieties most approved of, and plunge the pots in a bottom-heat of 80°. Fibrous loam and leaf-mould form a good rooting material for the seedlings. Ripe fruit from this sowing may be expected at the end of April. Best-of-All and Golden Gem are good white-fleshed varieties, and Blenheim Orange and "Reed's" of the scarlet-fleshed class. Keep the house or pit at 70° to 75° by day, and not less than 65° at night.

CUCUMBERS.—Every encouragement should be given these, but not by the use of rank manures. Gently disturb the surface of the borders occasionally, adding each time a slight top-dressing of turfy loam and leaf-mould, which should be previously warmed. These frequent dressings will encourage root-action better than heavy additions at long intervals. Fresh horse-droppings placed in the house each morning will assist the plants by the ammonia they give off, and check red-spider and thrip. Syringe the plants twice a week with quassia-water to prevent greenfly. Sow a few seeds of the variety Telegraph to furnish plants to succeed the winter ones, treating them as advised for Melons.

STRAWBERRIES.—Hard forcing produces weak flowers, and must be guarded against. As the plants come into flower, cease syringing, and give plenty of air whenever possible, to ripen the pollen, and fertilise each bloom as recommended for Peaches. Maintain a light, buoyant atmosphere, and leave a little ventilation on at night, with a temperature of from 50° to 55°. Another batch of plants should be prepared to follow those started last month by examining the drainage to dislodge worms, &c. Topdress the plants after removing dead leaves and moss, using rich loam, to which should be added a little of Clay's or Thomson's Manure, which will encourage surface roots. Our plants are first plunged in a cold pit which has been filled with leaves; the gentle warmth from these start the plants gradually, and they are near the glass. Such a position is better than placing the pots direct on the shelves in the forcing-house, and they require less water.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

WINTER-FLOWERING BEGONIAS.—These are charming plants at this season, and the variety Gloire de Sceaux is really worthy of a small house devoted to its culture. Begonias, however, will succeed mixed with other plants in the stove, assisting to make that structure gay when other flowers are few in number, or if mixed with Ferns they are effective for about a period of three months. Cuttings may be taken from the base of old plants about the beginning of the month of June, put into sandy loam and peat in small pots, and placed under hand-glasses, when roots soon form. When the pots are filled with roots pot them on into large 60's in a compost consisting of equal parts of loam, leaf-soil, with enough sharp sand to keep the soil porous. These plants if potted into 32's during the summer will make plants of from 2 to 2½ feet high, and very floriferous. When the soil in the flowering-pots is well filled with roots, liquid or other manures may be afforded. The following are a few of the best varieties. Barkei, Gloire de Lorraine, John Heal, Winter Gem, and require the same treatment as the above.

CALADIUMS.—A few of the earliest dried-off tubers may now be placed in a warm part of the stove, putting them thickly in well-drained pans of soil, consisting of equal parts loam, peat, and a little decayed leaf-soil, with plenty of sand, affording no water until growth commences. When that is observed, four or five tubers should be potted in 4½-inch pots, using the same kind of soil as before, with the addition of a small quantity of charcoal and well-decayed cow-dung in a dry state. If only a small stock of any desirable variety exists, and an increase is wanted, take two or three of the growths out of a tuber with a piece of the tuber itself attached, and insert these cuttings in thumbs or thimbles, plunging them in the propagating-case, where roots will soon form, and when the pots fill with them pot-off; they will make good useful tubers in a year.

VIOLETS.—If these plants are accommodated in cold frames, plenty of covering material should be held in readiness in case severe frosts should set in. Afford air abundantly during bright days, but if frost appears imminent, close the frames soon after mid-day. In fine mild weather, the lights may be drawn off, and the soil picked over, and dead or decayed leaves removed. Should the frames be situated in an out-of-the-way corner of the garden, a good quantity of fresh stable litter may with advantage be placed all round the outside of them. This will help to keep the soil warm, and assist the flowers to open. One of the best single varieties to grow for winter-flowering is Victoria; the flowers are very large, fragrant, of a deep blue colour, with very long stalks, and the plant is quite hardy. It is a continental variety, and must not be confounded with Victoria Regina, it being a far superior variety.

TEMPERATURES.—The stove should be kept at 65° at night and 70° by day, allowing 5° rise with sunheat. For the temperature of the warm greenhouse 50° by night, and 58° to 60° by day, will be sufficiently high; that of the cool greenhouse being 45° to 55°. Ordinary varieties of tree Carnations and C. Souvenir de la Malmaison, now coming into flower, should be kept at 50° by night and 55° by day with always a slight ventilation afforded at the top and bottom of the house, no matter how cold the weather

may be. If the wind is very cold, air should be admitted on the opposite side to the quarter from which the wind is blowing.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

DENDROBIUM chrysanthum has started well into growth, and will require liberal treatment in every way. A handsome terrestrial Orchid is Disa grandiflora, well deserving every attention. Unfortunately it is seldom met with in a thriving condition, but when once its requirements are understood, and a suitable temperature provided, this species can be successfully managed. At the present time growth is slowly progressing, and should not by any means be unduly excited, as the slower its growth throughout the winter months, the more vigorous it will be as the spring advances. A cool airy position in the Odontoglossum-house is the best place for it, and if kept moderately moist at the root, and free from all insect pest, success will follow. In cold, frosty weather, it is well to use some garden mats for covering the houses at night; they are useful in maintaining the proper temperature, and without excessive fire-heat, which quickly causes the plants to deteriorate under its dry, desiccating influence.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

RENOVATING OR IMPROVING OLD STANDARD APPLES.—Where old standard trees exist much may generally be done to improve them by judicious thinning of the branches which cross each other, and where crowded, by removing them carefully with a pruning-saw, and smoothing the edges of the rind with a sharp knife. This will let in air and light to the centre of the trees. All moss should be removed from the boles and large limbs, using for this job a piece of iron hoop or a scraper made for the purpose. Afford such trees a thorough dusting over with quicklime, applying in the early morning or during damp weather, so that it may adhere, or spray them with a solution of caustic soda and potash in the proportions of ½ lb. of caustic soda, ½ lb. crude commercial potash, 5 gallons of water, applying at a temperature of 130°, taking care to wet every part thoroughly, this will kill the eggs of any insect with which it comes in contact, as well as the moss, and the trees will look as if polished. Gloves should be worn whilst applying this to protect the hands. If the trees are infested with American-blight, petroleum mixed with a little hot soapy water, may be well worked into the parts affected with a half-worn painter's brush. All branches cut away in the thinning of such infested trees should be burnt, and the ashes spread over the ground above the roots. If some rotten manure can be spared for the purpose, the trees will be all the better for a good dressing applied to the surface now, or during the next week or two, and, failing this, a heavy application of farmyard liquid-manure would be beneficial; in fact, most fruit-trees are benefited by one or two liberal applications of this last kind during the winter, when the ground is not frozen. Inferior varieties may be headed back in readiness for grafting when the proper season arrives with superior varieties. The grafts may be taken off at this season and laid in the soil thinly under a north wall, or some other cool and damp situation, till required. A few good dessert varieties are Early Margaret, Lady Sudeley, Devonshire Quarrenden, Worcester Pearmain, Claygate Pearmain, King of the Pippins, Cox's Orange, Ribston, Kerry, and Blenheim Orange Pippins, Court Pendu Plat, and Golden Russet, Kitchen varieties of repute are Lord Suffield, Stirling Castle, Ecklinville, Carlisle Codlin, Cox's Pomona (also good for dessert), Warner's King, Lane's Prince Albert, Beauty of Kent, Winter Hawthornden, Northern Greening, Dumelow's Seedling, and Annie Elizabeth.

AGED PEAR AND PLUM TREES on walls, which may be crowded with long, unsightly fruiting spurs, perhaps 18 or 20 inches in length, should have a few of them removed every year, cutting them off close to the base. These shortened spurs will generally throw out a strong shoot or two, which, with proper treatment, will in a season or two develop fruit-buds. Much may be done to improve the appearance and fruitfulness of these old trees by removing much of the usually abundant breastwood whilst quite young, not letting it develop and then cutting it away. These trees will be benefited by liberal manuring on the surface if their roots have no access to rich vegetable quarters. Walls should be freed from moss or anything likely to harbour vermin. Nail-holes should be stopped with fresh mortar, and the pointing made good. The mortar may be mixed with fine furnace-ash, which hardens it better than sand, and the colour it gives is more suitable for old walls.

PYRAMIDS OR BUSHES, which have not been making satisfactory growth, will be much benefited by clearing away the old soil down to the roots for a space of 4 feet from the stem, and by applying a good dressing of fresh turfy loam with which some crushed or half-inch bones are incorporated; or, failing these, some wood-ashes and charred garden-refuse may be used, taking care to pick out any pieces of half-burnt sticks, &c. If too much strong fruitless growth is being made, take out a trench at about the distance named round the tree, cutting off the thickest roots (that tend downwards into the subsoil) cleanly with a sharp knife, and fill up the trench with the compost advised above, laying as many small roots as possible into the new soil. Stone-fruits are benefited by liberal dressings of freshly-slaked lime, lightly forked in over the roots, especially if the garden is an old one. Care must be taken that heavy clay subsoils are efficiently drained, or it will be impossible to have fruit-trees in a satisfactory condition.

FIG TREES should have some kind of protection afforded them from severe frosts and snow. A capital plan is to nail strips of wood together, 4 feet wide, and about 2 feet longer than the height of wall to be covered, and thatch well with good Wheat or Rye-straw, laying the straw lengthwise, not across the hurdle; these if placed under the wall-coping, and standing away from the foot of the wall a few feet, on the resumption of mild weather the screens can be readily taken down. They will last with care for many years.

THE APIARY.

By Expert.

FOUL BROOD AND LEGISLATION.—The increasing prevalence of the bee scourge, commonly known as foul brood or bee-pest, and to the scientist as Bacillus alvei, is engaging the earnest attention of bee-keepers. It is feared that if steps are not taken to combat this evil on some organised basis throughout the kingdom, the disease will, in the course of time, assume such proportions as to effectually put a stop to profitable bee-keeping. The disease, if discovered in its primary stages, can be grappled with and a cure generally effected, if the bee-keeper will take the pains to carefully follow certain courses of treatment. In its earliest stage the larvæ, attacked before being capped over, instead of being of a pearly whiteness and curled up in the cells, are of a pale yellow colour, stretched out horizontally, and beginning to decompose. The cappings of the diseased sealed larvæ will be indented, and also frequently perforated with irregular holes. The treatment consists in supplying the bees with medicated food, "napthol beta" or phenyle being recommended; and also in subjecting them to a course of antiseptic treatment, by placing disinfectants inside the hive. If this is systematically carried out in time, the bacilli will be destroyed, probably before the spores produced in the advanced stage of the disease make their appearance, and are scattered by the winds or other agencies. The whole subject bristles with difficulties, however, but the most insurmountable seem to arise from careless and ignorant persons, who in the first case would take no steps to treat the complaint, and the latter, who stand in their own light and that of others by steadfastly refusing to pay attention to any advice or assistance they may receive. County bee-keepers' associations in some instances are doing their best to cope with the evil by buying-up diseased stocks where possible, and destroying them, and also by distributing disinfectants, but it is obvious that, although this may do a vast amount of good, yet the whole thing must fail if compulsion cannot be used to prevent careless and ignorant possessors of diseased stocks from spreading the contagion. The only effectual way to do this seems to be to have bees scheduled, and included in the Contagious Diseases (Animals) Act, as already has been done in Canada, so that compulsory powers would be given to have all diseased stocks destroyed, and compensation paid to the owners. A movement is on foot for sending a deputation from the Council of the British Bee-keepers' Association to wait upon the Minister of Agriculture,

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

SUMMER BEDDING PLANTS.—Careful attention should now be given to the stock of Pelargoniums, and if any of the varieties require to be increased, presuming that the cuttings were struck in the ordinary way in boxes, these should be potted off into 60's, using a good kind of sandy loam and fine leaf-soil. Instead of crocks use a small quantity of old Mushroom-bed dung, or the rougher parts of sifted leaf-soil, which will give sufficient drainage, and the planter will not be troubled with the crocks when putting the plants out in the spring. Place the plants when potted in a house where the temperature is from 60° to 70°, keeping them as near the glass as possible. When they have grown freely take off the cuttings, and put one each into small pots, which should be placed in a temperature of 70°. Bottom heat is not necessary, but it will hasten the process if used; allow them all the sunlight possible. Leave two or three leaves on the plants from which the cuttings are taken, and keep the plants rather dry until they break again. All the bedding sections may be increased in this way, including the sweet-scented varieties. Where the autumn-struck stock is as large as is required, the potting may be deferred till the end of February, keeping the plants cool and dry until that time. Old plants lifted in the autumn to afford cuttings should be started in the same way, taking care not to over-water them. Considerable attention will now be required by plants standing in unheated pits. They must be well covered with dry material, and great care is necessary after a long frost not to expose them suddenly to the air and light, and also to keep them free from decayed leaves and shoots. The following are good varieties of Pelargoniums for bedding:—Scarlets: West Brighton Gem, Vesuvius, Douglas Pearson, Henri Jacoby, Sam Jacoby, Black Vesuvius, John Gibbons, and the old Tom Thumb, still one of the most brilliant. Pink varieties: Master Christine, Neila, Mrs. Keeler, and Mrs. Turner. White varieties; Queen of Whites, Niphetos, Queen of the Belgians, Madame Voucher. Good silver-edged varieties are: Flower of the Day, Flower of Spring, Beadices, Bijou, Miss Kingsbury, Miss J. C. Mappin, and May Queen. Gold and bronze varieties: Black Douglas, Bronze Beauty, Crystal Palace Gem, E. G. Henderson, Golden Jewel, Golden Harry Hieover, Her Majesty, and Mrs. Pool. Golden tricolors: Countess of Ashburnham, Florence, Grande, Lady Cullum, Mrs. Rutter, Mrs. Pollock, Peter Grieve, Queen Victoria, and Sophia Dumaresque.

COLEUS AND IRESINES.—Plants required to furnish cuttings in a month's time should be given a temperature of about 65°. Keep them clean from fly by syringing with quassia-water or by fumigation; and place them as near to the glass as possible. Sowings of Lobelia speciosa should now be made in pans of fine peaty soil. Do not cover the seed, but place a piece of glass over the pans, and shade with brown-paper until germination has taken place, then gradually expose them to the light. They require a temperature of from 60° to 70°. Centaurea candidissima should be sown in pans or boxes, and in a warm house; and for soil use a compost of sandy loam, leaf-soil, and peat. Put some few crocks in the pans with rough material over them, and fill in with fine soil, and water well before sowing the seeds, which may be covered with ⅛-inch finely sifted soil. Shade with a piece of glass and paper until the seedlings are seen.

SWEET PEAS.—The first sowing may now be made in 6 or 8-inch pots for planting out the end of February. Place one large crock in the bottom, and cover it with horse droppings or dry hot-bed manure, use good loamy soil, and cover the seeds about 1 inch. Place them in a warm house till they are well up, then remove them to a cool airy pit until it is safe to plant them outside. If a dozen seeds are placed in each pot, these patches may be planted 2 feet apart in the rows, and 6 feet between the rows after planting. Protect them for a time with small Spruce branches. Small packets of Eckford's beautiful varieties are most useful for this purpose, and by sowing indoors, the valuable seeds are better protected from mice or birds. A sowing can be made every fortnight to give a succession of flowers.

BURMESE ORCHIDS.—We learn from the *Pioneer*, Allahabad, November 9, that "A work is being published in Rangoon upon Burmese Orchids, which is profusely illustrated, and in which nearly 500 species are described."

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	JAN. 15	Royal Horticultural Society, Committees, at the Drill Hall, James Street, Westminster. Horticultural Club.
THURSDAY,	JAN. 17	Annual Meeting of the Gardeners' Royal Benevolent Institution. Linnean Society.

SALES.

MONDAY,	JAN. 14	Hardy Perennials, Carnations, Picotees, Iris, &c., at Protheroe & Morris Rooms.
TUESDAY,	JAN. 15	Tuberoses, Gladioli, Lilies, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 16	Enormous Consignment of Japanese Lilies, Tuberoses, Begonias, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 18	Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°.9.

Flowering of Camoensia maxima.

HAD we known of the occurrence we should certainly have noted it among the most remarkable events of the year 1894. From the last number of the *Kew Bulletin* (p. 402), recently issued, we learn that Mr. W. MACKIE, gardener to Mrs. RUDDLE, The Mythe Castle, Tewkesbury, has the honour of being the first to flower this magnificent tropical climber in Europe. So glowing was the account given by our lamented friend, the late Dr. WELWITSCH, its discoverer, so suggestive the figure by FITCH, in the *Transactions of the Linnean Society* (xx., tab. 36), that plant-lovers have been on the alert ever since, their eagerness being kept alive by the annual repetition of an illustration in Mr. BULL'S catalogues. The Camoensia has flowered in the Botanic Gardens at Trinidad, and only lately Dr. TRIMEN recorded in our columns the fact of its blooming in the famous garden under his charge at Peradenyia. But Tewkesbury is nearer home, and Mr. MACKIE having succeeded in inducing the plant under his charge to produce four flowers, will soon, we hope, be in a position to make it unfold its lovely flowers with greater profusion. The flowers, as figured, are a foot long; but others since collected are shorter. Mr. MACKIE says, "the edges of the white petals are at first of a bright golden-yellow, changing to old gold on the full expansion of the flowers;" a description which does but whet our appetite the more. In the meanwhile, our congratulations to Mr. MACKIE.

The Gardeners' Royal Benevolent Institution.

THE discussion that has arisen in our columns with reference to this Institution will have one good effect at once, and may be productive of even more advantage in the future. Gardeners reading the whole correspondence will see once more how deserving the Institution is of their support, how well the committee do their duty, and how well the society is administered. They will know, too, how prodigal of their time, how liberal with their means, have been the officers of the society, and in this connection, we do not know why we may not single out the Treasurer in particular, as it is to his influence, industry, and generosity, to a large extent, that the society is in as good a position as it is. What then are the grounds of complaint? As far as we make out, they amount to a suspicion of want of due care on the part of the committee in ascertaining the qualifications of candidates, or rather of one candidate in particular, and to a scarcely-veiled charge of undue influence or favouritism. As to the first point, we think the committee has abundantly cleared itself. Some candidates may be more worthy, others less so, but there can be no question that every one of them is deserving assistance. In making up the list of candidates, the committee has adhered strictly to the rules laid down for their guidance, and if justice is not done, the fault is that of the voters, not of the committee.

As to the charge of undue influence, it is only to be wished that many more subscribers would put themselves into a position to exert this kind of undue influence! It is only natural that, under the present system of voting, those who contribute most largely should have the largest number of votes, and exert, if they choose to do so, a predominating influence.

This brings us to the *crux* of the whole matter—the system of voting. The present system entails an enormous amount of trouble, expense, and anxiety on the candidates and their friends. This is objectionable because it is unnecessary. It is even more so because the candidates who succeed are not necessarily, as they ought to be, the most deserving, but very often those whose friends are most influential, and who can secure for their *protégés* the largest number of votes.

Selfish rather than philanthropic considerations actuate most voters. Mr. A. does not weigh the merits of the several candidates, but if he sees the name of an old servant on the list, or of any one in whom he is specially interested, he straightway records his vote for him or her, and endeavours to induce all his friends to do the same. Mr. A. does all this to get a return for his money, and without the least notion that he is possibly committing an injustice against some other more worthy candidate. We have even heard of some who have subscribed for a few years with the object of getting their candidates elected, and having done so they have forthwith retired from the Society.

Many of those who have to administer the Society recognise these evils, but they fear that any attempt to alter them would be extremely prejudicial, and, therefore, as practical men, they prefer to maintain the present system, open though it be to abuse, rather than endanger the Society by the adoption of a theoretically fairer system of voting. This is eminently prudent. Any material injury to the Society would be a catastrophe more than usually deplorable; but would such injury really occur? This is a point to be considered. The effects of the present system, bad as it is in principle, are to some extent counterbalanced by the committee of selection, by whose scrutiny it happens that each one of the candidates is known to be deserving; and by the excellent system introduced recently, by which the committee has the power of allotting to each candidate a number of votes in proportion to the number of years the candidate has been a subscriber.

No alteration in the system is now possible at the annual meeting, but a special meeting might be convened for the purpose at any time. Before this is done, we would suggest that a small committee should be appointed to consider other methods of voting than the one now in use, in order to ascertain whether some method might not be adopted which is not liable to the potential abuses of the present system. When the time comes, we could mention a plan which would secure the individual rights of the subscribers, whilst avoiding the objectionable features of the the present system. But whether this be adopted or not, we earnestly press upon gardeners the duty of supporting the Institution, and from the lower motive of self-interest we urge the desirability of so doing, for we are convinced that, in spite of the system of voting, which, it must not be forgotten, is the same as that of the majority of similar societies, the Society is financially sound, and thoroughly well administered.

RUELLIA MACRANTHA.—A genus named in honour of John Ruelle, botanist and physician to Francis I., belonging to the order Acanthaceæ. About 150 species are known, consisting of annual or perennial herbs and sub-shrubs, chiefly American, a few only being found in other parts of the world. R. macrantha (fig. 7) has axillary flowers of a large size, the segments of a rosy-purple colour, prettily veined with dark purple. Like many of the species, it thrives in a light rich soil in the stove. A large well-flowered specimen was shown by Mr. Bain, gardener to Sir Trevor Lawrence, at the Royal Horticultural Society's meeting on Tuesday, Nov. 27 last, when an Award of Merit was made.

THE ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, January 15; and the new committees will assemble at 12 o'clock noon precisely.

NATIONAL ROSE SOCIETY.—A committee meeting will be held at the rooms of the Horticultural Club, Hotel Windsor, on Tuesday, Jan. 15, at 3 P.M., for general purposes. Any resolution that it is desired to bring forward should be sent to Mr. E. MAWLEY, Berkhamsted, eight clear days before the next ensuing meeting.

HORTICULTURAL CLUB.—The usual monthly dinner and *conversaziones* will take place on Tuesday, the 15th inst., at 6 P.M., at the Hotel Windsor, Victoria Street, S.W. The subject for discussion will be "Rules for Judging," to be opened by the Secretary.

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, January 17, at 8 P.M., on which occasion papers to be read:—1. "Variation in the Floral Symmetry of Potentilla and Tormentilla. Part I.: The Modes of Variation;" by A. G. TANSLEY, F.L.S. 2. "On some Variations in the Number of Stamens and Carpels;" by J. H. BUSKILL, F.L.S.

CAMILLE BERNARDIN.—We regret to hear of the death of this enthusiastic rosarian, the founder of the *Journal des Roses*.

HORTICULTURAL LECTURES IN CAMBS.—We hear these are to be resumed by Mr. D. T. FISH in different centres around Cambridge. The subject being "Fruit and Vegetable Culture."

THE "BOTANICAL MAGAZINE."—The January number opens with a fine plate of—

Talauma Hodgsoni, t. 7392.—One of the noblest flowering forest trees of the Himalaya, closely allied to the Magnolias. It was discovered by Sir JOSEPH HOOKER in 1848, forming forests in the valleys of Sikkim at an elevation of 5000 to 6000 feet. Sir JOSEPH'S attention was called to the tree by seeing on the ground the petals, which resembled hen's eggs, and had a spicy fragrance. The tree flowered in the temperate-house at Kew. The flower-segments are purplish-violet externally, creamy-white within.

t. 7395.—This is a bi-pinnately-leaved Acacia, with flowers in cylindrical spikes, found wild in Central America and Cuba. It is specially remarkable for its very large horn-like stipules. The history of the plant, which is complicated, is given by Sir JOSEPH, who rightly says:—"Far more interesting to the general reader than the synonymy of these horned Acacias is the fact that they play a wonderful part in the economy of Nature by housing and feeding a tribe or tribes of ants, which find their habitation in the stipular thorns, and their food in the fleshy appendages on the tips of the leaves—a hospitality which they repay with interest, by waging a successful war against the armies of leaf-cutting ants, who would otherwise soon extirpate the Acacias." An extract from BELT'S *Naturalist in Nicaragua*, p. 218 (1874), gives fuller details concerning this remarkable state of affairs; of this we can only cite the last paragraph:—"These ants seem to lead the happiest of existences. Protected by their stings, they fear no foe. Habitations full of food are provided for them to commence housekeeping with, and cups of nectar and luscious fruits await them every day. But there is a reverse to the picture. In the dry season on the plains the Acaciæ cease to grow. No young leaves are produced, and the old glands do not secrete honey. Then want and hunger overtake the ants that have revelled in luxury all the wet season; many of the thorns are depopulated, and only a few ants live through the season of scarcity. As soon, however, as the first rains set in, the trees throw out numerous vigorous shoots, and the ants multiply again with astonishing rapidity."

Cyrtopodium virescens, Rchb. f., and Warming, t. 7396.—A South Brazilian species, with flowers in racemes, each flower about an inch in diameter, pale primrose blotched with red. Kew.

MR. DYER, the Director of the Royal Gardens, Kew, has been elected an honorary member of the New Zealand Institute, in recognition of services rendered to botanists in the British Colonies.

FIG. 7.—RUELLIA MACRANTHA: COLOUR OF THE FLOWERS ROSY PURPLE, WITH VEINS OF DARK PURPLE. (SEE P. 44.)

Acidanthera æquinoctialis, Baker, t. 7393, is an Irid from Sierra Leone. Botanically, it is intermediate between Iris and Gladiolus. The leaves are like those of a Gladiolus, the flowers in loose racemes, each with a long perianth tube and a six-parted limb, 2 inches in diameter. The segments are ovate oblong acuminate, white with a central purple blotch or streak at the base. The corms produced flower in November in a warm greenhouse at Kew.

Lonicera Alberti, Regel, t. 7394, is a shrubby Honeysuckle, with linear leaves, finely toothed at the base, and clusters of pink, salver-shaped flowers. It is a native of Eastern Turkestan, where it was discovered by Dr. ALBERT REGEL. Kew.

Acacia spadicigera, Chamisso and Schlechtendal,

ILLNESS OF MR. W. H. PROTHEROE.—A great many of our readers will be sorry to learn that Mr. W. H. PROTHEROE, of the well-known firm of horticultural auctioneers, has for some time past been suffering from a serious attack of influenza. As is not unusual with this insidious malady, the original attack seemed to have been successfully coped with, but a relapse took place involving more serious consequences. However, we are pleased to be able to state that the patient has passed the worst stage, and it is expected that the usual modern remedy—rest and quiet—will speedily enable him to regain his usual state of health.

SHIRLEY AND DISTRICT HORTICULTURAL SOCIETY.—The annual dinner in connection with this society took place at the Shirley Hotel on January 4, and was an unqualified success. There was a good attendance, the president of the society (Mr. ANDREW BARLOW) occupying the chair, and Mr. W. F. MAYOSS (chairman of committee) the vice-chair.

THE WEATHER AND VEGETATION AT LA MORTOLA, VENTIMIGLIA, ITALY.—Writing on January 5, 1895, our esteemed correspondent Mr. T. HANBURY remarks:—"The new year opened with frost, the ice on the ornamental water in the centre of my garden not thawing for four days, and attaining a thickness of five-eighths of an inch; this was succeeded by a snow-storm of no great severity, the bright sunshine causing the snow quickly to disappear except in very shady positions. It may seem anomalous that in reporting such weather I can send at the same time a list of 294 species of plants in blossom in the open air without any protection except that afforded by over-hanging trees and shrubs. After making due allowance for the better maturing of plants in this sunny clime, and the great dryness that prevails here in the winter, I find myself unable to give any sufficient explanation why such tender things as Heliotropium, Bouvardia, Tropæolum, and Hebeclinium, which in England shrivel with the first touch of frost, here seem unaffected by such weather as I have described."

Abelia rupestris, Lindl.
Aberia caffra, Haw.
Abutilon striatum, Dicks.; A. Darwini; A. vexillarium, Morr.
Acacia microbotrys; A. obliqua, Cunn.; A. brachybotrys, Benth.
Acer oblongum, Cunn.
Aeonium arboreum, W. et B.
Æschynanthus grandiflorus, G. Don.
Agave Ghiesbreghtii, Lem.; A. schidigera, Lem.; A. yuccæfolia, D.C.
Ageratum cœlestinum, Sims.
Albizzia lophantha, Benth.
Aloe arborescens, Mill; A. a. var. frutescens, S. Dyck; A. aurantiaca, Baker; A. ciliaris, Haw.; A. pluridens, Haw.; A. purpurascens, Haw.; A. Schweinfurthii, Baker; A. supralævis, Haw.
Anemone coronaria Lin.; A. japonica, Sieb. et Zucc.
Antholyza æthiopica, Lin.
Aponogeton distachyum, Sims.
Arbutus unedo, Lin.
Arctotis speciosa, Jacq.
Asclepias curassavica, Lin.
Aralia Sieboldii, hort.; A. papyracea, Hook.
Aristolochia sempervirens, Lin.
Azalea indica, Lin.
Banksia marcescens, R. Br.; B. marginata, Dum. Cours.
Begonia macrophylla, Dryand; B. Rex, Putz; B. miniata floribunda, Pl.
Berberis glauca, D.C.
Berkheya grandiflora, Willd.
Bignonia jasminoides, Cunn.; B. var. rosea splendida; B. venusta, Ker.
Bougainvillea glabra, Choisy; B. spectabilis, Willd.
Bouvardia triphylla
Buddleia americana, Lin.; B. auriculata, Benth.; B. madagascariensis, Lam.
Camellia japonica, Lin.
Campanula pyramidalis, Lin.
Canna iridiflora, Rz. Pav.
Cantua pyrifolia, Juss.
Carica cundinamarcensis, J. Lind.
Cassia coquimbensis, Vog.
Centranthus ruber, D.C.
Ceratonia siliqua, Lin.
Cestrum aurantiacum, Lindl.; C. diurnum, Lin.; C. elegans, Schlckt.; C. Parqui, l'Herit; C. vespertinum, Lin.; C. Warscewiczii, Klotsch.
Cheiranthus Cheiri, Lin.; C. mutabilis, l'Herit.
Chimonanthus fragrans, Lindl.
Choisya ternata, H. B. H.
Chrysanthemum frutescens, Lin.
Cineraria hybrida, Willd.; C. lanata, de Hérit.
Clerodendron fragrans, Willd.
Colletia horrida, Willd.; C. cruciata, Hook. et Gill.
Coronilla glauca, Lin.; C. pentaphylla, Desf.
Correa cardinalis, F. Müll. C. Lawrenciana, Hook.
Cotyledon macrantha
Crassula lactea, Ait.; C. spathulata, Thunbg.
Cuphea eminens, Pl. et Lind.; C. lanceolata, Dryand; C. Galeottei, Hort. Berol.; C. platycentra, Benth.
Cyperus alternifolius, Lin.; C. papyrus, Lin.
Cypripedium insigne, Wall.
Cyrtandra polyantha, Clarke
Cyrtanthera magnifica, Nees.
Daphne indica, Lin.
Datura arborea, Lin.; D. sanguinea, Rz. Pav.
Dianthus rupicola ×, Biv.
Diplacus glutinosus, Nutt.
Dodonæa triquetra, Andr.; D. viscosa, Lin.
Duranta inermis, Lin.
Echeveria gibbiflora, D.C.; E. imbricata × Deuil; E. retusa, Baker
Elæagnus macrophylla, Thunbg.
Encephalartos Altensteinii, Lehm.
Ephedra altissima, Desf.
Erica barbata, Andr.; E. blanda, Andr.; E. mediterranea, Lin.; E. polytrichifolia, Salisb; E. vestita, Thunbg.
Eriobotrya japonica, Lindl.
Eriocephalus africanus, Lin.; E. a. var. tennior.
Eucalyptus globulus, Labell.
Eugenia australis, Wendl.
Eupatorium adenophorum, Spreng.; E. grandiflorum, Hook.
Euphorbia biglandulosa, Desf.; E. clandestina, Jacq.; E. characias, Lin.; E. splendens, Baj.
Euryops spathaceus, D.C.
Fuchsia affinis, Cambess; F. arborescens, Sims; F. corymbifera Rz. Pav.; F. gracilis, Lindl.
Gaillardia Lorenziana, hort.
Gasteria verrucosa, Haw.
Genista monosperma, Lam.
Grevillea longifolia, F. M.; G. rosmarinifolia, Cunn.
Hakea acicularis, R. Br.; H. eucalyptoides, Meissn.; H. pugioniformis, Cav.; H. suaveolens, R. Br.
Halleria lucida, Lin.
Hardenbergia monophylla, Benth.
Hebecliniumianthinum, Hook.
Helichrysum bracteatum, Willd.
Heliotropium peruvianum, Lin.
Helleborus guttatus, A. Br.
Hermannia candicans, Ait.
Hexacentris coccinea, Nees.
Hyacinthus orientalis, Lin.
Iberis semperflorens, Lin.
Iris stylosa, Desf.; I. spec?
Jasminum nudiflorum, Lindl.; J. revolutum, Sims.
Jochroma fuchsioides, Miers.; J. grandiflorum, Benth.
Kalanchoe rotundifolia, Haw.
Kerria japonica, D.C.
Kleinia articulata, Haw.; K. crassulæfolia, D.C.; K. ficoides, Haw.; K. neriifolia, Haw.; K. pteroneura, D.C.
Lachenalia pendula, Sciand.
Lantana Camara, Lin.
Lardizabala biternata, Rz. Pav.
Lavandula multifida, Lin.
Leonitis Leonurus, Rz. Pav.
Libonia floribunda, Koch, L. penrhosiensis ×
Linum trigynum, Roxb.
Lobelia erinus, Lin.
Lophospermum erubescens, D. Don.
Lotus peliorrhynchus, Webb.
Mahonia japonica, D.C.
Malvaviscus arboreus, Cav.
Mammillaria spec.?
Matthiola annua, Sw.
Melianthus minor, Lin.; M. Trimenianus, Hook.
Mesembryanthemum linguæforme, Haw.; M. rubricaule, Haw.; M. incurvum, Haw.
Morina obtusifolia, Kunth.
Narcissus papyraceus, Ker. Gawl.; N. tazetta, Lin.
Nicotiana glauca, Grah.
Olea undulata, Jacq.
Opuntia monacantha, Haw.; O. sabulosa, Englm.
Oreopanax capitatum, D. et Pl.; O. Epremesnilianum, André; O. Thibautii, Hook.
Osmanthus fragrans, Lour.
Othonna amplexicaulis, Thunbg.; O. Athanasiæ, Jacq.; O. carnosa, Less.; O. trinervia, D.C.
Othonnopsis cheirifolia, B. et H.
Oxalis cernua, Thunbg.
Passerina hirsuta, Lin.
Passiflora princeps, Lodd.
Pelargonium odoratissimum, Sol.; P. peltatum, Ait.; P. zonale, l'Herit.
Pentzia virgata, Less.
Petunia violacea, Lindl.
Phœnix canariensis, Hort.
Phylica ericoides, Lin.
Pithecoctenium buccinatorium, D.C.
Pittosporum bracteolatum, Endl.; P. coriaceum, Ait.
Plectranthus tomentosus, Benth.
Polygala myrtifolia, Lin.; P. virgata, Thunbg.
Polygonum repens, Wall.
Primula floribunda, Wall.; P. sinensis, Lindl.
Psiadia glutinosa, Jacq.
Raphiolepis indica, Lindl.
Reinwardtia tetragyna, Dumort.
Reseda odorata, Lin.
Ricinus communis, Lin.
Russelia juncea, Zucc.
Rosa Banksiæ, R. Br.; R. B. Fortunei plena, R. B. fl. albo pleno, R. bourboniana, Red. Thorz.; R. Thea, Hort.
Salvia cacaliæfolia, D.C.; S. canariensis, Lin.; S. coccinea, Lin.; S. discolor, H. B. K.; R. fruticosa; S. gesneriflora, Lindl.; S. Grahami, Benth.; S. Heerii, S. ianthina, O. et D.; S. leonuroides, Glox.; S. leucantha, Cav.; S. mexicana, Lin.; S. paniculata, Lin.; S. pseudococcinea, Jacq.; S. involucrata, Cav.: S. Reginæ, semiatrata, Zucc.
Saxifraga crassifolia, Lin.
Schinus molle, Lin.
Scutellaria cordifolia, Benth.
Senecio angulatus, Lin. fil.; S. deltoideus, Less.; S. longifolius, Lin.; S. macroglossus, D.C.; S. mikanioides. Otto; S. oxyriæfolius, D.C.
Siphocampylus bicolor, D.Don.; S. nitidus, Pohl.
Solanum betaceum, Cav.; S. jasminoides, Paxt.; S. marginatum, Lin. f.; S. pseudocapsicum, Lin.; S. robustum, S. Warscewiczii
Sparmannia africana, Lin.
Sphæralcea umbellata, Spach.
Stapelia grandiflora, Mass.; S. planiflora, Jacq.
Streptosolen Jamesonii, D.C.
Sutherlandia frutescens, R. Br.
Tacsonia manicata, Juss.
Tecoma capensis, G. Don.; T. Stans, Juss.
Templetonia retusa, R. Br.
Teucrium fruticans, Lin.
Tropæolum majus, Lin.
Tulbaghia violacea, Haw.
Veronica Andersonii ×
Vinca media, Lk. Hoffm.; V. minor, Lin.
Visnea Mocanera, L. fil.
Vittadenia triloba, D.C. = Erigeron mucronatum
Westringia rosmariniformis, Sur.
Yucca gloriosa, Lin.

Indigenous Plants.

Alyssum maritimum, Lam.
Arum Arisarum, Lin.
Andropogon hirtus, Lin.
Bellis sylvestris, Cyr.
Cneorum tricoccum, Lin.
Globularia Alyssum, Lin.
Helleborus fœtidus, Lin.
Juniperus oxycedrus, Lin.
Lavatera maritima, Gouan.
Ononis minutissima, Lin.
Moricandia arvensis, D.C.
Picridium vulgare, Desf.
Rosmarinus officinalis, Lin.
Scabiosa maritima, Lin.
Tunica Saxifraga, Scop.
Ulex europæus, Lin.

THE LINDLEY LIBRARY.—Among some books kindly presented to the Library by Mr. CROUCHER, gardener, Ochtertyre, near Crieff, are some of sufficient interest to demand a brief notice in this place. A copy of REPTON'S *Sketches and Hints on Landscape Gardening*, oblong folio, published by J. & J. BOYDELL, of the Shakspeare Gallery (in 1794), is a welcome addition to the standard books contained in the library. It is a well got-up volume, handsomely bound, with descriptions of various country seats, and illustrated by numerous coloured plates. An ingenious device consists of a moveable slip attached to each plate. On the slip is painted a representation of the park in its unaltered condition. On lifting up this slip, the appearances presented, in consequence of the modifications proposed by the landscape gardener, are made apparent, and are more eloquent than words. Among the places described is Wembley. Till within the last year or two REPTON'S description held good. "In the vicinity of the metropolis there are few places so free from interruption as the grounds at Wembley, and, indeed, in the course of my experience, I have seen no spot, within so short a distance from London, more perfectly secluded from those interferences which are the common effects of a divided property, and a populous neighbourhood. Wembley is as quiet and retired at 7 miles distance as it could have been at 70." The Wembley Tower, truncated though it be, and the Metropolitan Railway bid fair to alter all that, though there is still an air of quiet repose and tranquillity about the place remarkable so near to London. Apart from the lessons it conveys, this book is of historic value, as showing the condition of many famous seats, such as Welbeck, Lathom, Tatton, &c., a century ago. Lady CHARLOTTE BURY'S *The Three Great Sanctuaries of Tuscany* (1833) is interesting for the descriptions and large illustrations it gives of Val-Ombrosa, Camaldoli, and Laverna. *Architectural Sketches for Cottages, Rural Dwellings and Villas*, by R. LUGAR, published in 1805, shows how vastly architects have improved in designing the exterior of these edifices, and how little advance they have made in planning the interior and studying the comforts of the inmates. *Modern Eden; or, the Gardeners' Universal Guide*, ... by JOHN RUTTER and DANIEL CARTER, 1769, is a good practical treatise, showing that our forefathers knew their business, and that something more than mere practice, all-important though it be, is now required to secure the progress of horticulture. The first edition of *The Rose Amateurs' Guide*, ... by T. RIVERS, jun. (1837) is a treasure, for the library previously possessed only a comparatively recent edition that of 1861. Bound up with the volume is a Catalogue of sixteen 8vo closely printed pages of the Roses offered for sale at that time. Three shillings and sixpence was the average price for a standard Rose in those days, when the nursery was reached by morning coaches from the "Flower Pot," at Bishopsgate, and from the "Green Dragon," in the same street. *The Botanists' Calendar and Pocket Flora*, 2 vols. duod. (1797), has no author's name, nor is it included in PRITZEL'S *Thesaurus*, so far as we can see. The work was probably compiled by CURTIS, and contains a descriptive list of British plants arranged according to the months of the year. The work is well printed, and in good condition.

ANNUAL DINNER OF EMPLOYÉS.—Messrs. WILLS & SEGAR'S annual dinner to their operatives was held at the Chelsea Town Hall, on January 5, when upwards of seventy were present. Mr. WILLS, in replying to the toast of the firm, said he saw a number of faces who had been working for them since the firm was in its infancy, and who had helped to secure what success had been made.

YORKSHIRE GALA.—The thirty-seventh annual meeting of the guarantors and life members of the Grand Yorkshire Gala was held recently at Harker's Hotel, York. The Chairman congratulated those present on having again met under encouraging auspices. He was pleased that the association's deputation had secured the Bootham Asylum Field for the holding of the Gala, on similar terms to those of previous occasions. He then proposed the election of the Lord Mayor (Mr. Alderman W. McKay) as president for the present year, and the proposition was unanimously carried. Mr. Alderman Milward then proposed the re-election of Sir Joseph Terry as chairman. The proposition was unanimously carried. Mr. Councillor L. Foster proposed the re-election of Mr. E. Rooke to the position of vice-president, and the proposition was unanimously carried. Mr. Jos. Wilkinson was unanimously re-elected treasurer, and Mr. Chas. W. Simmons secretary. Mr. Dale complimented Mr. Simmons on the way in which he had discharged his duties. The floral, financial, and entertainment committees were elected, and the following grants were made: For prizes to the floral exhibition, £600; for music, £120; for fireworks, £100; for balloon, £60; and for amusements, £175. The amounts are similar to those of last year with the exception of the last which is increased. A vote of thanks to the Chairman concluded the business of the meeting.

ROSE MRS. PIERPOINT MORGAN.—Mr. DIMMICK of Messrs. SANDER & Co., brought for our inspection specimens of this Rose cut in the establishment of Mr. J. MAY, New Jersey, six or seven days ago, in a temperature so low that we do not care to quote it. The flowers were simply wrapped in stearine paper, and were wonderfully fresh considering their passage across the Atlantic in mid-winter. The Rose in question originated as a sport from Madame Cusin. The flowers are deep, with a good centre, the

petals of a good substance and form, and of a light rose colour, which would probably be deeper in the season.

WINTER FLOWERS AT THE CEDARS, HARROW WEALD.—The good qualities of some of the older Orchids for making a display in the plant-houses in winter, is well shown in the gardens of T. E. BLACKWELL, Esq., at Harrow Weald at the present time. During the whole of the dull season the centre of one of the warm-houses has been beautified by tall spikes of the specimens of Zygopetalum Mackayii major, individual blooms of which measure 4 inches across. With them for some time have been associated a few fine specimens of Lælia anceps, with a large number of flowers on each; Peristeria elata (The Dove Orchid), Maxillaria grandiflora, with many flowers; Miltonia Roezlii, and its variety, alba, which give a strong odour of Roses in the house; Lycaste Skinneri, Calanthes, Cypripedium Boxalli and other Cypripediums, and various showy Dendrobiums. In the conservatory there is a fine display of bloom, among which the large globular heads of the fine old Epacris miniata splendens are conspicuous. A large batch of Cyclamens, which Mr. J. DINSMORE, the gardener at The Cedars, raised from seed, have grown and flowered to perfection. The strain embraces many that are pure white, and all the flowers have very broad segments. Many of the plants in large 48-size pots have now from thirty to fifty blooms each. Other favourite plants now very showy at The Cedars are Euphorbia jacquiniæflora, Poinsettia pulcherrima, Primulas, single and double; Centropogon Lucyanus, and Begonia carnea grandiflora, all of which are grown in quantity. With regard to the plant last named, Mr. DINSMORE says it is one of the best and most useful of winter flowers for decoration, or for anything. Its large succulent foliage is bright green, and it bears fine heads of coral-red flowers.

THE USE OF SULPHUR FOR VINE MILDEW.—We note in the biographical notices of the late M. DUCHARTRE, that the first use of sulphur for the Oidium of the Vine is attributed to that botanist. This may have been the case as regards France, but the first person to employ sulphur for this purpose was an English gardener named KYLE, who communicated the information to the *Gardeners' Chronicle* in 1848, p. 493; see also p. 523 of the same volume. Sulphur had been used previously for mildew on Heaths and other plants, see *Gardeners' Chronicle*, 1846, p. 774; 1847, pp. 272, 779, &c. M. DUCHARTRE probably obtained his information from BERKELEY, and was far too loyal and scrupulous to claim for himself what he owed to others. The history of the use of sulphur for mildew is briefly given in M. PIERRE VIALA'S *Les Maladies de la Vigne*.

PRIMULA SINENSIS, AN IRRITANT.—That P. obconica occasionally produces irritation of the skin is now well known. That the ordinary Chinese Primrose is capable of inducing similar inconvenience is not so well known. Nevertheless, we have before us the details of a case occurring in the family of a medical man in Norfolk, where eczema of the hands and face resulted from handling the Chinese Primrose. There appears to be no doubt as to the identity of the plant. If any reader has had similar experience, he will oblige by communicating with us on the subject.

STOCK-TAKING: DECEMBER, 1894.—The fact that the Revenue Returns for the nine months ending with December showed an increase over those of the corresponding period of last year, amounting to very close upon three millions sterling, finds strange companionship in the fact that trade returns for the closing month of the year are not of a very pleasing nature. There is a decrease in the value of imports represented by the figures £3,678,240—the fall applying to most classes of imports; some quantities show an increase, whilst the value is greatly reduced. Those who read the corn averages in our markets column week by week will be prepared for this, so far as the department devoted to the feeding of the nation is concerned. It is worthy of note, however, that the returns for the year 1894, show an increase in imports more than equivalent to the loss on the month, or £3,817,549; so, perhaps, after all, we ought not to be unthankful. The following figures will be found interesting for after-comparison:—

IMPORTS.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	36,748,720	33,079,480	—3,678,240
(A.) Articles of food and drink—duty free	12,549,337	11,030,361	—1,518,976
(B.) Articles of food and drink, dutiable	2,213,790	2,257,836	+44,046
Raw materials for textile manufactures	8,715,330	7,262,954	—1,452,376
Raw materials for sundry industries and manufactures	3,094,038	2,779,874	—314,164
(A.) Miscellaneous articles	1,824,693	1,157,808	—666,885
(B.)—Parcel Post ...	70,036	48,269	—21,779

Remembering the fine display of fruits and vegetables at market during the month of December, our extract from the tables relating to food supplies, and connected with fruits, roots, and vegetables, have much interest:—

IMPORTS.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	447,530	722,951	+275,421
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	90	50	—40
Pears ... ... ,,	14,075	16,128	+2,053
Grapes ... ... ,,	13,338	1,849	—11,479
Unenumerated ... ,,	32,799	37,170	+4,371
Onions ... ... ,,	412,697	318,297	—94,400
Potatos ... ... cwt.	43,620	163,294	+116,674
Vegetables, raw, unenumerated ... ... value	£ 39,248	£ 55,181	£ +15,933

At the close, as at the beginning of the year, vegetables remain "unenumerated." It will interest many to know that 23 millions of French people are interested in the wine industry of that country, from the vineyard to the bottle; and that of the 100,000,000 gallons of wine produced in Southern and Eastern Russia, a large quantity finds a market in France, where it is used for the purpose of blending. It may be noted here that, according to a correspondent, the rates for the carriage of fruit from Ireland to London, or elsewhere in this country, are prohibitive. This is a matter often mentioned in these columns, but the railway companies do not take the hint.

THE EXPORTS

for the month, it is pleasant to note, show an increase of £231,511; but then the decrease column for the year shows a loss of £1,900,626; the reduction in the value of exports, as compared with last year, is not so great as is the value return to the producer.

AT LAST!—We are delighted to read in the *Kew Bulletin* that the Treasury has at length sanctioned the erection of the southern wing of the Temperate House. The new section is to be devoted to the growth of large economic and succulent plants requiring a warm greenhouse temperature. The centre block (212×137 feet, and 60 feet in height), was completed as long ago as 1862, the two octagons (50 feet diameter) a year earlier. It is rather a long time to wait, but we are too much pleased to be in the mood for grumbling.

THE WILLIAMS' MEMORIAL MEDALS.—At a recent meeting of the WILLIAMS' Memorial Trustees, Dr. MASTERS in the chair, it was decided to offer large silver medals at the following shows, to be held during 1895: Newcastle-on-Tyne, for the most meritorious specimen flowering plant; Richmond, for the best collection of vegetables; Crystal Palace Autumn Fruit Show for the most meritorious collection of fruit; and Trentham for the most meritorious collection of fruit. A sum of two guineas was also voted to the fund being raised for the benefit of the Lindley Library.

GLENNY'S "ILLUSTRATED GARDEN ALMANACK AND FLORIST'S DIRECTORY."—Messrs. WARD, LOCK & BOWDEN send us a copy of the fifty-eighth yearly issue. It contains various articles on practical subjects, lists of novelties offered by the principal seedsmen and others, a calendar of operations, and numerous tables useful for gardeners.

"SHEPPS' PHOTOGRAPHS OF THE WORLD."—This is the title of a volume of reproductions of photographs of "The World as it Exists To-day," and if scarcely meriting the proud title of "The Greatest Book on Earth," is at least valuable as offering a series of excellent views of famous scenes and sights, natural, architectural, and artistic, gathered from all quarters of the globe. Each picture has a few lines of explanatory letterpress attached to it, and the arrangement of the work is undertaken by Messrs. JAMES W. SHEPP and DANIEL B. SHEPP. The volume is to be issued in sixteen weekly parts, each containing sixteen illustrations and the accompanying letterpress. The publication is issued by the Globe Publishing Company of Dearborn Street, Chicago, and Chestnut Street, Philadelphia.

PUBLICATIONS RECEIVED.—*Mitglieder-Verzeichniss des Verbandes der Handelsgärtner Deutschlands.* (Printed by W. BIXENSTEIN, Berlin, S.W., Friedrichstrasse, 240-41)

KEW NOTES.

FURCRŒA SELLOA.—A good example of this handsome Furcrœa is now in flower in the Palm-house. The scape is 20 feet high, 2 inches in diameter at the base, the upper half bearing about twenty horizontal branches, each from 2 to 4 feet long, clothed with flowers and bulbils. The flowers, which are 3 inches across, are star-shaped, the three sepals narrow lanceolate and green, the three petals broader, pale green, margined with white. The stamens are thick and fleshy at the base, and with the stigma they form a disc-like centre half an inch across. The flowers are fragrant. The leaves are a yard long, 6 inches wide, the margins clothed with hooked spines an inch apart, and the apex with a long corky tip. There is a figure of this species in the *Botanical Magazine*, t. 6148. According to Mr. Baker, it is a native of Mexico and Guatemala, was introduced by Warscewicz, and first flowered at Kew in 1877. The plant now in flower is fifteen years old.

BROWNEA CRAWFORDII×.

The tree-like specimen of this grand hybrid Brownea, which stands in the south end of the Palm-house at Kew, is now bearing five magnificent flower-heads, and there are others to follow. The heads are at least 9 inches across, and are a spherical mass of rich scarlet flowers, beside which the largest and brightest-coloured Rhododendron would make a poor show. The history of this Brownea was given in the *Gardeners' Chronicle* in 1891, vol. ix., p. 398. It is as strikingly handsome in foliage as in flower, and altogether is one of the most magnificent stove plants in cultivation, but it requires plenty of room. The Kew plant is 12 feet high and 12 feet through.

PENTAPTERYGIUM SERPENS,

or Vaccinium serpens, as it is sometimes called, is one of the handsomest of the Vacciniaceæ which have been introduced from the Himalayas. There is a good example of it in the Cape-house at Kew, which flowers every year about this time. It was brought to Kew by Mr. Elwes from the Himalayas in 1881, and it has always stood in its present position, except for a few weeks in autumn, when it is placed outside for its growth to ripen. From a hard-woody rootstock, as large as a man's head, there spring long arching branches, 6 feet long, clothed for nearly their whole length with bright green Myrtle-like leaves. The flowers, which are

axillary, are developed freely all along the branches down to the very base; they are pendent, tubular, an inch long, and coloured bright red, with transverse V-shaped marks. They last six or eight weeks. Cuttings of the branches will root, but it takes a long time to grow a plant of any size from them. Such a specimen as that now flowering at Kew is probably thirty years old. I believe Mr. Elwes found it growing epiphytically along with Cœlogynes, &c.

GREVIA SUTHERLANDI

is flowering better this year than it has done in recent years, the big specimen in the cool end of the Succulent-house bearing a good number of racemes of bright scarlet flowers, which in form are suggestive of some of the Megaseas. This is the identical plant which the late curator of the Chelsea Botanic Gardens, Mr. Thomas Moore, was the proud possessor of for many years, and he was the first in Europe to flower the species in the spring of 1873, which he accomplished by what is known as starvation treatment. At Kew it is kept dry all the winter, and is well watered and fed during the growing season, which immediately follows the flowering period. It stands in an unshaded house, and gets plenty of fresh air at all times. A native of Natal, it forms a small tree at elevations of 2000 to 6000 feet. It ought to thrive out-of-doors in Cornwall.

EAST AFRICAN VANILLA.

A NEW field of Vanilla cultivation in German East Africa is reported in the *Chemist and Druggis*, as follows: "The first sample consignment of Vanilla cultivated in German East Africa (Kitopeni plantation), has recently been received at Hamburg, and was very favourably commented upon, both in regard to natural quality and to preparation. The pods, it is true, are not equal to the best Mauritius Vanilla, but the shipment was of thoroughly marketable quality, the pods being from 6½ to 10 inches in length, and well crystallised. The great drought of the last season has been very injurious to the development of the fruit, but shade trees have now been planted, and irrigation works started, and it is expected that next year the output will be much in excess of the present. The present season's crop, however, which amounts to about 10,000 pods, is expected to cover the cost of production.

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS AND VILLA GARDENS. (*Continued from vol. xvi., p.* 786).—*Doronicums.*—These plants form what may be called a connecting link between the spring and summer flowers, for they are in full bloom before the spring flowers begin to fade, and continue for a long time after those have finished flowering. We have several varieties; some are rather weedy in their appearance, but D. Clusii, D. plantagineum excelsum, and D. Harpur Crewe, may be considered the best. The stems rise about 2 feet high, on which are borne five or six bright yellow flowers, about 3 or 4 inches in diameter. The plants begin to bloom in March, and if the soil is kept moist at the root, they will go on blooming into the month of June. We have no early-blooming plant equal to it for cutting purposes. From one strong plant hundreds of flowers can be cut, and as these are produced on long stems, they form magnificent filling for tall vases. Doronicums increase fast, and if left to themselves, they soon encroach on their neighbours in the herbaceous border. Propagation is by division, and every bit of root with a crown will form a plant. I strongly recommend the Doronicums to villa gardeners as being plants worthy of extensive cultivation; making, as they do, fine ornaments for the garden, besides being useful when cut.

Pyrethrums.—This is a genus of plants not generally known in small gardens, yet it is destined to be one of the most useful tribe of plants in cultivation. The plants are furnished with beautiful Fern-like foliage, and the flower-stems rise about 2 feet from the ground. The flowers might be taken for some of our best German Asters, or even Chrysanthemums, and they are useful for cutting for filling glasses and vases, and for making up into bouquets. The plants are quite hardy; they will grow in any soil in which ordinary plants will flourish, and they may remain for a number of years without being disturbed. When they have done blooming, the flower-stems should be cut away, and when the plants have rested awhile, they will throw up a fresh set of flowers in the autumn. Propagation is effected by division of the root at any time during late winter or early spring, or by seed. When the latter is resorted to, it should be obtained from a good source, and sown in such a position that it can have the advantage of a little artificial heat to start it into growth. The seeds germinate with great freedom, and the plants, if encouraged in their growth, will bloom the same season, but it must be understood that a large percentage of the flowers of seedlings come single. Nevertheless, these single flowers are useful as garden ornaments, yet the fine double blooms are more appreciated. No class of plants has been more improved by our enterprising nurserymen and florists than Pyrethrums, and we are greatly indebted to such men as the late John Salter, Mr. Ware of Tottenham, and others, who have done so much to improve our hardy border flowers. Anyone wishing to start a collection of Pyrethrums should get a few good sorts from the nursery, at prices varying from 6*s.* to 10*s.* 6*d.* per dozen. In every flower garden of any pretensions there ought to be at least a dozen varieties.

Aquilegias.—These are most interesting plants, generally known as the Columbines. We have in this genus some of the most beautiful flowers that adorn our herbaceous borders. There are several established varieties of great merit, such, for instance, as chrysantha, with beautiful yellow flowers and long spurs; californica, flowers scarlet and green, a grand plant for the mixed border; glandulosa, one of the most charming of all the Aquilegias—the flowers are large, of a rich, deep blue, the corolla pure white. The easy culture of the plants should recommend them to all lovers of flowers. A ready and inexpensive method of raising a stock of these gorgeous plants is to buy a packet of good seed in the spring; sow either on a gentle hotbed or in pans in the frame or greenhouse, and as soon as the seedlings are large enough plant them in nursery beds, where they will gain strength prior to being planted on the mixed border. If the young plants are pushed forward in the early spring, some few will bloom a little the same autumn, but they will all bloom the following season with great freedom. The amateur or villa gardener must be careful to have his seed from a good source, otherwise he will have a batch of seedlings very little better than the wildings we knew forty years ago, and he must see that the slugs do not devour the seedlings whilst small.

The Crown Imperial (*Fritillaria imperialis*).—The Crown Imperial, which is a native of Persia, is a most attractive and showy plant, and an exceedingly interesting ornament for the herbaceous border. It blooms during April and May, and at that time is the most attractive plant in the flower garden. It succeeds in ordinary garden-soil, and will go on improving for years if not disturbed. The stout stems rise to a height of 3 feet, and with good culture to 4 feet. The lower portion is clothed with leaves, while the upper part is naked, and bears on the top a cluster of drooping bells, surmounted by a crown of leaves. The Crown Imperial is a bulb; the foliage dies down in a short time after the flowers are over, and the time to lay in a stock of these noble plants is between the end of May and the beginning of August. Unquestionably the Crown Imperial is the most stately of all our hardy bulbs, and let the seasons be what they may, it never fails to cheer us with its presence, and please us with its exquisite beauty. There are several varieties of this fine bulb, but the two that I would recommend are aurora, a fine yellow; and rubra, a showy red.

Fritillaria Meleagris (*the Snake's-head Fritillaria*).—This singular-looking plant is a native of Britain, though not so much found in gardens as its curious beauty deserves. It is a slender and graceful plant, and when growing in clumps on sunny banks, the flowers are exceedingly pretty and attractive. A few bulbs should be bought; plant them on a sunny border, and leave them undisturbed; each returning year, at the appointed time, the slender foliage will push through the soil, and in due time the singular flowers will appear. The plant grows about one foot high, the stems are clothed with lance-shaped leaves, and one large bell-shaped flower appears on the summit of each stem. The flowers appear about the end of March, or early in April, and will last six or eight weeks. The flowers of F. Meleagris have curious chequered markings, while those of Meleagris alba are quite plain. For cutting purposes they are exceedingly handsome and graceful; two or three flowers to a small vase are quite ample. They may be grown also in pots; in an ordinary greenhouse they will begin to bloom by the end of February, or early in March. Five or six bulbs in a 6-inch pot would be quite sufficient, and there are but few plants that would be more ornamental for the dinner-table. *R.*

(To be continued.)

CONTINENTAL NOVELTIES.

AN EARLY SINGLE-FLOWERED ANNUAL WALLFLOWER.

WALLFLOWERS were known hitherto as biennials only which, sown in June, developed their blooms in the spring of the following year. Every gardener will, therefore, welcome this novelty (fig. 8, p. 49), which, if sown early in March, in a frame, will begin flowering in June, and continue till late in the autumn.

The flower is of pretty light-brown colour, very agreeably scented, and equally well adapted for pot-culture as for market purposes, and for the garden. Our note is taken from Mr. Chas. Lorenz's list of novelties for 1895.

HOME CORRESPONDENCE.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The rule governing the committee in selection of candidates is Rule 3, section 2, which describes three classes of pensioners. 1. Head gardeners or their foremen. 2. Market gardeners of not less than 5 acres, for twenty years. Evidently meaning growers of outdoor produce. 3. Nurserymen, &c., regularly engaged in business twenty years. Evidently meaning growers under glass as distinct from No. 2. Mr. Denning, on p. 18, ignores this last clause, under which the committee judged Mr. Banister's case, and allowed him to go to the poll at the last election, as being a nurseryman of over twenty years' standing. Since the election, not being satisfied, he reopened the case; upon which a sub-committee was granted, to personally investigate the claims and eligibility of the candidate. This sub-committee went carefully into the matter, and reported that Mr. Banister's case fulfilled all the rules of the Institution, and was therefore most decidedly eligible. When the report was given in, I reminded the committee that, having once accepted a candidate and permitted him to go to the poll, they ought not to have allowed the question to be reopened, but if it was proved that he had gained his election by misrepresentation, they could at once remove him under Rule 3, section 12, the force of which (Mr. Denning included) all saw. I am surprised Mr. Denning should think it honest to mislead your readers by withholding from them the very clause in the rule under which Mr. Banister was approved. We must not lose sight of the fact that the Institution was founded, not only for the relief of gardeners, but also for the relief of those who, for a fixed number of years in business have, by their energy and capital, given employment to gardeners.—*J. Webber, A Member of the Committee.*

—— I think most of your readers will agree with me that Mr. Cannell's attack on Mr. Veitch in your issue of January 5 is both uncalled for and unjust. Many connected with the horticultural trade have done much good work for the Gardeners' Benevolent Institution, but I feel sure they would at once acknowledge that Mr. Harry Veitch stands first in the time he has devoted to the Society, the money he has given, and last—but far from least—the success which has attended his efforts to interest the wealthy patrons of horticulture in this good work. Surely if this be so, it can give no reasonable ground of complaint to any just-minded person that he should take a proportionate share in advancing the cause of those he considers deserving of the benefits of the Institution. The firm of Veitch & Sons pre-

bably come into contact with as many gardeners as any two other horticultural firms in England, and, therefore, know of a proportionate number of cases requiring help. Why should the head of the firm be debarred from assisting them, when he does so much to provide the funds which make that help possible? I have no doubt that when Mr. Cannell gives as much time and money to the Society, he will have the same influence in the elections as Mr. Veitch. No one can respect the energy and ability that have enabled Mr. Cannell to reach his present position more than I do; but I think he has taken a false step in this matter, and hope he also will feel so on further consideration. *Henry J. Pearson.*

—— I have read Mr. Cannell's letters in your issues of December 22 and 5th inst., and can only say, with Mr. Veitch, why not speak out the real grievance, for I can see nothing to object to in anything he has accused Mr. Veitch or any member of the committee of doing. He evidently does not intend to praise our efforts, and the interest each member of the committee takes in the welfare of the pensioners, but why find fault with us for doing so? I am unfortunately one of the five committeemen who signed the application form of one applicant, and while sorry for the occasion, I was pleased to use my influence for a most worthy case, especially as the applicant had known me from a child. Mr. Cannell appears to be under the impression that members of the committee are to be debarred the privileges of an ordinary subscriber. Let me state clearly, on behalf of every member of that committee I have ever worked with, that they are subscribers first and committeemen afterwards, and if Mr. Cannell would take more interest in these societies, he would not only use all his influence in cases which come under his notice, but he would seek to extend that influence by becoming possessed of as many votes as possible, in the only legitimate way, open to committeemen and ordinary subscribers alike—that of adding to the funds of the Institution. While I do not intend to discuss the merits of the mode of election, it is absolutely fair for all, while a guinea gives as many votes to each subscriber, whether on the committee or not, and no applicant can accuse the committee of refusing to put his name on list of applicants, if eligible, according to existing rules, the election remains entirely with the subscribers. If the fact of one subscriber asking another in any way for votes for a case he personally knows is a good one, is to be condemned, I shall often transgress. I am compelled to think either that Mr. Cannell has some motive for attacking Mr. Veitch and other members of the committee, or that he is the cat's-paw of some one else who wishes to keep in the background, as I can see nothing in his letters so far to warrant his trouble in writing. As regards the Orphan Fund, I have always thought it most economically and successfully managed, and I think that Mr. Cannell as a nurseryman should feel, as I am sure most of them do, proud that the leading member of their trade should devote so much of his valuable time and business-tact, as well as money, to these necessary and admirable institutions; and I hope every reader will be affected in the same way that I have been in reading Mr. Cannell's letter—that is, to think more highly, not only of the institutions, but of their management, and be on their mettle to do all that lies in their power for both the young and the old, not by criticism, but by sympathy. We want less of the Pharisee, and more of the Good Samaritan. *Geo. Monro.* [We can insert no more communications on this subject. Ed.]

SEED ORDERING. — Our enterprising seedsmen are just now sending round their new seed lists with great freedom, and the reminder is far more seasonable than the present weather and outside prospects would lead one to suppose. It is necessary to look over the surplus of last year and try the germinating power of each. As we do not want blanks, or indifferent crops, the little trouble of testing our seeds should not be grudged. It is just the same with this season's purchase, and why we should so often delay doing so is most puzzling, and also annoying to the seedsman. When better weather comes, we order, and expect the promptest attention; many others do the same, and the consequence is a heavy rush, with the result that some must be delayed. All of the seeds are to hand, and there is absolutely no valid reason why orders should not be posted off at once. Unless we have the seeds to hand, it often happens that the most favourable moment of weather and condition of soil is lost. Last year was not a favourable one for the harvesting of many kinds of seeds, and it will be a matter of prudence to test a given number of each lot in gentle heat as soon as convenient. Unless we are careful to note how many seeds are used, it is difficult to estimate their average germinating power. With this fact known, we can be far more certain of a full crop; nor should we be sowing some much thicker than was at all necessary. *A. P.*

SEED CATALOGUES.—The seed catalogue season being once more upon us, I may be permitted to make a suggestion anent the matter. Few gardeners are in a position to make practical use of a tithe of those lists that they receive every year, and for a number of years I have passed many of them on to friends and acquaintances round about. The illustrations and general "get-up" of many catalogues are nowadays so good, that it seems a pity to consign them to the waste-paper-basket; and what I wish to suggest is, that parcels should be made up two or three times during the season, and sent to the nearest village school, as I hear that some schoolmasters are glad to have them to distribute amongst the older scholars. Those business-houses who are looking forward to a prolonged existence will scarcely quarrel with my suggestion, seeing that in a few years some at least amongst the recipients at school will be seed-buyers, either directly or indirectly. *H. J. C., Grimston, Tadcaster.*

Fig. 8.—An early single-flowered annual wallflower. (See p. 48.)

THE NONPAREIL DAFFODIL.—There are some inaccuracies in the references given by Mr. Brockbank in his "History of the Daffodil Sir Watkin" (*Gardeners' Chronicle*, December 29, 1894, pp. 773, 774), which I may perhaps be permitted to correct, though there are others which I am unable to verify. Mr. Brockbank cites Hale's *Eden* of 1737 (probably a misprint for 1757), and the same work of the date 1756, also Hill's *Garden of Eden*, of 1773. He further traces the Nonpareil Daffodil back to Johnson's edition of Gerarde's *Herbal* (1636), p. 135, where there is a reduced figure of this plant, or rather of a portion of a plant. Dealing with the last first, I am able to give a reference to a somewhat earlier and more complete English figure and account of this Daffodil. Parkinson, in his *Paradisi in sole Paradisus Terrestris* (1629), p. 71, gives a full-size figure of a flower of the "Narcissus Nompareille," which he describes (p. 68) under the heading, "Narcissus latifolius omnium maximus, amplo calice flavo, sive Nonpareille," which he Englishes, "The great None-such Daffodil, or Incomparable Daffodil." After some remarks on the confusion arising from imperfections in classification, Parkinson proceeds to give his own ideas on the subject, which, however, are not all too clear; but he begins with what he terms the Broad-leaved Daffodils. He says:—"To begin, therefore, I think fittest with that stately Daffodil, which for his excellencie carrieth the name of None-such." Of this he defines four varieties, including the one already named, and "The Great Yellow Incomparable," "The Gray Peerlesse," and the "Lady Mattenesses Daffodil." He adds that "the places of none of these are certainly known to us where they grow naturally, but we have them only in our gardens, and have been sent and procured from divers places." With regard to Mr. Brockbank's references to Hale and Hill, it is not surprising that mistakes should occur, even when one has access to some of Hill's very numerous and variously-titled publications, because none of the bibliographers I have been able to consult give a complete list of them, and no two agree in describing the works in which the names Hale and Hill are associated. I am collecting materials myself to elucidate the matter. It is almost certain, however, that Hale's *Eden* and Hill's *Eden or a Compleat Body of Gardening*, are one and the same book. I find no other reference besides Mr. Brockbank's to Hill's *Garden of Eden* of 1773, and the pages Mr. Brockbank cites point to the views of Hale and Hill being the same. So far as my researches go, there was only one edition of Hill's *Eden*, and this is dated 1757. On the title-page it is stated to have been "compiled and digested from the papers of the late celebrated Mr. Hale;" possibly a mythical personage, or something more would have been said about him in the preface. The dedication to the Earl of Bute is signed "J. Hill." Sir John Hill was one of the most voluminous writers of any period; and although possessed of great abilities he was undoubtedly careless and unscrupulous. His *Eden* has the reputation of being largely pirated, and this is probably the case, but I have not made critical comparisons. The fact that only one-third of the sixty plates are signed supports this allegation. Most of those signed were drawn and engraved by Hill himself. A plate of six varieties of Tulips, painted by Van Huysum, is perhaps the finest in the collection. This work is a folio of upwards of 700 pages. The only publication attributed to Hill that might be confounded with the foregoing is an octavo of four volumes entitled, "*Complete Body of Husbandry:* compiled from the original papers of the late Thomas Hale, Esq., enlarged by many communications from the collections of Col. Stephenson, M. Randolph, M. Hawkins, M. Storey, M. Osborne, M. Turner, &c.," the second edition of which, according to Haller (*Bibliotheca Botanica* ii., p. 361), was published in London in 1758. I cannot carry this any further at present. The only "Complete Body of Husbandry" I find in Johnson's *History of English Gardening*, is an octavo of 1727, ascribed to Richard Bradley. *W. Botting Hemsley.* [Our copy has a double title-page. The first runs: *A Compleat Body of Husbandry*, . . . compiled from the original papers of the late Thomas Hale, Esq., London, 1756. The preface is signed John Hill, . . . 1757. The second title-page runs thus: *Eden, or a Compleat Body of Gardening*, . . . compiled and digested from the papers of the late celebrated Mr. Hale by the authors of *The Compleat Body of Husbandry* 1757. The figure of the Daffodil is in number xli., for the last week in June, p. 481. Ed.]

EFFECT OF SEVERE FROST ON VARIOUS ORCHIDS.—I have for several months had it in my mind to send you a note on the effects of exposing certain cool Orchids to frost. Until last summer I grew a small number of these plants in a cool pit, having only means of heating by a 2 inch pipe round it, which, with the help of mats, excluded even the severest frosts of the last two or three winters, the temperature frequently falling to 35° Fahr. One night in January of last year a sudden frost came on without any premonitory signs, the thermometer outside falling 20° below the freezing-point. Expecting only a slight frost, I only partially turned on the heat on the previous evening, with the result that in the morning the plants were frozen, the potting material being in most cases quite hard, and the leaves flaccid. The latter rapidly turned black, but the full extent of the mischief only showed itself by the gradual decay of the pseudobulbs, which went on for two or three months. In all cases I believe the young sappy pseudobulbs in process of growth perished; but the old pseudobulbs were also killed in Odontoglossum cirrhosum, of which three plants were killed outright. One plant also of O. Sanderianum was killed, but a second, which was sadly punished, has sprouted again, and is going on well. O. crispum had all its young pseudobulbs destroyed, and many of the older leaves; but in every case back-growths have started, and the only loss incurred appears to be one year's flowering, as in no case have the young growths produced flower-spikes. The

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same applies to O. nebulosum, O. Pescatorei, and O. maculatum. Semi-established plants of O. Halli and O. Edwardi appeared to escape injury even to their leaves, as did freshly-imported pieces of O. luteo-purpureum and Mesospinidium vulcanicum; but in neither case had growth commenced. The only Masdevallias I had were M. Harryana and M. Shuttleworthii, which looked none the worse, the leaves not even being singed; but, curiously, all plants flowered most sparingly in their season instead of profusely, as had been their habit. Perhaps these results of an unfortunate experiment, not likely to be willingly repeated, may be of some interest. *L. C., Rugby.*

THE MILDNESS OF THE SEASON.—The following is a list of plants which were in flower here in the open air on Christmas Day last, and it well shows the abnormal mildness of the last two months of the year. We have had no frost worth mentioning since October 22, when the minimum thermometer registered 23°, and the minimum on the grass was 19°. Vegetation was, therefore, unusually active, especially in the case of those plants which are natives of warmer climes than our own; and the most notable instance of this sort is the Tree Pæony, which had young shoots upwards of 3 inches in length. Thrushes and blackbirds were heard to sing at Belvoir during Christmas week.

Aconite (Eranthis hyemalis)
Andromeda floribunda
Anemone blanda
„ hortensis
Antirrhinum majus
Arabis albida
Aubrietia græca
Berberis Bealeii
Borago officinalis
Carnation, white seedling
Chimonanthus fragrans
Chrysanthemum (nine varieties)
Daisy, single and double (four varieties)
Eccremocarpus scaber
Escallonia macrantha
Furze, common single
Helleborus niger
„ hybrid varieties
Iberis gibraltarica hybrida
Jasminum nudiflorum
Lamium maculatum album
„ „ rubrum
Laurustinus
Lunaria biennis (Honesty)
Magnolia grandiflora (not expanded)
Marigold, common
Meconopsis cambrica
Morina longifolia
Myosotis dissitiflora
Othonna cheirifolia
Polyanthus, in variety
Polygala chamæbuxus
Primrose, common wild
„ double lilac
Rhododendron (several varieties)
Roses, China in quantity, H.P., and Teas
Saxifraga ligulata
Scabious
Snowdrop
Stock
Tussilago fragrans
Violet, common Russian
„ double, Lady Hume Campbell
Vinca minor
Wallflower, Belvoir Castle Yellow
„ Miss Hopes, double

W. H. Livers, Belvoir Castle Gardens, Grantham.

GAS-HEATED BOILERS FOR GREENHOUSES.—On p. 20 of your last issue, I am made to say that my experience with automatic temperature regulators is not long. This should read, "as long as it is unsatisfactory." I have used these daily for over twenty years, and have never yet found one which could be depended on without constant watching and liability to require skilled re-adjustment. They are useful only in a chemical or physical laboratory, and the hands of experts who are thoroughly accustomed to their use and management. *Thos. Fletcher, Grappenhall, Cheshire.*

THE DIVINING ROD.—Certain surprising facts concerning the divining-rod and spirit-rapping have been accepted as true, and their causes explained by philosophers for more than two centuries, but those whose minds have not been trained to observe natural laws, and to distinguish—

"quid possit oriri,
Quid nequeat"—

still attribute to supernatural agency events of which they cannot understand the explanation. Those who wish to study the divining-rod and its near relations, table-turning and spirit-rapping, will find them exhaustively discussed by M. Chevreul in a truly philosophical treatise of 250 pages, called *La Baguette Divinatoire et des Tables Tournantes*, published in Paris in 1854. A more concise explanation of the same phenomena is given under the heading "Ideo-motor Action" in Carpenter's *Mental Physiology*, a volume which has gone through several editions. The fact that the English public, at the end of this century of enlightenment is not yet emancipated from belief in such superstitions is a strong proof of the truth of the maxim "Populus vult decipi." *C. Wolley Dod, Edge Hall, Malpas.*

PINUS TUBERCULATA AND CEDRUS LIBANI.—During the storm here on the 22nd ult., the largest tree of this Pinus was blown over. It was 66 feet in height, and girthed over 7 feet at the base. This tree was planted in the year 1855, the wood is whitish and seems brittle, but very resinous. At the same time a fine Cedar of Lebanon in one of the woods succumbed. I find where it is cut off at the base the diameter is 3 feet 4 inches, a fine piece of timber nearly 3 feet in diameter at 20 feet up. By counting the annual rings I find the tree is nearly ninety years old, and although we have no record of the time of planting, it agrees with the date this and and many other Cedars are supposed to have been planted. *C. Herrin, Dropmore.*

FIG. 9.—STEPHANOTIS FLORIBUNDA.

THE STEPHANOTIS: ITS CULTURE.*

AFTER alluding to the nature of the plant and the use made of it in gardens, Mr. Torevel proceeded to speak of its cultivation:—

Propagation of the Stephanotis can be effected either by seed, layers, or by cuttings. Cuttings are most generally used. They should be taken from the previous year's growth, about March. If possible, short-jointed growths that have not a prominent leader, should be chosen, say with about three or four joints, getting a heel with them. They should be inserted singly in 60-sized pots, previously well drained, and filled with a compost of good sandy soil. Water well, and plunge in a bottom-heat of from 75° to 80°.

Seeds, when ripe, may be sown in the ordinary way. When the seedlings have germinated and are large enough to handle, prick them off or put into pots, and treat them as for cuttings. It is often said that there is a great advantage in this mode of increase; but it is rather the reverse, there being often a great difficulty in getting the seedling plants to flower.

Layering.—These should be half severed at a joint and treated like ordinary layers, i.e., insert the half-severed joint in a pot or box, or in the border, with bottom-heat, using the compost previously mentioned. All being well, it will be rooted in three weeks, after which the layer may be severed from the plant and potted as required. By this method, a specimen will be obtained much more quickly than from a cutting. Stand the young plants on the plunging material, and apply the syringe freely around them

* Extracts from a paper read on December 13 by Mr. Torevel, gardener to Mrs. Scarfe, King's Heath House, Birmingham, before the South Birmingham Gardeners' Improvement Association.

Do not in any case overpot, it being detrimental to the health of the plant. Above all, see that the drainage is both free and ample; for although a great lover of water, both overhead and at the root, it is extremely sensitive to stagnation or sourness. Pot moderately firmly, otherwise the ball will get very loose during the resting period, rendering an annual repotting necessary. This should not really be required, top-dressing being sufficient for two years.

Compost.—This should consist of good fibry loam with a little peat, broken charcoal, bones (nuts), and silver-sand; at the same time some old lime rubble should be sprinkled over the crocks, not forgetting a little soot as a stimulant and a preventive of the invasion of worms.

Stimulants.—As the pots get filled with roots and the top-dressing gets exhausted, these should be applied, to keep up the vigour and health of the plant. Farm-yard manure, Thomson's, Clay's, sulphate of ammonia, and others, used with care, are each and all beneficial to the plants. I prefer to change them at intervals, a dose of weak lime-water now and again being afforded.

Heat, Light, and Moisture.—In the growing season they thrive in a stove with a temperature of 70° to 80° by day and 65° to 70° by night; and, as previously stated, they should have the full benefit of sunlight, shading only to prevent scorching. The syringe should be applied thoroughly, firstly to benefit the plants, and secondly as a preventative of insect pests.

Training.—The shoots should be taken along parallel wires or string, the latter being preferred, as it is the more readily taken down if the plants are wanted for exhibition in the form of a globe, balloon or half-spherical specimen; it is also much easier for cleaning purposes. The string should be rubbed over with bees'-wax, or something similar, to prevent it from giving harbour to mealy-bug or other insects. The strings or wires should be fixed 6 or 8 inches from the glass, and at a similar distance apart, if space allows. It is not advisable to have more than three or four growths on one string; for if more be used, the chances of ripening the growths are lessened, and fewer flowers are produced. For obtaining quantities of flowers, I would advise planting in a brick pit, about 18 inches square, to keep the roots within bounds, the same treatment being required as for pot-plants. With the foregoing treatment, flowers can be obtained from February onwards to June and July; if a few plants can be accommodated, the flowering season can be still further extended by delaying the pruning.

Resting.—This is one of the primary matters necessary to flower the Stephanotis satisfactorily. Heat, light, and moisture are each requisite for development of the wood. Resting is necessary to stop the growth and consolidate the wood. I would advise keeping the plants on the dry side in a temperature ranging from 50° to 55° at night, not lower, at the same time not subjecting them to cold draughts, or neglecting them till the time comes round to take them in hand again. It is this neglect that is at the bottom of a number of failures.

Pruning.—Some growers go so far as to prune as they would do in spurring Vines; others simply cut out old and exhausted shoots, laying in a few of the leading ones; while yet a few advocate pinching. If pruning is necessary, it should be done shortly after flowering, or previous to starting the plant into growth; do not be too eager to prune, or bleeding may be injurious. Before using the knife, consider the main purposes of the operation, such as the concentration of strength, the improvement of form, the production of flowers, and the promotion of cleanliness.

Insects.—The chief pest, though not the only one, is mealy-bug; this need not become very troublesome, if taken in hand systematically. If cleaning be necessary, see that it is done thoroughly, using a mixture of soft-soap and hot-water. This done, follow up with heavy and regular syringing. If the amount of money spent in insecticides were expended in extra labour, it would pay much better, if only the plants were sponged with clear water oftener. That is for mealy-bug. I have used some of the most popular insecticides strong enough to kill the young shoots, and to my surprise in a few weeks' time the pest has appeared on the surface of the plants once more.

SOCIETY.

DEVON AND EXETER GARDENERS' ASSOCIATION.

January 4.—This vigorous Association, now in the fourth year of its existence, has two enjoyable breaks during the twelve months—one in the summer, when the members pay a round of visits to notable gardens in the neighbourhood; and the other the annual supper. The supper took place at the Castle Hotel, Exeter, on Friday evening, and was one of the pleasantest the Association has held. Mr. T. E. Bartlett (Hon. Co.-Secretary) was in the chair. There were about forty persons present, a thoroughly representative gathering—including professional, market and jobbing gardeners, nurserymen, florists, seedsmen, and fruiterers. General regret was expressed at the absence of Mr. Hope, through indisposition, this being the first time he has been absent from any important function of the society since the first meeting was convened.

Obituary.

Mr. David Lumsden.—We regret to announce the sudden death of Mr. David Lumsden, the head-gardener for upwards of forty years at Bloxholm Hall, at the age of sixty-six years, where he has enjoyed the confidence and esteem of his employers. Mr. Lumsden was an excellent gardener, of unassuming manners, straightforward and honest in all his dealings. He was, a few years ago, a pretty regular exhibitor at horticultural shows in all parts of the country.

MARKETS.

COVENT GARDEN, January 10.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	4 0	12 0
Aspidistra, per doz.	12 0	30 0	— various, doz.	5 0	12 0
— specimen, each	5 0	15 0	Ficus elastica, each	1 0	7 6
Chrysanthemums, per dozen ...	6 0	15 0	— small, per 100	4 0	6 0
Cyperus, per dozen	4 0	10 0	Foliage plants, doz.	9 0	24 0
Dracæna, each ...	1 0	5 0	Marguerites, p. doz.	6 0	12 0
Erica hyemalis, doz.	12 0	18 0	Mignonette, p. doz.	0 0	6 0
— various, doz.	9 0	12 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	— specimens, ea.	10 6	84 0
			Primulas, per dozen	4 0	6 0
			Solanums, per dozen	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	6 0	8 0	Mimosa (French), per bunch ...	0 9	1 0
Azaleas, doz. sprays	0 6	1 3	Orchids:—		
Bouvardias, p. bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 0	2 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Chrysanthemums, per 12 blooms ...	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
— per 12 bunches	4 0	8 0	Roses, Tea, per doz.	1 0	2 0
Eucharis, per dozen	3 0	4 0	— coloured, p. dz.	2 0	4 0
Gardenias, per doz.	3 0	4 0	— yellow (Maréchals), per dozen	6 0	9 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0	— red, per dozen	1 0	1 6
— 12 sprays ...	0 6	0 9	— (French), red, per dozen... ...	1 6	2 6
Hyacinths (Roman), doz. sprays ...	0 10	1 0	— (French), yellow, per dozen ...	1 0	2 0
Lapageria, 12 blms.	1 0	2 0	Stephanotis, dozen sprays	4 0	6 0
Lilac (French), per bunch	5 0	6 0	Tuberoses, 12 blms.	0 4	0 6
Lilies of the Valley, doz. sprays ...	1 6	3 0	Violets, Parma (French), p. bch.	3 6	4 6
Lilium Harrisii, per dozen	4 0	8 0	— Czar (French), per bunch ...	1 9	2 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0	— doz. bunches	1 0	1 6
Marguerites, 12 bun.	1 0	3 0	— (English), per dozen bunches ...	1 6	2 0
Mignonette, 12 bun.	2 0	4 0			

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, p. sieve	3 0	4 0	Grapes, Muscat, per lb.	2 6	4 0
— Dessert, ½-sieve	2 6	3 0	— Muscat, 2nd quality, per lb.	0 9	1 0
Grapes, 1st quality, black, English, lb.	1 0	2 0	Cobs, per 100 lb. ...	25 0	27 6
— English, 2nd quality, per lb.	0 6	1 0	Pine-apples, St. Michael, each ...	3 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, per lb. ...	1 0	1 6	Potatos, Channel Islands, per lb. ...	0 6	0 7
Cauliflowers, per dozen	1 0	1 6	Onions, per bush. ...	1 6	2 0
Cucumbers, per doz.	6 0	8 0	Seakale, p. punnet...	1 3	1 6
Mushrooms, per lb.	...	0 6	Tomatos, per lb. ...	0 3	0 6

Potatos.

On account of the severe weather the arrivals are very light, and prices for medium-class are 5s. to 7s. 6d. dearer; also Black-lands, which are a very free trade. Best samples remain about the same. *J. B. Thomas.*

SEEDS.

London: *January* 9.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report an improving and widening demand for farm-seeds. American Red Clover seed keeps firm. Yearling English Cow-grass is scarce, and much wanted. No change in Trefoils. The remarkable cheapness of Alsyke is proving attractive; prices for same are now half those asked for White Clover seed. Perennial and Italian Ryegrasses keep slow. There is rather more doing in Tares. Canary, Hemp, and Millet are steady. The wintry weather tends to harden values for Peas and Haricots. Mustard and Rapeseed continue exceedingly cheap. Some fine new Scarlet Runner Beans, just to hand, offer on most reasonable terms.

FRUITS AND VEGETABLES.

Borough: *January* 8.—Quotations:—Cabbages, 2s. 6d. to 3s. 6d.; Savoys, 2s. 6d. to 3s. 6d. per tally; Cauliflowers, 1s. 6d. to 2s. 6d. per dozen; Sprouts, 1s. 1d. to 1s. 3d. per half-sieve; Greens, 1s. 6d. to 2s. 6d.; Turnips, 2s. to 2s. 3d.; Carrots, 2s. per dozen bunches; Parsnips, 10d. per score, and 2s. per bag; Horseradish, 1s. to 1s. 2d. per bundle; Celery, 8s. to 10s. per dozen bundles; Onions, English, 2s. 6d. to 3s. 6d. per cwt.; do., foreign, 1s. 9d. to 2s. 3d. per bag; Apples, English, 3s. to 9s. per bushel; do., Canadian, 12s. to 18s.; and other sorts, 8s. to 14s. per barrel.

Stratford: *January* 8.—This market has been well supplied with all kinds of produce during the past week, and there being a large attendance of buyers, a brisk trade was done at the undermentioned prices:—Savoys, 2s. 6d. to 3s. per tally; Greens, 1s. to 1s. 6d. per dozen; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; ditto, 7s. 6d. to 8s. per tally; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; Turnips, 2s. 6d. to 3s. per dozen bunches; do., 40s. to 50s. per ton; Carrots, household, 24s. to 32s. per ton; do., cattle-feeding, 18s. to 26s. per ton; Parsnips, 45s. to 50s. per ton; Mangels, 14s. to 17s. per ton; Swedes, 11s. to 17s. per ton; Onions, English, 60s. to 70s. per ton; do., Dutch, 50s. to 60s. per ton; do., Oporto, 5s. 6d. to 6s. 6d. per case; Apples, English, 2s. 6d. to 4s. per bushel; do., American, 11s. to 13s. per barrel.

Farringdon: *January* 10.—Quotations:—Savoys, 3s. to 4s. per tally; Bunch Greens, 1s. 3d. to 1s. 6d. per dozen; Sprouts, 1s. to 1s. 3d. per sieve, 1s. 9d. to 2s. per bushel; Spinach, 1s. 6d. to 2s. per bushel; Curly Kale, 1s. to 1s. 3d. per bushel; Broccoli, 9d. to 1s. per bushel; Onions, English, 3s. to 4s. 6d. per cwt.; Apples, 3s. to 4s. 6d. per bushel; Celery, 9s. to 14s. per dozen; Artichokes, 5s. per cwt.; Seakale, 15s. per dozen punnets; Rhubarb, 1s. 6d. per dozen; Grapes, English, 1s. 2d. to 1s. 4d. per lb.; do., Spanish, 13s. to 15s. per barrel; Pears, Californian, 6s. to 15s. per case; Tomatos, trays, 10d.; Chestnuts, 14s. per 50-kilo. bags.

POTATOS.

Borough: *January* 8.—Quotations ranged from 60s. to 110s. per ton.

Stratford: *January* 8.—Quotations:—Dark-land, 65s. to 70s.; Light-land, 75s. to 90s. per ton.

Farringdon: *January* 10.—Quotations:—Fidler's Colossal 80s. to 90s.; Reading Giants, 75s. to 90s.; Bruces, 70s. to 85s. Main Crop Kidneys, 80s. to 100s.; Magnums, 70s. to 80s. Imperators, 75s. to 90s. per ton.

London Averages: *January* 9.—Main Crop, 90s. to 110s.; Snowdrops, 80s. to 100s.; Sutton's Abundance, 80s. to 90s.; Magnums, 75s. to 90s.; Hebrons, 80s. to 100s.; Kidneys, 60s. to 75s.; Black-lands, 60s. to 70s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, for the week ending Jan. 5, and for the corresponding period last year:—1895: Wheat, 20s. 4d.; Barley, 21s. 5d.; Oats, 14s. 2d. 1894: Wheat, 26s. 4d.; Barley 28s. 10d.; Oats, 17s. 8d.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75s. to 132s.; do., inferior, 45s. to 126s.; hay, best, 60s. to 120s.; specially picked, 130s.; inferior, 36s. to 68s.; mixture, 90s. to 120s.; and straw, 22s. to 38s. per load.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature.					Rainfall.			Bright Sun.	
	Above (+) or below (—) the Mean for the week ending January 5.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1895.	Accumulated. Below 42°, difference from Mean since January 1, 1895.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 —	0	60	— 7	+ 28	4 —	6	0·9	13	13
1	5 —	0	71	— 7	+ 31	3 —	4	0 3	13	13
2	4 —	0	57	— 7	+ 21	2 +	5	0 6	25	25
3	4 —	0	60	— 7	+ 18	5 +	6	1·0	22	22
4	5 —	0	63	— 9	+ 21	4 —	3	0·2	32	32
5	5 —	0	54	— 11	+ 23	3 —	4	0·3	30	30
6	6 —	0	57	— 10	+ 28	8 —	3	0 3	36	36
7	4 —	0	42	— 9	+ 12	3 —	4	0·4	24	24
8	5 —	0	43	— 15	+ 20	4 —	5	0·5	39	39
9	4 —	0	41	— 13	+ 15	2 +	6	1·0	25	25
10	5 —	0	34	— 20	+ 14	1 —	5	0·8	28	28
*	3 —	7	19	— 17	+ 10	1 —	6	0 7	24	24

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending January 5, is furnished from the Meteorological Office:—

"The *weather* during this week was cold and unsettled, intervals of bright sunshine alternating with falls of hail, sleet, or snow; over the eastern counties of England the snowfall was heavy locally.

"The *temperature* was much below the mean, the deficit ranging from 3° in the 'Channel Islands' to 4° or 5° in most other districts, and to 6° in 'Scotland, W. and N.' The highest of the maxima were recorded either on January 1 or 2, and ranged from 50° in 'Ireland, S.,' and the 'Channel Islands,' to 42° in 'Scotland, E,' and 'England, N.E. and E.' The lowest of the minima were registered on somewhat irregular dates, and ranged from 13° in 'Scotland, E.,' 15° in 'England, E.,' and 17° in 'England, S.W.,' to 25° in 'England, N.W.,' and 'Ireland, S.,' and to 33° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in 'England, N.E., and E.,' as well as in 'Ireland, N.,' but was less than the normal in all other districts. In 'Scotland, W.,' the deficiency was very considerable.

"The *bright sunshine* was a good deal in excess of the mean in all districts excepting the north and east of Scotland and the east of England. The percentage of the possible duration ranged from 39 in 'England, S.W.,' and 36 in 'Scotland, W.,' to 22 in 'England, E.,' and to 13 in 'Scotland, N. and E.'"

TRADE NOTICE.

WE understand that Mr. DAVID MORRISON, lately gardener at Bruree House, Bruree, Limerick, and Mr. JAMES DEWAR, lately gardener at Beechmount, Rathkeale, have taken over the glasshouses at the Ivy Lodge Gardens, Bridge of Allan, and they intend to carry on the business of the late Mr. McTavish, as fruit growers and florists.

THE DISTRIBUTION OF THE SEEDS OF HEVEA BRASILIENSIS. *Muel.*—We are indebted for the following communication concerning this plant to Mr. WM. LUNT, of the Royal Botanic Garden, Trinidad. A large specimen of this tree in the Botanic Gardens is now (October), carrying a considerable quantity of fruit, the dehiscence of which is remarkable and interesting. The tree under notice is about 40 feet high, and measures 22 inches in diameter at the base, and at 4 feet from the ground, 15 inches. The dehiscence of the tricarpellary fruits is septicidal, and the septa are very contractile. They begin to separate as the fruit ripens, and become disconnected except at three places, two of which are situated laterally at the base, the third being at the apex. As the fruits ripen, the septa, in dividing, begin to exert pressure centrifugally, and to press upon the seeds. When thoroughly ripe, the carpels separate with a loud report; in some cases they dehisce at the same time, whilst in others they dehisce only on reaching the ground. In the dehiscence of the carpels, each carpel splits in the median plane into two equal parts with a loud report, and the pressure of the contractile septa upon the seed causes it to be thrown to a considerable distance; in one instance a seed was thrown to a distance of 102 feet from the trunk of the tree; in this case the carpel dehisced at the same time as the carpels divided. A comparatively small proportion of the seeds are infertile, such seeds invariably fall near the base of the tree, and are lighter both in weight and colour than the fertile ones. The light colour of the infertile seeds is probably due to the fact that they do not contain the same amount of oil as the fertile ones, which when fresh are quite greasy, and they are lighter in weight because the embryo is undeveloped. In the middle of the day, when the sun is on the meridian, the seeds are dispersed very rapidly; on dull days very few of the capsules burst, whilst on hot days there is a constant cannonade among the branches, which continues if the day is dry for some time after the sun has set, but if dew or rain falls, it at once ceases for the time being.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

CARNATIONS: *F. J. M.* The leaves you sent were dried and shrivelled when we received them. It is most probable they are attacked by a fungus. Cut away and burn all affected leaves, and use with care the Bordeaux Mixture to the remainder. The fungus in its present state is internal, where you cannot attack it; your object should be to kill it before it attains access.

HEN ROBIN: *F. J. C.* We are not aware of any special name for this bird, but we do know that, contrary to a widely-accepted belief, "Jenny Wren" has no claim to be the consort of Cock Robin.

INSECTS: *A. K., Constant Reader.* One of the flattened millipedes, Polydesmus complanatus, sometimes confounded with the true wireworm, which has six true legs, and a sucker-foot at the end of the tail. The millipedes live more or less on animal matter as well as on decayed vegetation, plant roots, &c. The Ferns being in pots, if you could use anything that would be disliked by the milipedes they would probably leave the soil. Guano and soot-water, lime-water, and nitrate of soda. Firm potting is to be recommended. Before doing anything on a large scale it would be advisable to experiment on a few of the Ferns.—*C. D. F.* The grubs are the so-called wireworms, the eyeless larvæ of the skip-jack, a long slender brown beetle about an half-inch long, with very small legs, and neither throat nor waist, the head being sunk up to the eyes in the thorax. Wireworms are very destructive, see answer to *A. K.*

MUSHROOMS ROTTING ON THE BED: *A. S.* Please send specimens. The produce could scarcely be in a rotten state when, as you say, it came through the soil.

MUSHROOMS: *C. G. N.* All the fungi you send are distorted growths of the common Mushroom, probably caused by some check to growth, but from what cause the check has arisen we are unable to say.

NAMES OF FRUITS:—*J. Whiting.* 1, Glou Morçeau; 2, Long Pear marked No. 2, Figue d'Alençon.—*J. E.* 2, Queen Caroline; 4, Rymer? should be a good kitchen Apple. The others we do not know.

NAMES OF PLANTS: *J. C. S.* 1, Corticium cœruleum, Fr.; 2, Stereum rugosum, Fr.; 3, Immature Stereum: probably purpureum, Fr.; 4, Marasmius androsaceus, Fr.; 5, Peziza (Hymenoscypha) firma, Pers. *M. M.*—*Sydney.* The Dendrobium from the New Hebrides is Dendrobium Fairfaxi of Rolfe, in *Gardeners' Chronicle*, June 29, 1889, p. 798. —*Moorcroft*, 1, Libonia Penrhosiensis; 2, Sparmannia africana; 3, Adiantum Pacotii; 4, Coronilla glauca; 5, Physalis pubescens (probably); 6, Jasminum sambac. Please remember that imperfect specimens without flowers are not fair specimens, and their names can in many cases only be guessed.—*Beginner.* 1, Cypripedium venustum; 2, Begonia metallica; 3, B. subpeltata var.; 4, B. argyrostigma elegantissima; 5, Panax laciniata; 6, Selaginella viticulosa; 7, Aspidium (Cyrtomium) falcatum; 8, Chamædorea graminifolia.—*J. Willis.* 1, Myrsiphyllum asparagoides; 2, Pteris tremula; 3, Ophiopogon Jaburan variegatus.—*Subscriber.* Adiantum capillus-veneris.—*W. E. S.* Epidendrum ciliare.—*F. G. W.* 1, Cupressus (Retinospora) pisifera; 2, Cupressus Lawsoniana var.; 3, Tsuga canadensis; 4, Cupressus Lawsoniana; 5, apparently a form of Taxus baccata; 6, probably a Juniper; poor specimens without cones, the identification is therefore doubtful.

SPANISH CHESTNUT TIMBER: *W. H. M.* The timber will last as long as the best English Oak, if the trees, when felled, are of 100 to 200 years' old, sound and free from wind-shake, and gradually dried after squaring them.

SENDING FLOWERS TO THE ROYAL HORTICULTURAL SOCIETY'S MEETINGS: *G. W. E.* Address the Secretary, Rev. W. Wilks.

SULPHATE OF IRON FOR MIXING WITH THE SOIL IN WHICH CUCUMBER-PLANTS ARE TO BE GROWN: *Culs.* The scientific name for copperas and green-vitriol, obtainable at any oil-shop or chemist's.

COMMUNICATIONS RECEIVED.—W. Guntripp and John Don, your communications have been sent to our correspondent.—H. J. P.—D. T. F.—A. B. F. M.—H. H. D'O.—W. R.—F. W. B.—C. W. H. G.—C. H.—J. R. T.—M. M., Melbourne.—A. B., Jersey.—G. T., Paris.—L. B., New York.—W. R.—Prof. Crié.—E. J.—Thos. Whitehead, Preston (next week).—Little & Ballantyne.—Sutton & Sons.—G. C.—G. G.—W. H. M.—D. L.—G. A. B.—E. W.—J. J. W.—C. W. H. G.—B.—R. L. H.—W. K.—R.—A. D.—E. W.—J. R. J.—J. S.—W. C.—R. D.—S. T. W.—A. M.—A. P. J. B.—W. S.

PHOTOGRAPHS, SPECIMENS, ETC., RECEIVED WITH THANKS.—C. H., Dropmore.—C. H. Payne.—Miss A., Dublin.—J. F. J.—C. Joly, Paris.

DIED.—We regret to chronicle the death of Mr. WILLIAM BARRON, who for a great number of years was a nurseryman at Sketty, near Swansea. The deceased was an elder brother of Mr. A. F. Barron, the Superintendent of the Royal Horticultural Society's Gardens, Chiswick.

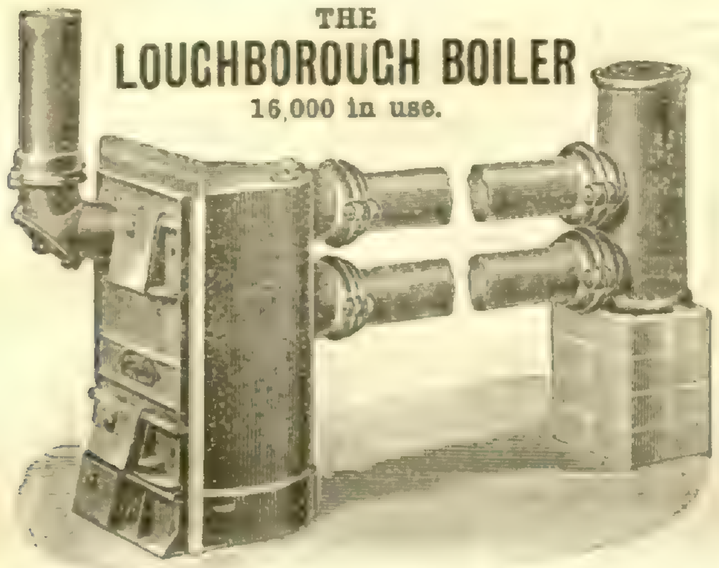
CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

THE
LOUGHBOROUGH BOILER
16,000 in use.



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Specially SELECTED for ORCHIDS,

And all kinds of Plants, by sack, cask, cubic-yard, ton, or truck-load. Rich fibrous LOAM, Coarse and Fine SILVER SAND, superior LEAF-MOULD, C. N. FIBRE REFUSE, SPHAGNUM MOSS, CHARCOAL, &c.

Special through rates to all parts.

The Original Peat Depot, RINGWOOD, HANTS.

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Send Postal Order for Sample Sack. Special terms to the Trade.
For Price List apply to **D. CAMERON**,
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SAVE HALF THE COST.

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BEDFORDSHIRE COARSE AND FINE

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15 oz., per 100 ft., 7s. 6d. { 12×10, 18×12, 18×14, 24×14
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1½ × 3 Prepared Sash Bar at 5s. per 100 feet.
Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½d. per foot run. Garden Utensils. Trellis. Ironmongery, Paints, &c. Catalogues free.

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Liquid Non-Poisonous Paint for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

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BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
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E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

CROSS'S GARDEN FERTILISER. — For Vines, Pot Plants, Fruit Trees, Vegetables.
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C. BEESON'S MANURE.—Composed of Blood and Bone. The best Fertiliser for all purposes. Sold in tins, 1s., 2s. 6d., and 5s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt, 10s. Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.
"12, Knowle Road, Brixton, London.
"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.
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HUGHES' VAPOUR ROLL
FUMIGATORS.

ONE SHILLING EACH.

For Houses, 1200 cubic feet. Can be divided for smaller Houses.

They burn with a pleasant aromatic smell, kill green fly, thrip, &c., and are the safest ever made. Sample rolls, post-free, twelve Stamps. Sold by all Seedsmen.

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To be Healthy Plants must be Clean.
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CAMPBELL'S FUMIGATING INSECTICIDE

With the improved process of manufacture, and the tests it is subjected to by the makers, and ourselves in 4½ acres of glass-houses, we are able to ask all plant growers who have not tried it to do so with confidence.

GROWERS of FERNS, ORCHIDS, GRAPES, and other INDOOR FRUIT, also of PELARGONIUMS, CINERARIAS, CALCEOLARIAS, &c., state that their plants, &c., are now quite clean, with timely fumigations.

MEALY BUG on STEPHANOTIS, &c., is kept in check by the use of CAMPBELL'S FUMIGATING INSECTICIDE.

Bear in mind we are the only wholesale dealers in Insecticides who are using on a large scale the preparations they sell in their own Nurseries, and therefore able to speak with confidence as gardeners who actually use, to gardeners who ought to use this article.

PRICE: { No. 3 Roll for 1000 cubic feet of space. 1s. each. } Post
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GISHURST COMPOUND, used since 1895 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

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PUBLISHER'S NOTICES.

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7	,,	..	0	4	6	18	,,	..	0	10	0
8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
13	,,	..	0	7	6	24	,,	..	0	13	0
14	,,	..	0	8	0	25	,,	..	0	13	6

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Telegrams—"CONSERVATORIES," LONDON. *Telephone, No. 4652.*

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Being the end of the Season, we are again induced to offer our Stock on Hand at ridiculously Low Prices, to make room for our SPRING STOCK, for SIX WEEKS ONLY, COMMENCING DECEMBER 10. LAST DAY of SALE, JANUARY 21, 1895.

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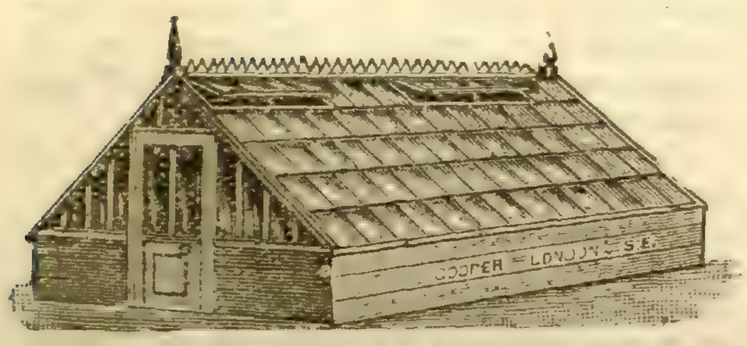
GREENHOUSE DEPARTMENT.

THE AMATEUR FORCING-HOUSE.

TENANT'S FIXTURE (SPAN-ROOF).



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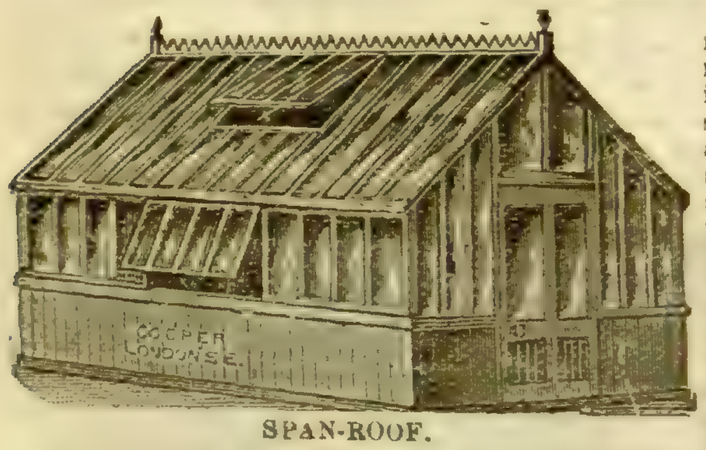
The utility of such a House for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance; it being a structure constantly in request, but almost hitherto unknown.

Specification.—Framework substantially constructed of red deal; the whole of sides, and 2 ft. 6 in. of ends, boarded with well-seasoned tongued and grooved matchboards. Half-glass door, complete with rim-lock and brass-fittings, in one end; glass 16-oz. throughout, English-cut. Ventilators supplied, according to size of House, and stays necessary for opening same; stages for plants each side of House, all wood work painted one coat of good oil-paint, and the whole structure securely packed and placed on rail.

Lot	Length.	Width.	Height.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
1 to 3	7ft.	5ft.	7ft.	£2 10 0	£2 0 0
4 to 6	8ft.	5ft.	7ft.	3 0 0	2 5 0
7 to 10	9ft.	6ft.	7ft. 3in.	3 10 0	2 10 0
11 to 15	10ft.	7ft.	7ft. 6in.	4 10 0	3 10 0
16 to 22	12ft.	8ft.	8ft.	5 10 0	3 15 0
23 to 29	15ft.	10ft.	8ft. 6in.	7 15 0	5 10 0
30 to 41	20ft.	10ft.	9ft.	10 15 0	7 10 0
42 to 48	25ft.	10ft.	9ft.	15 5 0	10 0 0
49 to 51	50ft.	10ft.	9ft.	27 0 0	20 0 0
52 to 54	100ft.	10ft.	9ft.	45 0 0	25 0 0

"AMATEUR" SPAN-ROOF AND LEAN-TO GREENHOUSES.

TENANT'S FIXTURES.



SPAN-ROOF.

Made especially for Amateurs at a nominal figure, thereby coming within reach of those who require a strong but inexpensive structure, and being constructed in complete sections, are erectable by any handy-man or gardener in a few hours. Framework is substantially constructed of red deal, the lower part being filled in with well-seasoned tongued and grooved matchboards. The House is fitted with door complete, with rim-lock and brass-furniture, painted one coat of good oil-colour, supplied with all necessary ironwork and stages for each side, and good 16-oz. glass throughout. All parts securely packed and put on rail. Prices:—

Lot	Span-roof. Long.	Wide.	High.	To Eaves.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
55 to 56	7ft.	5ft.	7ft.	4ft.	£2 16 0	£2 5 0
57 to 71	8ft.	5ft.	7ft.	4ft.	3 10 0	2 15 0
72 to 76	9ft.	6ft.	7ft. 3in.	4ft.	4 0 0	3 0 0
77 to 108	10ft.	7ft.	7ft. 6in.	4ft. 6in.	5 0 0	4 0 0
109 to 121	12ft.	8ft.	8ft.	5ft.	6 0 0	4 10 0
122 to 149	15ft.	10ft.	8ft. 6in.	5ft.	8 10 0	6 10 0
150 to 170	20ft.	10ft.	9ft.	5ft. 6in.	12 0 0	9 0 0
171 to 176	25ft.	10ft.	9ft.	5ft. 6in.	17 0 0	12 0 0
177 to 184	50ft.	10ft.	9ft.	5ft. 6in.	30 0 0	23 0 0
185 to 189	100ft.	10ft.	9ft.	5ft. 6in.	50 0 0	30 0 0
190 to 197	30ft.	10 ft.	8ft. 6in.	5ft.	20 0 0	14 0 0
	Lean-to					
198 to 201	7ft.	5ft.	7ft.	4ft.	2 8 0	2 0 0
202 to 211	9ft.	6ft.	7ft. 3in.	4ft.	3 10 0	2 15 0
212 to 221	12ft.	8ft.	8ft.	5ft.	5 10 0	4 0 0
222 to 225	15ft.	10ft.	8ft. 6in.	5ft.	8 0 0	5 15 0
226 to 228	20ft.	10ft.	8ft. 6in.	5ft.	11 10 0	8 10 0
229	25ft.	10ft.	8ft. 6in.	5ft.	16 10 0	12 0 0
230	50ft.	10ft.	8ft. 6in.	5ft.	28 0 0	20 0 0

SPAN-ROOF AND LEAN-TO FORCING-HOUSES.

The illustration shown will convince all practical minds of the importance and utility of this class of house for Gentlemen, Nurserymen, Market Gardeners, and all those who require a cheap strong house for forcing or growing Cucumbers, Tomatos, Melons, &c.

Specification.—Built for brickwork 3ft. high, of thoroughly well-seasoned red deal; roof ventilat on according to size; door at one end; all 21-oz. glass; painted one coat. Carefully packed on rail.

Lot.	Span-roof.	Usual Price.	Sale Price.
231 to 235	20 by 9	£9 0 0	£6 0 0
236 to 242	20 by 12	11 0 0	8 0 0
243 to 246	20 by 14	14 10 0	11 0 0
247 to 250	40 by 9	17 0 0	12 0 0
251 to 255	40 by 12	21 0 0	16 0 0
256 to 257	40 by 14	25 0 0	20 0 0
258 to 260	100 by 9	40 0 0	25 0 0
261 to 300	100 by 12	48 0 0	31 0 0
301 to 342	100 by 14	55 0 0	40 0 0
	Lean-to.		
343 to 347	20 by 9	7 10 0	5 0 0
348 to 349	20 by 12	9 10 0	6 10 0
350	20 by 14	12 10 0	9 10 0
351	40 by 9	14 0 0	11 0 0
352 to 353	40 by 12	18 0 0	13 0 0
354	40 by 14	21 10 0	16 0 0
355	100 by 9	33 0 0	23 0 0
356	100 by 12	40 0 0	26 0 0
357 to 360	100 by 14	47 0 0	32 0 0
361 to 499	Ventilating-Boxes for Side Walls	0 4 9	0 2 3

SPAN-ROOF VILLA CONSERVATORIES.

Adaptable for the lawn of a villa-residence, being well and substantially built, constructed of the best materials, and artistically finished with diagonal panels and barge-boards. The framework is composed of 2in. by 3½in. red deal, the lower part doubly-lined with tongued and grooved matchboards, and the roof properly fitted with sashes, which facilitates fixing or removing of same without disturbing glass.

The houses are fitted with a half-glass door, complete with rim-lock, brass-fittings, and key, and is supplied with lattice staging for each side, footpath the entire length, gutters, down-pipes, suitable ventilators, and necessary ironwork for opening same. All woodwork painted two coats of good oil-paint, glass cut to sizes, and all parts securely packed on rail. Prices:—

Lot.	Long.	Wide.	High.	To Eaves.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
500 to 505	9ft.	6ft.	7ft.	4ft. 6in.	£7 10 0	£5 10 0
506 to 514	12ft.	8ft.	8ft.	5ft. 6in.	10 0 0	7 0 0
515 to 521	15ft.	8ft.	8ft. 6in.	5ft. 6in.	12 0 0	8 10 0
522 to 528	20ft.	9 ft.	9ft.	6ft.	16 16 0	12 0 0
529 to 533	25ft.	9ft.	9ft.	6ft.	21 0 0	15 0 0
534	50ft.	9ft.	9ft.	6ft.	40 0 0	28 0 0

21-oz. for Roof 5 per cent. extra.

FERNS! FERNS!! For STOVE and GREENHOUSE

LOT 2133.—Fine, healthy, well-grown stuff, in small pots. 86 000 small Ferns (about 30 varieties), usual price, 12s. per 100; sale price, 6s. 6d. £3 per 1000 £12 10s. per 5000. Out of pots, 5s. per 100; £2 5s. per 1000: £8 10s. per 5000.

FULL ILLUSTRATED SALE CATALOGUE

Containing 2242 Lots, Post free on Application.

RELIABLE BARGAINS IN ALL DEPARTMENTS GUARANTEED.

(Continued on Next Page.)

W. COOPER, Ltd., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD, LONDON, S.E.

W. COOPER, Ltd., EIGHTH ANNUAL CLEARANCE SALE—*continued.*

MOVABLE POULTRY HOUSES (SPAN ROOF).

LOT.	COMPLETE.	Usual Price.	Sale Price.
1116 to 1125	5 feet long, 4 feet wide, 6 feet high, 3 ft. 6 in. to eave	25/-	20/-
1126 to 1133	6 feet long, 4 feet wide, 6 feet high, 3 feet 9 inches to eave	30/-	24/-
1134 to 1144	7 feet long, 5 feet wide, 6 feet 6 in. high, 4 feet to eave	36/-	27/-
1145 to 1160	9 feet long, 6 feet wide, 7 feet high, 4 feet 3 inches to eave	42/-	32/-

SPAN-ROOF IMPROVED POULTRY HOUSE.

Lot 1161 to 1170, 5ft. long 4ft. wide, 8ft. high, 5ft. 6in. to eave, complete. Usual price, 45*s*. Sale price, 35*s*.

Lot 1171 to 1175, 6ft. long, 4ft. wide, 8ft. high, 5ft. 9in. to eave complete. Usual price, 50*s*. Sale price, 40*s*.

Lot 1176 to 1184, 7ft. long, 5ft. wide, 8ft. 6in. high, 6ft. to eave, complete. Usual price, 55*s*. Sale price, 45*s*.

Lot 1185 to 1196, 9ft. long, 6ft. wide, 9ft. high, 6ft. 3in. to eave, complete. Usual price, 63*s*. Sale price, 50*s*.

PORTABLE DOG KENNEL WITH PLATFORM.

Securely packed and put on rail at the following respective prices:—

LOT.	Lgth. ft.	Lgth. in.	Wdth. ft.	Wdth. in.	Hght. ft.	Hght. in.	Usual Price.	Sale Price.
1774 to 1781—No 1, Suitable for Terrier	2	5	1	6	2	5	16*s*.	10*s*.
1782 to 1793—No. 2, Colleys, Retrievers, and Spaniels	3	6	2	3	3	4	26*s*.	16*s*.
1794 to 1806—No. 3, St. Bernards, Mastiffs, and Newfoundlands...	4	6	2	6	4	2	36*s*.	25*s*.

HEATING APPARATUS DEPARTMENT.

COOPER'S HYGIENIC HEATER.

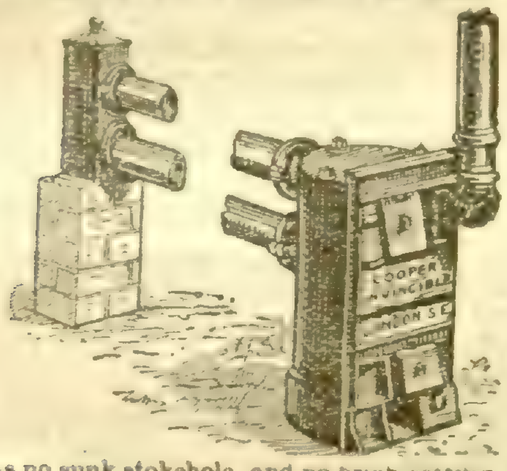
Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems.

See List, for full description.

LOT.	Sale Price.	Usual Price.
1807 to 1987—No. 0 ...	£0 15 0	£1 0 0
1988 to 1999—No. 1 ...	1 0 0	1 10 0
2000 to 2021—No. 2 ...	1 10 0	2 5 0
2022 to 2043—No. 3 ...	2 0 0	3 5 0
2044 to 2057—No. 4 ...	2 5 0	3 10 0
2058 to 2069—No. 5 ...	2 15 0	4 0 0

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

No. 1 Boilers only, capable of heating 75 feet 4-inch piping.

LOT.	Sale Price.	Usual Price.
2070 to 2250 ...	£1 15 0 ...	£2 15 0

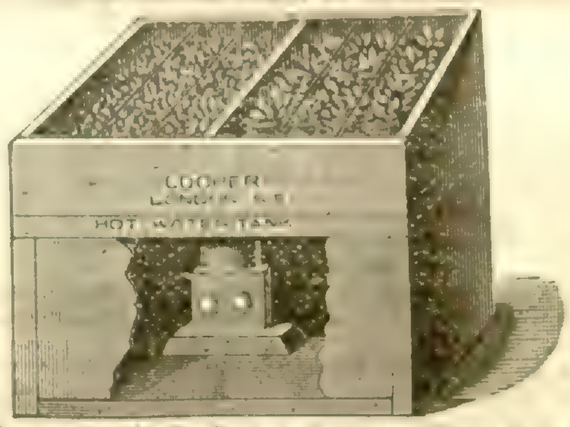
SALE PRICES FOR COMPLETE APPARATUS.

Cost of complete apparatus for Greenhouse with 4-in. pipes; flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 12*s*. 6*d*.; 9 ft. by 6 ft., £3 17*s*. 6*d*.; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3; 15 ft. by 10 ft., £4; 20 ft. by 10 ft., £5; 25 ft. by 10 ft., £6.

LOT.	Usual Price.	Sale Price.
2251—About 3000 4-in. Socket Hot-water Pipes, in 9ft. lengths, at per ton	6*s*. 0*d*.	4*s*. 9*d*.
2252 to 2296—Sets of Stoking Tools	3*s*. 0*d*.	2*s*. 0*d*.
2297—About 1½ cwt. of Round India Rubber Rings, for 4-in. Socket Hot-water Pipes, at per lb.	6*s*. 0*d*.	3*s*. 6*d*.
2298—About 2 cwt. Square India Rubber Rings, for 4-in. Expansion Joints, at per lb ...	4*s*. 6*d*.	2*s*. 8*d*.

THE RAPID PROPAGATOR.

The only Perfect Propagator for Raising Plants from Seeds, Slips, or Cuttings.



This Propagator is the best and cheapest now before the public, and will be found especially serviceable to Amateurs and Gardeners who require to strike cuttings and raise seeds in a short space of time.

One of the Propagators will raise large quantities of plants in the spring, thus, to a great extent, dispensing with the necessity of striking cuttings in the autumn; it being well-known that many cuttings fall victims to the frost and damp atmosphere so prevalent in this country. This method of propagating saves the trouble and annoyance resulting from the loss of so many plants in the winter time, and also makes it unnecessary to occupy so much space in storing a large quantity of cuttings.

These propagators are composed of an outside casing, with movable sheets of glass on top. The bed or bottom is formed of a tank, in which a constant circulation of Hot-water is kept up by the Heater (See Illustration), the pots being plunged in a bed of Cocoa-nut fibre refuse, which should be kept moist. It is heated by oil, one pint of which will burn at least 30 hours. Securely packed (no charge for packing), and put on rails complete at the following sizes and prices:—

LOT.	Usual Price.	Sale Price.
2299 to 2318—1 ft. 8 in. by 1 ft. 6 in. ...	£1 5*s*. ...	16*s*.
2319 to 2337—2 ft. 6 in. by 1 ft. 10 in. ...	£1 10*s*. ...	20*s*.
2338 to 2351—4 ft. by 2 ft.	£3 0*s*. ...	40*s*.

ODD GREENHOUSES.

LOT. ALL HOUSES ARE COMPLETE AS PER LIST.

2869—Lean-to Conservatory. 19ft. by 8ft. Door and two ventilators in front. Usual price, £15 10*s*. Sale price, £8.

2870—¾ Span-roof Conservatory, left-hand door. 15ft. by 10ft. Usual price, £16. Sale price, £9.

2871—Lean-to Conservatory, 18ft. by 9ft. Door and two ventilators in front. Usual price, £15 10*s*. Sale price, £8 8*s*.

2872—Span-roof Greenhouse for brickwork, 10ft. 6in., by 7ft. 9in. Usual price, £5. Sale price, £3.

2873—Span-roof Conservatory for brickwork, 25ft. by 10ft. Usual price, £20. Sale price, £13.

2873A—Span-roof Forcing-house for 2ft. 6in. brickwork, with 1ft. of woodwork above brick, with half glass partition and door, 30ft. by 9ft. Usual price, £16. Sale price, £9.

2874—Span-roof Greenhouse, 45ft. by 10ft. Usual price, £28. Sale price. £18

2875—Span-roof Greenhouse. 50ft. by 12ft., for brickwork, with 2ft. side-lights. Usual price, £33. Sale price, £22.

2875A—¾ Span-roof Greenhouse for brickwork, 25ft. by 10ft. Usual price, £17. Sale price, £10.

2876—Handsome Rustic Summer-house, made for exhibition purposes, about 10ft square, and 26ft. high, complete with seats table-curtains, &c., erected in our showground. Usual price, £100. Sale price, £60.
Photos of above 6*d*. each.

2877—Two pieces Rustic Fence, each 5ft. 6in. by 3ft. Usual price, 35*s*. Sale price, 15*s*.

2878—Rustic Summer-house, as No. 118 in List, 6ft. by 5ft. 6in. Usual price, £7. Sale price, £5.

2879—Rustic Summer-house, as No. 117 in List, 6ft. by 5ft. 6in. Usual price, £9. Sale price, £6 10*s*.

2880—Rustic Summer-house, as No. 120 in List, 12ft. by 5ft. Usual price, £22. Sale price, £14.

2881—Rustic Summer-house, as No. 121 in List, 5ft. by 3ft. 6in. Usual price, £4 5*s*. Sale price, £3.

2882—Rustic Bridge, No. 134 in List. Usual price, £10 10*s*. Sale price, £7.

2883—9 pairs Steps, 4 treads per pair. Usual price, 4*s*. Sale price, 2*s*. 3*d*.

2884—7 pairs Steps, 5 treads per pair. Usual price, 5*s*. Sale price, 2*s*. 9*d*.

2885—20 pairs Steps, 6 treads per pair. Usual price, 6*s*. Sale price, 3*s*. 3*d*.

2886—5 pairs Steps, 7 treads per pair. Usual price, 7*s*. Sale price, 3*s*. 9*d*.

2887—6 pairs Steps, 8 treads per pair. Usual price, 8*s*. 9*d*. Sale price, 4*s* 3*d*.

2888—7 pairs Steps, 9 treads per pair. Usual price, 10*s*. 6*d*. Sale price, 6*s*. 9*d*.

2889—3 pairs steps, 10 treads per pair. Usual price, 12*s*. 6*d*. Sale price, 7*s*. 6*d*.

2890—5 pairs Steps, 12 tread per pair. Usual price, 14*s*. Sale price, 10*s*. 6*d*.

2891—2 pair steps, 14 treads per pair. Usual price, 16*s*. Sale price, 13*s*.

2892—7 30-round ladders, each 15*s*. Sale price, 12*s*. 6*d*.

2893—5 45-round ladders, each 27*s*. Sale price, 22*s*.

2894—3 55-round ladders, each 32*s*. Sale price, 27*s*.

2895—2 60-round ladders, each 43*s*. Sale price, 40*s*.

Wrought Welded Saddle Boilers.

(Sockets 6*s*. 6*d*. extra.)

2896—2, 18 by 12 by 19, each £1 9*s*. Sale price, £1 1*s*.
2897—3, 27 by 14 by 14, each £1 12*s*. 3*d*. Sale price, £2 15*s*.
2898—2, 36 by 14 by 14, each £4 11*s*. 6*d*. Sale price, £3 8*s*.
2899—1, 42 by 18 by 18, each £7 13. Sale price, £5 15*s*.
2900—1, 48 by 21 by 18, each £9 3*s*. Sale price, £6 15*s*.
2901—1, 54 by 21 by 21, each £11 11*s*. Sale price, £8.
2902—1, 60 by 24 by 21, each £13 10*s*. Sale price, £9 10*s*.
The above sizes are inside arch.

2903—25 Casks Best Paraffin Oil, each containing 42 gallons, each, usual price, £1 1*s*. Sale place, 17*s*. 6*d*. Casks included; 2*s*. 6*d*. each allowed if returned carriage paid.

2904—10 Casks Best Tar, suitable for Iron Fences, Wood Pailings, Farm Buildings, &c. Per cask of 42 gallons, usual price, £1 14*s*. Sale price, 20*s*.

	Usual Price.	Sale Price.
2905—21 Glazier's Diamonds (sheet), each ...	15 0	10 6
2906—7 4 qt. Galvanised Water Cans ,, ...	2 2	2 0
2907—9 6-qt. ,, ,, ,, ,, ...	2 4	2 1
2908—15 8-qt. ,, ,, ,, ,, ...	2 8	2 2
2909—3 10-qt. ,, ,, ,, ,, ...	2 10	2 4
2910—7 12-qt ,, ,, ,, ,, ...	3 2	2 9
2911—5 16-qt. ,, ,, ,, ,, ...	4 8	3 4

2912—156 6-ft. lens, 3½ in. Iron O.G. Gutter. Per length, usual price, 1*s*. 4*d*. Sale price, 1*s*.

2913— **Wood Labels.**

Size	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	
Usual price	1/5	1/8	2/-	2/9	3/6	4/5	5/6	per 1000
Sale price	1/4	1/7	1/11	2/6	3/3	4/-	4/9	,,
Size ...	...	...	...	...	...	10 in.	12 in.	
Usual price	...	...	...	...	...	6/-	10/-	,,
Sale price	...	...	...	...	...	5/3	8/-	,,

2914— **Flower Sticks.**

Size	1 ft.	1½ ft.	2 ft.	2½ ft.	3 ft.	3½ ft.	
Usual price	2/1	3/9	6/-	8/-	10/-	14/-	,,
Sale price	1/-	3/3	5/3	7/3	9/3	13/-	,,
Size ...	...	...	...	4 ft.	4½ ft.	5 ft.	
Usual price ...	...	...	...	17/-	23/-	29/-	,,
Sale price ...	...	...	...	15/9	21/-	26/-	,,

2915— **Virgin Cork.**

About 7 tons. Usual price, 17*s*. per cwt. Sale price, 10*s*. 6*d*.

2916— **Bamboo Canes.**

150,000 4ft. Per 1000, usual price, 25*s*. Sale Price, 16*s*.

2917— **Tobacco Paper.**

About 2 tons best quality. Usual price, 35*s*. Sale price, 25*s*. per cwt.

2917A— **Pure Wood Charcoal.**

287 sacks. Usual price, 4*s*. Sale price, 2*s*. per sack, or 10 sacks for 15*s*.

2918 **Poultry Keepers.**

129 sacks, 110 lb., good sound Poultry Mixture. Usual price, 7*s*. per sack. Sale price, 5*s*. 6*d*.; 5 for 26*s*.; 10 for 50*s*. Best feed ever offered.

2919— **Peat Moss Litter.**

107 sacks. Usual price, 2*s*. 3*d*. per sack. Sale price, 1*s*. 6*d*. per sack; 10 for 12*s*. 6*d*.; 20 for 22*s*.

Odd Garden Lights.

2920—10 Glazed Lights, 2ft 6in. by 5ft. 2in., 3 by 2 stiles each. Usual price, 8*s*. 6*d*. Sale price, 5*s*.
4 Glazed Lights, 6ft. by 4ft., 3 by 2 stiles each. Usual price, 14*s*. Sale price, 9*s*.

2921—17 Glazed Lights, odd sizes, from 4ft. 3in. by 1ft. 8in. to 8 ft. by 3. Second-hand, good condition, the lot £4.

2922—3 New Unglazed Lights. 4ft. 8in. by 4ft. 10in. Usual price, 3*s*. 6*d*. Sale price. 2*s*. 3*d* each.

2923—3 New Unglazed Lights, 4ft. by 3ft. 10in. Usual price, 3*s*. Sale price, 2*s*.

2924—4 New Unglazed Lights, 4ft. by 3ft. Usual price, 3*s*. Sale price, 2*s*.

2925—17 Unglazed Lights, 2ft. by 5ft. 6in. Usual price, 3*s*. 6*d*. Sale price, 2*s*.

Iron Buildings.

Buildings, Wooden Framework, covered with corrugated iron, suitable for store-room or workshop. Made in sections.

LOT.		Usual price.	Sale price.
2926 ...	10 by 8 complete ...	£7	£5
2927 ...	14 by 10 ,, ...	£11	£8
2928 ...	18 by 12 ,, ...	£16	£11
2929 ...	22 by 14 ,, ...	£22	£15

Iron Bicycle or Tricycle Houses.

(SPAN-ROOF.)

2930 to 2936—6ft. long, 4ft. wide, 5ft. high. Usual price, £3 Sale price, £2 5*s*.

2863 **Cooper's Sunshade.**

SUPERSEDES ALL OTHER PREPARATIONS OF THE KIND.

The cheapest, most efficient, and convenient preparation for Shading Greenhouses, Conservatories, Glass Roofs, and Windows of all descriptions. Is applied cold—an enormous advantage over preparations requiring to be used whilst hot. May be used either inside or outside, and produces a pleasing effect. Is not washed off by rain, but can be instantly removed when desired by rubbing over with a brush whilst it is wet. Made in various colours—White, Pale Blue, and Pale Green.

Usual prices, in tins: 1 lb., 1*s*.; 2 lb., 2*s*.; 7 lb., 5*s*.
Sale prices: 1 lb, 4*d*.; 2 lb, 8*d*.; 7 lb., 2*s*.

(CONTINUED ON NEXT PAGE)

W. COOPER, Ltd., EIGHTH ANNUAL CLEARANCE SALE—*continued.*

TIMBER DEPARTMENT.

Well Seasoned Red Deal.

FOR SECTIONS OF THE ABOVE SEE SEPARATE SHEET.
SPECIFICATION.

LOTS 2352 to 2483.

Materials required for Span Roof 100 ft. by 12 ft. Cucumber House.

Best Red Deal, all planed, rabbeted, &c., ready for use, Door and Ventilators made.

105 feet 1¼ by 6 Ridge,
105 feet 1¼ by 4 Capping,
230 feet 3 by 3½ Plate,
210 feet ¾ by 3 Drip.
4—8 feet 2½ by 3 End Rafters,
120—8 feet 1½ by 3 Bars,
15 Ventilators about 4 feet by 2 feet,
15 Ventilators, Seats about 60 feet,
1 Door and Frame 6 ft. by 2 ft. 6 in.
Packed free on rail. Usual Price, £9 10*s.*
Sale Price, £6 10*s.*

LOTS.	Usual Price.	Sale Price.
2464—98,000 ft. run No. 1 Sashbar, per 100 ft. run	3*s.* 0*d.*	2*s.* 0*d.*
2465—137,000 ft. run No. 2 Sashbar, per 100 ft. run	3*s.* 9*d.*	2*s.* 9*d.*
2466—56,000 ft. run No. 3 Sashbar, per 100 ft. run	5*s.* 0*d.*	3*s.* 6*d.*
2467—177,000 ft. run No. 4 Sashbar, per 100 ft.	6*s.* 6*d.*	4*s.* 6*d.*
£10,000 worth of other prepared Timber as per Separate List, 25 per cent. off, to clear,		
2468—375 Top and Side Ventilators, 2 ft. by 2 ft. 4 in.	2*s.* 0*d.*	1*s.* 6*d.*
2469—270 Marginal Light Doors, 6 ft. 6 in. by 2 ft. 6 in.	12*s.* 0*d.*	7*s.* 0*d.*
2470—1550 squares ¼ in. Tongued, Grooved, and Beaded Match Board	7*s.* 6*d.*	5*s.* 6*d.*
2471—759 squares 6 in. Feather Edge Boards	7*s.* 6*d.*	5*s.* 0*d.*
2472—700 squares 1 in. Floor Boards	14*s.* 0*d.*	10*s.* 0*d.*
2473—450 Machine Turned Finials per doz.	6*s.* 0*d.*	3*s.* 0*d.*
2474—125 doz. Casement Stays for opening Ventilators ... ... per doz.	6*s.* 0*d.*	3*s.* 0*d.*
2475—149,000 feet run Slating Battens, ¾ by 2 ... ... per 100 ft.	1*s.* 3*d.*	1*s.* 1*d.*

Deals, 3 by 11, Yellow, 4*d.*; 3 by 9, 3½*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d*; 2 by 6, 1*d.*
Cutting Flatting, 9*d.* per 100 feet.

PLANED EXTENDED TRELLIS.

MADE OF BEST YELLOW DEAL.

LOTS Open.	Usual Price.	Sale Price.
2476 to 2551—12 ft. by 1½ ft.	2*s.* 8*d.*	2*s.* 0*d.*
2552 to 2601—12 ft. by 2 ft.	4*s.* 0*d.*	3*s.* 0*d.*
2602 to 2650—12 ft. by 2½ ft.	4*s.* 6*d.*	3*s.* 6*d.*
2651 to 2689—12 ft. by 3 ft.	5*s.* 6*d.*	4*s.* 0*d.*
2690 to 2731—12 ft. by 3½ ft.	6*s.* 0*d.*	4*s.* 6*d.*
2732 to 2753—12 ft. by 4 ft.	7*s.* 6*d.*	5*s.* 6*d.*
2754 to 2798—12 ft. by 5 ft.	8*s.* 9*d.*	6*s.* 3*d.*
2799 to 2850—12 ft. by 6 ft.	10*s.* 6*d.*	7*s.* 6*d.*

LOT 2851—60 pieces unplaned Trellis 144 by 44 open. Usual price. 5*s.*; sale price, 1*s.* 6*d.*

All Timber consigned at the Cheap Timber Rate to all parts of the Country.

LOT. **Loam—Surrey.**

2852— Splendid quality, full of Yellow Fibre.
Usual Price: 2*s.* 6*d.* per sack; 5 for 12*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 5 for 7*s.*; 10 for 13*s.* 6*d.*
In Truck Loads, F.O.R., Usual Price, 16*s.* per ton; Sale Price, 8*s.* per ton.

Cooper's General Potting Compost.

2853— Specially Prepared.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

Cooper's Celebrated Chrysanthemum Compost.

2854—Usual Price, 2*s.* per bushel. Sale Price: 1*s* 6*d.* per bushel.

Cooper's Prepared Compost for Potting Ferns.

2855— Specially Prepared.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

Cooper's Prepared Compost for Potting Bulbs.

2856— Specially Prepared.
Usual Price: 2*s* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

2857— **Leaf Soil, Beech and Oak, well decayed.**
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

2858— **The Original Celebrated Orchid Peat.**
All Rich Brown Pure Bracken Fibre.
SELECTED IN TURVES.
With Dust and Roots taken out.
Usual Price: 6*s.* per sack; 5 for 25*s.*; 10 for 45*s.*
Sale Price: 3*s.* per sack; 5 for 13*s.*; 10 for 25*s.*

2859— **Best Brown Fibrous Peat.**
FOR HARDWOOD AND STOVE PLANTS.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2860— **Good General Peat.** FOR FERNS, &C.
Usual Price: 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2861— **Rhododendron Peat.**
Usual Price: 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

2862— **Special Offer of Rich Brown Loose Peat.**
Of the very best quality. All waste extracted.
Ready for use.
Usual Price: 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2864—**COOPER'S WONDERFUL NEW MUSHROOM SPAWN.**

From many years' experience I believe this brand of Spawn to be the very best procurable—fresh; very best quality, producing abundant Crops of Superior Fleshy Mushrooms.

Usual Price: 4*s.* per Bushel.
Sale Price: 2*s.* per Bushel.

2865— **COOPER'S GENERAL FERTILIZER.**

FOR FLORISTS, GARDENERS, AND AMATEURS.

SUITABLE FOR ALL CROPS.

Usual Price: Tins, 4*d*; 7-lb. bags, 1*s.*; 14-lb. bags, 2*s.*; 28 lb., 4*s.*; ½ cwt., 7*s.*; 1 cwt., 13*s.*
Sale Price: Tins, 3*d.*; 7-lb. bags, 9*d*; 14-lb. bags, 1*s.* 6*d.*; 28 lb., 3*s.*; ½ cwt., 6*s.*; 1 cwt., 10*s.*

2866— **SILVER SAND** (COARSE OR FINE).

2-cwt. Sacks. Usual price: 3*s.* 3*d.*; Sale price: 2*s.* 3*d.*
Special offer: 4-Ton Truck on Rail at Pit, loose, 20*s.*

2867— **BEST COCOA-NUT FIBRE REFUSE**

(FRESH AND CLEAN)

9*d.* per sack; 10 sacks, 7*s.*; 15 sacks, 10*s.*; 20 sacks, 12*s.* 6*d.*; 30 sacks, 18*s.*; sacks included. Truck, loose, free on rail, over two tons, 30*s.*

Moistens in Heat Holds Heat in Winter. Invaluable for Potting, Planting, Forcing, Decorating; and used on **Strawberry beds** is preferable to straw, keeping the Fruit clear from grit, and at the same time nourishing the Plants. For lightening heavy soils it is particularly useful, and when the soil is light and dry, is of great advantage as a mulch. All slugs and insects are destroyed by its use.

Lot 2868— **SPECIAL OFFER TO THE TRADE.**

100 Tins Sunshade and 100 Tins Fertilisers, to retail, at 4*d.* and 6*d.* each. 35*s.* on rail.

MELON and CUCUMBER FRAMES.

These are a very useful Frame, being suitable for the storage of plants in winter, and well adapted for the cultivation of Melons, Cucumbers, &c., in summer. (The illustration shows a Three-Light Frame, 12ft. long by 6ft wide, height at front 11in., and height at back 22in.)

They are composed of 1¼ in. thoroughly well-seasoned tongued and grooved boards, have necessary Parting Pieces, and runners for the Lights, which are 2 in. thick, and which are glazed with good 16 oz. glass, nailed and bedded in oiled putty, and fitted with an iron handle. All parts painted three coats of good oil paint, and securely packed and put on rail at the following prices:—

LOT.			Usual Price.	Sale Price.
536 to 586—1 Light Frame,	4 ft. by 3 ft.		£0 18 0	£0 14 0
587 to 597—2 ,, ,,	6 ft. by 4 ft.		1 12 0	1 2 0
598 to 605—1 ,, ,,	6 ft. by 4 ft.		1 10 0	1 0 0
606 to 608—2 ,, ,,	8 ft. by 6 ft.		2 14 0	1 18 0
609—3 ,, ,,	12 ft. by 6 ft.		3 15 0	2 5 0

GARDEN HAND-FRAMES.

These frames will be found very useful for protecting plants, seeds, slips, and cuttings during the spring, which, if left uncovered, would probably fall victims to the extreme cold so prevalent in this country during that season.

Zinc open tops, with glass cut to sizes, and zinc clips for glazing same.

LOT.	Usual Price.	Sale Price.
912 to 927—12 in. by 12 in. ...	7/6 each ...	5/6 each
928 to 939—14 in. by 14 in. ...	8/6 ,, ...	6/3 ,,
940 to 953—16 in. by 16 in. ...	9/- ,, ...	7/- ,,
954 to 968—18 in. by 18 in. ...	10/- ,, ...	8/- ,,
969 to 971—20 in. by 20 in. ...	11/- ,, ...	9/- ,,
972 to 987—22 in. by 22 in. ...	12/- ,, ...	10/- ,,
988 to 996—24 in. by 24 in. ...	13/6 ,, ...	11/- ,,

GLASS! GLASS!! GLASS!!!

10,000 Boxes in Stock.

LOT			15-oz., 200 ft.	21-oz., 200 ft.
2137 ...	4ths		15*s.* 6*d.* ...	21*s.*
	3rds		16*s.* 0*d.* ...	22*s.*

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 24 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

Special Offer, 4ths, 21-oz., 200 ft. Boxes.

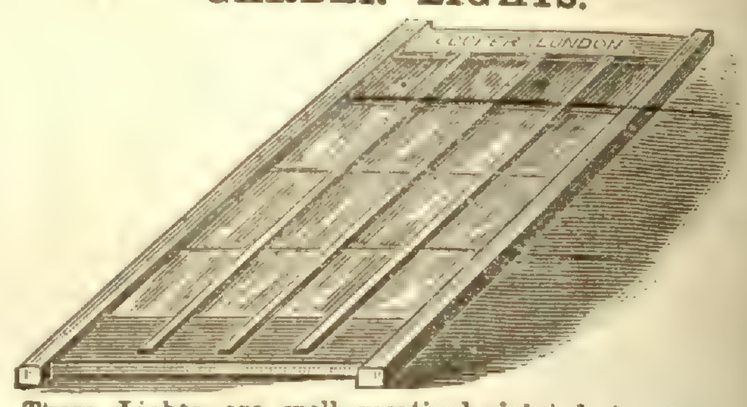
8×6, 13*s.* 6*d.* 10× 8, 14*s.* 6*d.* 12× 8, 15*s.* 12× 9, 15*s.* 6*d.*
13×9, 16*s.* 0*d.* 14×10, 18*s.* 0*d.* 15×10, 17*s.* 12×10, 17*s.* 0*d.*
Per Box to clear.

850 Boxes only to offer at these ridiculously low prices.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

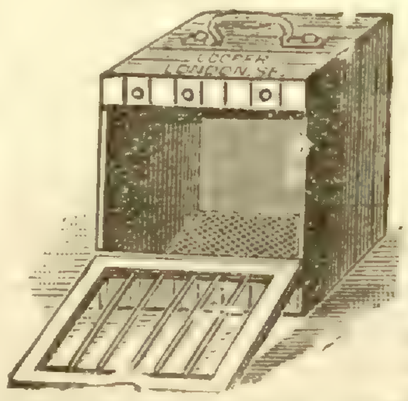
GARDEN LIGHTS.



These Lights are well mortised-jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. stiles, and properly rabbeted for the glass, with good 2 in. sash-bars. The Glazed Lights are nailed and bedded in good oiled putty.

LOT.	Usual Price.	Sale Price.
610 to 642—3ft. by 2ft., Painted and Glazed ...	5 0	3 0
643 to 651—4ft. by 3ft., Painted and Glazed with 21 oz.	7 6	5 0
652 to 861—6ft. by 3ft. 9½in., Painted and Glazed with 21 oz.	10 6	8 0
Lot 862—50 Good Sound Lights, 6ft. by 3ft. 9in., Glazed, 21 oz., nearly new, original price, 10*s.* 6*d.* each... ... ... Stiles 2½ by 1¾.		6*s.* each.
Lot 863 to 911—Unglazed Lights, 2 by 2 Stiles, 6ft. by 3ft. 8½in., usual price, 4*s.*; sale price		2*s.* 10*d.* each.

NEST BOXES.



LOTS 1197 to 1411.

This is a popular method of sitting hens and should be universally adopted. The bottom is of wire netting, made concave, so that no eggs are left uncovered by the hen; it is also a protection against rats burrowing into the nest. These boxes are constructed of thoroughly well-seasoned, tongued, and grooved match-boards, painted outside one coat of good oil paint, complete with handle. Size 1ft. 8in. high, 1ft. 4in. wide, 1ft. 3in. deep. Securely packed and put on rail at the following respective prices:—

Usual price, 4*s.* each. Sale price, 3*s.* each; 6 for 16*s.* 6*d.*; 12 for 30*s.*; 36 for £3 15*s.*

SPAN-ROOF POULTRY HOUSES.

Made in sections complete, with door in side and window at end. A flap at back for access to Nest Boxes. A raised floor about 2 feet from ground, so as to form a dry run underneath Nest Perch. Ladder, &c.; painted one coat outside.

LOT.	Usual price.	Sale price.
997 to 1052—4ft. long, 4ft. wide, 6ft. high ridge	30/-	23/-
1053 to 1064—5ft. long, 4ft. wide, 6ft. high ridge	33/-	26/-
1065 to 1086—6ft. long, 4ft. wide, 6ft. high ridge	38/-	32/-
1087 to 1095—7ft. long, 5ft. wide, 6ft. 6in. high ridge	45/-	40/-
1096 to 1115—8ft. long, 6ft. wide, 7ft. high ridge	60/-	45/-

LOT.	Usual Price.	Sale Price.
2229—Named Hyacinths, for pots or glasses	2/3 per doz.	1/9 per doz.
		12/6 per 100
2230—Hyacinths, mixed, all colours, for pots or beds	2/3 per doz.	1/8 per doz.
		10/6 per 100
2231—Freesia major, very sweet-scented	6/- per 100	3/- ,,
2232—Narcissis, Phesantts' Eye, scented	4/- ,,	2/3 ,,
Narcissus Double White, splendid	7/- ,,	4/6 ,,
2233—Iris hispanica, large roots...	2/6 ,,	1/6 ,,
2234—Tulips, named sorts, mixed, Single or Double	3/6 ,,	2/6 ,,
		20/- per 1000
2235—Tulips Scarlet, Duc Van Thol	4/3 ,,	3/- per 100
2236—Tulips Yellow White ...	10/- ,,	7/- ,,
2237—Tulips, Double White, large	5/- ,,	3/3 ,,
		30/- per 1000
2238—Tulips, Double Red and Yellow	5/- ,,	3/ per 100
		22/- per 1000
2239—Tulips, Parrot's, mixed ...	3/9 ,,	2/6 per 100
2240—Spiræa japonica	3/6 per doz.	2/6 per doz.
2241—Lily of the Valley, Strong Clumps	15/- ,,	10/- ,,
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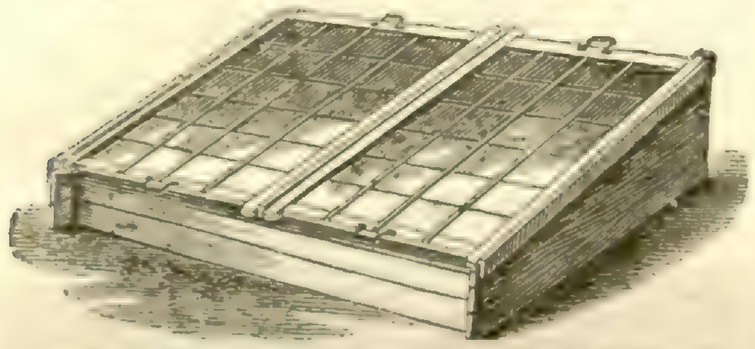

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Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft...	CASH	2	0	0
2 „ 8 ft. by 6 ft...	PRICES,	3	0	0
3 „ 12 ft. by 6 ft...	CARRIAGE	4	2	6
4 „ 16 ft. by 6 ft...	PAID.	5	5	0
5 „ 20 ft. by 6 ft...		6	7	6
6 „ 24 ft. by 6 ft...		7	10	0

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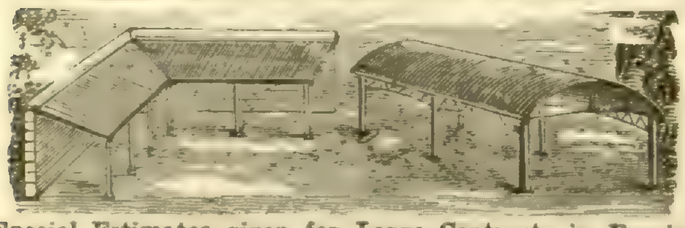

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PARTNER WANTED.—Good Plant Grower, or sleeping. Good Premises. Good opportunity.—Address by letter, C. C., Payne, Newsagent, Wandsworth, S.W.

WANTED, a PARTNERSHIP in a MARKET NURSERY (about 4000 feet run). Situated between 10 and 15 miles of Covent Garden, and doing a good trade in Fruit, Cut Blooms, &c.—J. C., 41, Wellington Street, Strand, W.C.

WANTED, a Person fully competent to take charge of the Chester-le-Street Cemetery and assist in Grave-digging in case of emergency. Wages 26s. a week and house, with allowance for coals. A practical Gardener preferred. Application, with copies only of recent testimonials, to be sent not later than January 15, 1895, to JOHN TURNBULL, Clerk to the Burial Board, Chester-le-Street, co. Durham.

TO LANDSCAPE GARDENERS, &c.—A Gentleman desires the advice of experienced gardener as to improving and re-arranging gardens and grounds attached to suburban residence (about 1¼ acres).—Address to "C 368," Messrs. Deacon's, Leadenhall Street, E.C.

To Gardeners Seeking Employment.

A PROFITABLE AGENCY is offered for an Article required by all Nurserymen and Gardeners.—Address, A. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a HEAD WORKING GARDENER, married.—Write stating, wages, family, and length of character, addressed J. THOMAS, Wood Hall, Shenley, Herts.

WANTED, a Practical WORKING GARDENER, of good character (married), where help is given, must be accustomed to Vines, Peaches, Plants, and Kitchen-garden. Coal and Cottage found. Apply, stating age, experience, references, and wages required to Box 5, Post Office, Rotherham.

WANTED, a good Working GARDENER, married, no family. Understands Stock. Wife manage Dairy. Help given in Garden. Live in lodge. Personal character.—Reply, by letter only, stating wages and qualifications, to EGERTON GREY, Bankruptcy Buildings, Carey Street, W.C.

WANTED, as SINGLE-HANDED GARDENER, a man well up in Flowers, Fruit, and Vegetables. Three hot-houses. State age, experience, reference, and wages.—HARRY POPE, Avenue House, King's Lynn.

WANTED, a GARDENER; one under kept.—Must be experienced and hard-working, and understand Stock and Grass-land. Married, no family. Wages 20s. and Cottage.—D., Guilsborough Grange, Northampton.

WANTED, a young, active, married man, as SECOND GARDENER.—Must have good experience Inside and Out, and be willing and obliging. Wages 18s. per week, with house and fuel.—Apply, with all particulars, to S. BURGESS, The Gardens, Golder's Hill, Hampstead, N.W.

CONSTANT SITUATION.—REQUIRED, a young MAN, as GARDENER, and to make himself generally useful.—Address, X. Y., Mrs. Taylor, 126, Well Street, Hackney, stating age, wages, &c.

WANTED, a good thorough practical FOREMAN PROPAGATOR, must be a successful grafter of Rhododendrons and Clematis, and to take the general management of the department (Indoors and Out). Married man preferred. A good salary will be paid to a competent man. Cottage can be had near to work.—Apply, stating all particulars, to JAMES SMITH & SONS, Darley Dale Nurseries, near Matlock.

WANTED, a JOURNEYMAN for the houses. Must be quick at his work, and have a good knowledge of Orchids. Apply to I. F. PARSONS, The Gardens, Codicote, Welwyn.

Nursery Foreman.

WANTED, a young Man as WORKING FOREMAN.—Must be good Budder and Grafter, and well up in growing Fruit-trees, Roses, Shrubs, &c., and have good knowledge of general outside Nursery-work. Apply, stating age, experience, references, and wages required, to BIRD AND VALLANCE, Nurserymen, Downham, Norfolk.

WANTED, an OUTDOOR FOREMAN, for the Fruit and Hardy Tree Departments; must have had experience in nurseries where these are largely grown, and be competent to manage a staff of men.—Apply by letter, with all particulars to WM. PAUL & SON, Waltham Cross, Herts.

WANTED, a MAN used to outdoor Market Gardening, to be generally useful. Must have good character. Wife look after poultry. Apply by letter to W. J. S., 37, Great Portland Street, W.

WANTED, a MARKET NURSERY HAND.—Up to growing Tomatos, Chrysanthemums, Bedding stuff, &c., for Market. Wages 18s.—Apply to HODGES, Nursery, King's Heath, Birmingham.

WANTED, a young MAN, who thoroughly understands growing Cucumbers for Market. State wages required, age, and references.—Apply to H. W. STEVENSON, Keddington Road Nursery, South Lincs.

WANTED, a Young MAN, competent to Grow Plants, Cut Flowers, and TOMATOS in quantity, and of quality to make them pay. Total abstainers only.—Apply, stating experience, where last employed, and wages expected, GEO. BOYES AND CO., Aylestone Park Nurseries, Leicester.

Traveller.

MESSRS. B. S. WILLIAMS AND SON REQUIRE the services of an energetic MAN, who has had some experience on the road. He must have a thorough knowledge of Orchids and other Rare Plants. Apply by letter, stating age, experience, and salary desired, Victoria and Paradise Nursery, Upper Holloway, London.

WANTED, a LAD, as OUTDOOR SALESMAN, for Plants, Flowers, and Fruit. Would fill up his time in Nursery. Need not have had experience in selling, but some knowledge of Plants and Flowers necessary. Highest references indispensable.—ARABIN, The Shrubbery Nurseries, Portswood, Southampton.

WANTED, a SHOPMAN, for Corn trade.—Young; must understand Vegetable and Flower Seeds. Good references necessary. Write, stating all particulars and salary required.—S., Mr. Noble, 173, Piccadilly.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD); age 28.—C. HIBBERT can with confidence recommend his Foreman, T. F. Jones, who has been with him for the last four years, to any Lady or Gentleman requiring the services of a good practical man, leaving present situation when suited. For further particulars apply Craig-y-Nos Castle, South Wales.

GARDENER (HEAD), where several are employed.—Age 30; life experience in all branches. Can be well recommended.—A. OWENS, St. Clere Gardens, Kemsing, Sevenoaks.

GARDENER (HEAD, where two or more are kept).—Age 50; one child (age 10 years). Thirty-four years' experience. Nine years in last situation. Death cause of leaving.—T. WRIGHT, 76, Windmill Street, Gravesend.

GARDENER (HEAD).—A GENTLEMAN with confidence recommends his Head Gardener for seven years. Life experience in large places. Age 37, no family; excels in Orchids, Roses, Fruit, Chrysanthemums; and good all round.—B., 3, Schuckburgh Road, Catford.

GARDENER (HEAD), or MANAGER to market establishment.—EDWARD BENNETT, gardener to the late Earl of Stamford and Warrington, Enville, and formerly gardener to the Marquis of Salisbury, Hatfield, is open to an engagement. First-class testimonials. No incumbrance.—Moulsey Villa, Palace Road, East Molesey.

GARDENER (HEAD WORKING); age 30, married.—Advertiser begs to offer his services to any Lady or Gentleman requiring a thorough practical all-round man in Fruit, Flowers, and Vegetables, Early and Late Forcing. Good references.—F. SOMERFORD, Vine Cottage, Gew's Corner, Turner's Hill, Waltham Cross.

GARDENER (HEAD), where two or three are kept. Thorough good practical experience, both Inside and Out. Nearly five years' excellent character, and good recommendation. H. G., 120, Albany Street, Regent's Park, London, N.W.

GARDENER (HEAD), where two or three are kept, or good SINGLE-HANDED.—Age 28; married; one child; sixteen years' experience Inside and Out; well recommended from present and previous employers.—C. HOBBS, Head Gardener, Clive House Gardens, Esher, Surrey.

GARDENER (HEAD WORKING); age 29, married.—Mr. T. LUCAS, Stradry Castle, Llanelly, would be pleased to recommend his late Foreman, W. Veale, as above.

GARDENER (HEAD WORKING), by a practical Man.—Twenty-six years' experience in some of the leading establishments. Winner of the Queen's Cup; also Challenge Trophy. First-class testimonials. Fourteen years in last place.—GEO. JORDAN, 72, Croft Street, Stoke, Ipswich.

GARDENER (HEAD WORKING).—Age 39, married; thoroughly practical in all branches. Can take charge of Land and Jersey Cows if required. Four and a half years' character.—G. GALE, Oakfield, Mortimer, Berks.

GARDENER (HEAD WORKING), or GARDENER and BAILIFF.—Age 38, married; life-experience in good establishments, last six years as Head. Early and Late Forcing; had considerable experience in Laying-out and Alteration of Grounds, planting, &c. Good references.—B., Post Office, New Bushey, Herts.

GARDENER (HEAD WORKING).—Age 35, married, no family; life-experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, The Gardens, Arkley House, High Barnet, Herts.

GARDENER (HEAD WORKING, where two or more are kept).—Age 30, married; thoroughly experienced in all branches. Indoors or Out.—W. J. NORMAN, Gardens, Chudleigh, Devon.

GARDENER (HEAD WORKING, where two or three are kept).—Age 27; life experience in good Establishments Inside and Out. Highly recommended.—G. COLEMAN, Clare Lawn Gardens, East Sheen, S.W.

GARDENER (HEAD WORKING).—Advertiser is open to engage with any Lady or Gentleman requiring the services of a practical, energetic, conscientious man. Highly recommended from present place, as above.—C. T., 2, Wellington Street, Strand, London, W.C.

GARDENER (HEAD WORKING), where two or more are kept. Age 29; married. Fourteen years' practical experience in all branches; two and a-half in present place.—GARDENER, 6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD WORKING), age 45, one child. Experienced in all branches.—E. WING, Oak Lodge Gardens, Sevenoaks, Kent.

GARDENER (HEAD WORKING, where one or more are kept).—Age 50, no family; thoroughly experienced in all branches. Highly recommended.—F. MUMFORD, 6, Gurney Road, Carshalton, Surrey.

GARDENER (HEAD WORKING).—Age 45, married; thoroughly energetic, trustworthy, efficient. All-round. Life experience. Excellent character. Abstainer.—J. B., 18, Haldane Road, Fulham, S.W.

GARDENER (HEAD WORKING).—Age 38, married. Life experience in all branches of gardening. Three years' excellent character from present employer.—A. B., 12, Woburn Cottages, Chapel Park, Addlestone.

GARDENER (HEAD WORKING).—Age 40, married, no family; thoroughly experienced in the Cultivation and Forcing of Flowers, Fruit, and Vegetables.—S. L., South View, Saxmundham, Suffolk.

GARDENER (WORKING, or CARE-TAKER).—Age 48; married, no family. Wife good Laundress; small family; 10 years' good character from last place.—G. CHILTON, 54, London Road, Bormoor, Herts.

GARDENER (HEAD, or SINGLE-HANDED).—Age 35, married; twenty years' practical experience in all branches. Good character.—SURMAN, Clifton House, Alleyn Park, West Dulwich, S.E.

GARDENER (SINGLE-HANDED), or where help is given.—Age 28; all round experience; three years' five months' good character from previous situation.—J. STOCKLES, 3, Sunnyside Terrace, Swan Lane, Wheatone.

GARDENER (SINGLE-HANDED or otherwise).—Age 23; understands Vines, Cucumbers, Tomatos, Flowers, &c. Seven years in present situation. Disengaged when suited.—C. COOK, Vine Cottage, High Road, Whetstone.

GARDENER (SINGLE-HANDED); married.—HEAD GARDENER, Hurdcott House, Salisbury, recommends his Under Gardener as above. Experienced in all branches.—Address as above.

GARDENER (SINGLE-HANDED).—Age 30, good Table-plant, Fruit, and Kitchen Gardener, two and a half years' excellent character from last situation.—F. W., 9, Porteus Road, Paddington Green, London, W.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 30, single; Glass, Kitchen, and Flower Garden. Eight years' excellent character. Willing to be useful.—A. BISHOP, Tripp's Cottages, Staines.

GARDENER (SECOND), or JOURNEYMAN (FIRST).—Age 23; experience Inside and Out; good characters from last and previous employers.—F. DOUCH, Denny Bottom, Tunbridge Wells.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 23; eight years' experience. Good character from previous situations.—A. KIRBY, Lord Street, Hoddesdon, Herts.

GARDENER (UNDER or SINGLE-HANDED).—Age 25, single; useful. Understands Greenhouse and Frames. Left through giving up. Good character.—Please state wages.—BREWER, Sidmouth Road, Farringdon, Exeter.

GARDENER (UNDER).—Age 22; well experienced. Inside and Out. Good references. Left last place through death.—W. H., Gardens, Percy Lodge, East Sheen, Surrey.

GARDENER.—Situation wanted by experienced practical Gardener. Eighteen years' character. Total abstainer.—T. CURTIS, 3, Eldon Terrace, Reading.

MANAGER or FOREMAN, in a small Nursery.—Age 28; life experience in good Establishments, growing Grapes, Tomatos, Melons, Cucumbers, &c., for Market. Good references.—G. P., Mr. Byford, Waterloo Road, Uxbridge.

MANAGER, or FOREMAN.—Re-engagement desired. Age 30; well up in all branches of the Trade. Highest references as to character and capability.—J. NOWELL, Guildford Street Nurseries, Hereford.

To the Seed and Nursery Trade.

MANAGER, or SHOPMAN.—Advertiser (age 28) desires situation as above. Life experience. Good references.—JOS. WAGSTAFF, Fossgate, York.

OUTSIDE MANAGER, or FOREMAN (WORKING).—Age 35, married; twenty years' experience, all Outside Nursery Work. Eleven years Foreman in English Nurseries.—MOORE, 5 Oaks Nursery, Jersey.

To Fruit and Cut Flower Growers.

MANAGER.—Twenty-five years' practical experience. Open to treat as above, where Fruit, Cut Flowers, Tomatos, Mushrooms, &c., are required to be grown extensively for Market, on the most modern principles. First-class references.—ILEX, 41, Wellington Street, Strand, W.C.

GROWER.—Age 26. Situation wanted in London Market Nursery. Well-up in Tomatos, Cucumbers, Mushrooms, &c. Good references.—State wages to LAMBERT, Stonecot Nursery, Sutton, Surrey.

GROWER, in good Market Nursery near London.—Age 26; nine years in good establishments. Character will bear strict investigation.—S. WIBBERLEY, Wormesly, Brailsford, Derby.

To Nurserymen.

PROPAGATOR and GROWER.—Twelve years' experience. Ferns, Palms, Soft-wooded stuff. Good characters from last and previous employers.—C. SOLOMON, 1, Devonshire House, Cross Street, Islington, N.

FOREMAN PROPAGATOR and GROWER of Hard and Soft-wooded Plants, twenty years in leading nurseries. Excellent references as Foreman and Manager.—H. JONES, Cambridge Road, Godmanchester, Hunts.

FOREMAN, PROPAGATOR, and GROWER.—Soft and Hard-wood, Early and Late Forcing, Heath Growing and Propagating a specialty, also well up in Wreath Work. Eighteen years London and Provinces. Five years in last situation. Good references, &c.—O. BEST, Victoria Nurseries, Bournemouth.

PROPAGATOR (ASSISTANT).—Age 23, in a good Nursery, under Foreman. Excellent references.—A. C., 41, Wellington Street, Strand, W.C.

To Nurserymen.

FOREMAN GROWER.—Good knowledge of London Market and Cut-flower Trade. Age 28. Good references.—B. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—F. GREGSON, Gardener to the Earl of Egmont, Cowdray Park, Midhurst, wishes to recommend H. Kemp as above. Well up in House Decorations, Chrysanthemums, Fruit and Plants. Nine years' experience.

FOREMAN, Inside.—Eleven years' practical experience with Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants. Good references.—A. T. STACEY, Baker, Hyde Heath, near Amersham.

FOREMAN, in a Market Garden.—Able to take entire charge. Sixteen years' experience. Good character.—R. TROWELL, 106, East Street, Sittingbourne, Kent.

FOREMAN, in a Private Establishment.—Age 28; twelve years' experience. Near London preferred.—W. SIRL, 30, Westbourne Park Road, Bayswater, W.

FOREMAN (General or Houses).—Age 27; First-class references; total abstainer.—FOREMAN, 103, Hambro' Road, Streatham, S.W.

FOREMAN; age 25; twelve years' experience. Life abstainer.—Mr. D. WILLIAMS, The Gardens, Duncombe Park, Yorks., recommends Advertiser.—H. H. GOODYEAR, Broomfield Road, Marsh, Huddersfield.

FOREMAN, or JOURNEYMAN (FIRST), in good establishment. Age 24; nine years' experience, both Inside and Out. Total abstainer; good references; disengaged.—A. GOODMAN, 21, Huntsworth Mews, Upper Gloucester Place, London, N.W.

FOREMAN, in a Market Nursery where Cucumbers, Tomatos, Mushrooms, and Chrysanthemums are grown. Age 26; twelve years' experience. Good references.—A. LEA, Keddington Road Nursery, South Lincolnshire.

FOREMAN, in the Houses, or SECOND in large private establishment, where several are kept.—JOHN GREEN, F.R.H.S., Norfolk Nurseries, Dereham, can recommend a young man (age 25), as above. Eleven and a half years' excellent character, two and a half as Foreman. Used to Pines, Grapes, Orchard-houses, and all the general routine of a large establishment, including House Decorations, &c.

FOREMAN, or JOURNEYMAN (FIRST), Inside, in good establishment.—Age 25; life experience. Well up in all departments. Also a good hand at House and Table decorations.—J. COX, Drew's Lodge, Streatham, S.W.

FOREMAN, or PROPAGATOR and GROWER (Soft-wooded).—Age 28; twelve years' Nursery experience; Wreaths, Bouquets, Decorations, Sales, &c.—ALCOCK, Cedar Street, Derby.

FOREMAN, Trade or Private.—Experienced Indoors and Herbaceous. Good characters from present and previous employers. Married.—State wages and particulars, FOREMAN, 5, Zeehan Shatterswood, Tunbridge Wells.

FOREMAN (GENERAL), in a large establishment.—Age 29, married when suited. Experienced in all branches in large establishments.—D., Mr. Wheaham, Speldhurst, Tunbridge Wells.

FOREMAN.—Age 25; in the Glass department where two or more are kept; ten years' experience in first-class establishments. Good character.—W. TITCHmarsh, Ewenny Priory, Bridgend.

FOREMAN, in the Houses.—Age 24; ten years' experience; good references from present and previous employers.—G. WHYMAN, The Gardens, The Cedars, Harrow Weald, Middlesex.

FOREMAN, Inside or General; age 26.—Mr. UNDERWOOD, High Firs Gardens, Harpenden, Herts, would be pleased to recommend H. Wright, who seeks re-engagement as above.

FOREMAN (GENERAL), or Inside in a Large Establishment.—Age 28; highest possible references from last two places as Foreman. House and Table Decorations.—G. W. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses, in large establishment.—Age 29; single; good characters from last situations, in large establishments, as Foreman.—W. WRIGHT, Tilbury Hill, Halstead, Essex.

FOREMAN; age 30.—JAMES CAMPBELL can with confidence thoroughly recommend Alfred Smith, who has lived at Biddulph Grange under me for the last three years, in charge of all the Glass Department, and gave every satisfaction.—ALFRED SMITH, Bridge End, Birstwith, Ripley, Yorks.

FOREMAN.—Age 24; ten years' experience in good Gardens; Early and Late Forcing of Fruit, &c., and good all-round man. Excellent references. Two years as Foreman in previous situation. Table Decorations.—PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

JOURNEYMAN (THIRD), or IMPROVER, in the Houses.—Age 20; nearly three years in present situation. Good character. Bothy preferred.—FREDERICK EAST, 14, Cherwell Street, Oxford.

JOURNEYMAN (Inside).—Age 22; good experience; two years' excellent reference last place. Can be well recommended.—H. T., 109, Arthur St., Chelsea, S.W.

JOURNEYMAN.—Situation wanted, in a Market Nursery. Six years' experience; good references.—F. J., 79, The Chace, Clapham, S.W.

JOURNEYMAN, Inside and Out.—W. SPOWAGE, The Gardens, Arkley House, High Barnet, Herts, will be pleased to recommend a young man as above. Age 21; bothy preferred.

JOURNEYMAN, Inside, in a good establishment.—Age 22; five and a half years' experience. Can be well recommended. Abstainer. Bothy preferred.—SIDNEY NOYCE, Ridgeway, Overton, Hants.

JOURNEYMAN, in the Houses; age 22.—R. SCOTT, Steephill Castle, Ventnor, will be pleased to recommend Jas. Alderman as above. Five years' character.

JOURNEYMAN (Inside); age 20; three years' experience Inside and Out.—Mr. DIVERS would be pleased to recommend as above, G. T. BRACKENBURY, Belvoir Castle Gardens, Grantham.

JOURNEYMAN (FIRST), in a good Establishment.—Age 23; eight years' experience. Well recommended by present and previous employers.—W. BIRCH, Bearwood Gardens, near Wokingham, Berks.

JOURNEYMAN, in a Gentleman's establishment.—Age 19; two years in present situation. Strong, willing. Bothy preferred.—H. ORPIN, St. Leonard's, West Malling, Kent.

JOURNEYMAN.—Age 21; six and a half years' experience. Good characters from last and previous places. Life abstainer.—J. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in a good Establishment.—Age 24; nine years' experience in Stove and Greenhouse, Early and Late Vines, Orchard-houses, Chrysanthemums, &c. First-class testimonials from late and previous Gardeners.—J. B., The Cemetery, Rothesay Road, Luton, Beds.

JOURNEYMAN, Inside.—Age 21; six years' experience. Well-up in his work. First-class references.—Apply, C. KENNETT, The Gardens, Croome Court, Severn Stoke, Worcester.

JOURNEYMAN.—Situation wanted, as above, by active young man, age 21; can be highly recommended by present employer. Bothy preferred.—W. MULLINGER, Ampton Gardens, Bury St. Edmunds, Suffolk.

JOURNEYMAN, Inside, or Inside and Out.—Young man (age 23), requires situation as above in good establishment. Five and a half years' experience. Excellent character. Leaving through death of employer.—A. BLAKE, Mill House, Westerham Hill, Kent.

JOURNEYMAN (UNDER), where three or four are kept. For full particulars and references, apply to T. ARRAN, 4, Clarkson's Buildings, Methley, near Leeds, Yorkshire.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; four years' experience. Bothy preferred. Death reason for leaving last situation.—J. SPEAR, Blackstone, Maristow, Roborough, S. Devon.

JOURNEYMAN, in the Houses, in a Gentleman's Establishment.—Age 22; excellent characters; life-abstainer.—FREDERICK WISE, Vicarage Road, Whitley, Reading.

JOURNEYMAN (FIRST), in a good Establishment; age 25.—Mr. HANSON, Gardener, Somerleyton Hall, Lowestoft, Suffolk, wishes to recommend a Man as above. Three years in present situation, two and a half previously at Welbeck.

TO NURSERYMEN.—Situation wanted, in Market Nursery. Ten years' practical experience in Ferns and general Pot Stuff. Age 26.—W. R., 9, Charlwood Terrace, Putney, S.W.

TO NURSERYMEN.—Youth, age 17, requires situation inside. Has been two years with market grower.—H. JONES, 13, Winchester Road, Oxford.

TO NURSERYMEN.—Young Man, age 21, seeks situation in Market Nursery; well up in Fruit and Plant growing. Three years' good character.—PUXTED, 28 John Street, Tunbridge Wells.

TO NURSERYMEN, &c.—Situation wanted where Fruit is grown. Inside and Out. Ten years' practical experience in all-round Nursery work under Glass. Age 25; please state wages to G. ARCHER, 6, Albert Road, Tonbridge, Kent.

TO NURSERYMEN, or GARDENERS.—Young man (age 20), seeks situation. Six years' experience in Fruit and Plants.—W. KING, Hill Farm, St. Ives, Hunts.

TO NURSERYMEN and FLORISTS.—Young man (age 22), well experienced in Growing Ferns, Palms, and Flowering Plants, Soft-wooded Stuff, Chrysanthemums, Tomatos, and Cucumbers. Good knowledge of Cut-flower Trade and Furnishing. Eight years' excellent references.—H., 81, Denmark Road, Camberwell, London, S.E.

TO FLORISTS.—A young Man (age 26) desires re-engagement. First-class hand. Wreaths, Bouquets, &c. Best of reference.—W. FRANCIS, 2, Renshaw Street, Liverpool.

GARDEN LABOURER.—Age 22; good reference.—T. CHURCH, Charfield, R.S.O., Gloucestershire.

SEED AND NURSERY TRADE.—Advertiser is desirous of an engagement as TRAVELLER or MANAGER. Excellent experience. Full particulars on application to—W. J. N., Messrs. Nutting & Sons, 116, Southwark Street, S.E.

SEED TRADE.—Situation wanted by a young Man (age 21). Five years' experience, Wholesale and Retail. Abstainer. Good references.—W. B. T., 6, Arboretum Street, Nottingham.

SEED TRADE.—Advertiser (age 25) requires situation. Accustomed to General seed, Plant, and Sundries Business. Good references.—A. W. O'BRIEN, 14, West Grove Street, Bradford.

FRUIT AGENCY required by a Gentleman residing in Guernsey, Channel Islands. Well known amongst Growers.—R. B., 17, Tremadoc Road, Clapham, S.W.

"THERE IS NOTHING NEW UNDER THE SUN" is a saying credited to a variety of illustrious authors, from the time of Solomon to the present day. It is a fact that many inventions looked upon as modern are of ancient origin. The telephone, which recently caused such a *furore* of excitement, was in ancient days a means by which the high-priests worked upon the credulity of their disciples. The Pyramids of Egypt and other wonders prove that this generation has a great deal to learn. Holloway's Pills and Ointment, however, were not anticipated by our forefathers, and to-day they stand alone as the best cure the world possesses for all the ills that humanity is heir to.

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HIS GRACE THE DUKE OF WESTMINSTER; H.M. BOARD OF WORKS;
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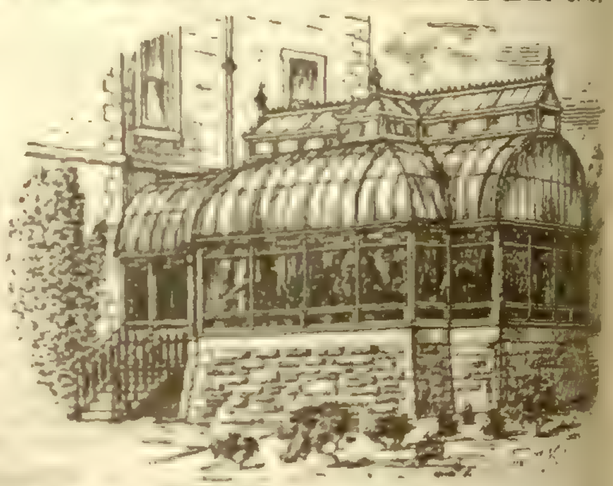

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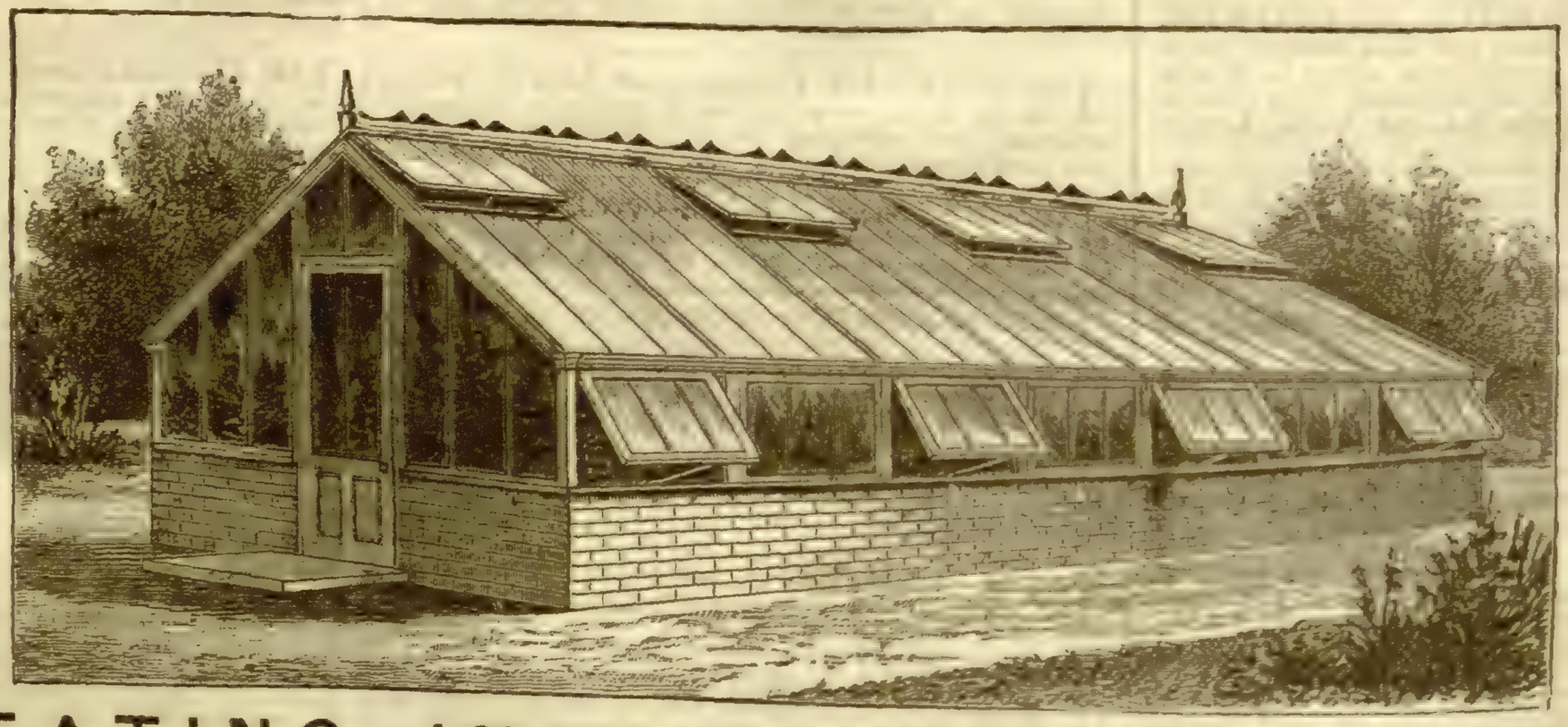

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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OUR PRIMULAS, CINERARIAS, and CYCLAMEN, specially for seeding purposes, occupying ten houses, each 100 feet long, and containing the choicest and best known varieties, such as gained us the Highest Awards at the World's Exhibition, Chicago, and also London. Our Primula, The Lady, for elegance and fascinating appearance is a great acquisition. All should grow it.

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NUTTING AND SONS have posted their ANNUAL TRADE CATALOGUE to all their Customers. If not duly received, please inform them.

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SUTTON'S INIMITABLE FORCING CARROT.—Price of Seed, 1*s.* 6*d.* per ounce, post free.

Genuine only direct from

SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

LARGE EVERGREENS from Specimen Borders, at greatly reduced prices. The choicest Green and Golden Varieties, from 4 to 12 ft. Perfect Specimens and safe to move, transplanted within two years. Inspection invited. PENNELL AND SONS, Lincoln.

DICKSONS, CHESTER, GARDEN SEED CATALOGUE, No. 446, for 1895, is now ready, and may be had post-free on application. Contains Lists of all the best and choicest Vegetable and Flower Seeds, Seed Potatos, &c.

DICKSONS, Seed Growers, Nurserymen, &c., Chester.

40,000 LILY OF THE VALLEY always in flower, November to July. Can be had cut or on roots. Price 12*s.* and 15*s.* per gross; Special, 20*s.* per gross. Apply to

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JAMES DOUGLAS, F.R.H.S., Edenside, Gt. Bookham, Surrey.

Trade Price Current, 1895.

PETER LAWSON & SON, LIMITED, Edinburgh, have posted their ANNUAL CATALOGUE of KITCHEN-GARDEN and FLOWER SEEDS to their Customers, but should any not have been received, a copy will be sent upon application.

BEGONIAS.—Prize-winners; same strain as those supplied last year:—Scarlet, 10*s.* per 100; Yellow, Pink, White, 12*s.* 6*d.* per 100; mixed, 11*s.* per 100. GLADIOLUS, true French Hybrids, mixed, 12*s.* 6*d.* per 100; do., named, 4*s.* per dozen.—J. D. HAMON, Jamaica Row, Birmingham.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.

Highest Market Prices. Prompt Cash.

WANTED, 20 or 30 lb. of good Lady Downe's GRAPES, with wood, for bottling.—Apply, with particulars and price, to

EDWARD GILMAN, Ingestre, Stafford.

WANTED, 1000 English YEWS, good plants, 4 feet high. Apply and state price to—

W. WHITE, Dunsany Castle, County Meath.

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Catalogue of KELWAY AND SON, Langport, Somerset.

AMARYLLIS.—Many thousands of dry bulbs now ready for distribution. Named varieties, all the best and showy kinds, from 42*s.* per doz. Finest seedlings, from 24*s.* per doz.—B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—

W. L. LEWIS AND CO., Southgate, London, N.

PRICE LIST free.

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Peaches and Nectarines.

CHARLES TURNER can supply extra strong Dwarf-trained Trees of the best varieties of above.

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CHARLES E. COOPER, WHOLESALE FLORIST, 33, Russell Street, Covent Garden, and Stand 370, Flower Market, Covent Garden, W.C., is open to receive Consignments of CHOICE CUT FLOWERS, FOLIAGE, &c., for Sale on Commission. For further particulars, apply as above. Bankers, The National Bank, Charing Cross Branch. TELEGRAMS: "LAPAGERIA, LONDON."

NEW and CHOICE CHRYSANTHEMUMS.—Over 200 varieties, upwards of 30 Novelties of 1894, including Hairy Wonder, Challenge, Mrs. R. J. Hamill, Louise, E. G. Whittle, Wilfred Marshall, H. Shoesmith, J. W. Moorman, &c., at moderate prices. Guaranteed true. LIST free.

J. W. COLE, Midland Road Nurseries, Peterborough.

FORBES' EAST LOTHIAN STOCKS.—Sow now, my world-renowned STOCKS, for Summer and Autumn Display, in six distinct sorts, viz., crimson, purple, scarlet, white, crimson Wallflower-leaved, and white Wallflower-leaved. Each sort, 1*s.*, 2*s.* 6*d.*, and 5*s.* per packet. Catalogues free.—JOHN FORBES, Nurseryman, Hawick, Scotland.

ASPARAGUS, for Forcing; five years old, splendid roots, 12*s.* 6*d.* per 100; extra fine, 6 years old, 15*s.* per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

WEDNESDAY NEXT.

710 CASES JAPANESE LILIES

An EXCEPTIONALLY LARGE IMPORTATION, and the most extensive ever offered in one day.

IMPORTANT TO THE TRADE.—GREAT SALE OF

40,200 LILIUM AURATUM,

Many of them gigantic Bulbs, all being in beautiful condition.

12,900 OTHER JAPANESE LILIES,

CONSISTING OF

2,430	LILIUM AURATUM MACRANTHUM	2,000	LILIUM KRAMERI
2,800	„ SPECIOSUM ALBUM	600	„ LEITCHLINI
1,180	„ „ RUBRUM	800	„ CORDIFOLIUM
1,290	„ MELPOMENE	840	„ DAVURICUM
		960	NERINE JAPONICA

The Auctioneers desire to call special attention to this most important Sale. The Cases are now being opened, and like those for the two previous Auctions, the Bulbs are turning out exceptionally good, and are worthy the attention of the Trade. In order to meet the requirements of extensive buyers, only the very largest Bulbs will be lotted in sixes and tens. The lots of 50 each will be similar to those generally sold in tens, and there will also be numerous lots of 100, 200, and 500.

The Sale will further include a large importation of **PALM SEEDS,** embracing

115,000 COCOS WEDDELIANA AND 11,000 COCOS FLEXUOSA,

All in really splendid condition.

10,000 AMERICAN PEARL TUBEROSES, the true dwarf variety.

Also 200 Standard and 200 Dwarf ROSES; 200 AZALEA MOLLIS; 5000 Double and Single BEGONIAS, 50 Lots of GREENHOUSE PLANTS, PALMS, &c.; 15 Cases of SACRED LILIES; Home-grown LILIES; 1000 SEAKALE; AMARYLLIS SPECIES; PANCRATIUM FRAGRANS; DAHLIAS; IRIS; HARDY PERENNIALS, &c.

MESSRS. PROTHEROE & MORRIS

Will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **WEDNESDAY NEXT, JANUARY 23, 1895,** at Twelve o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, January 22.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, January 22, at half-past 12 o'Clock, a splendid importation of ORCHIDS personally collected by Consul F. C. Lehmann, and which come in the most perfect condition, the greater part ready to flower at once, comprising splendid masses of—

ONCIDIUM MACRANTHUM HASTIFERUM,
The true large golden-yellow dwarf-flowering
ODONTOGLOSSUM EDWARDII,
with which will be found the rare O. IOPHOCON.
ODONTOGLOSSUM CIRRHOSUM KLABOCHORUM,
the large-flowered, densely-branched spiked form.
ODONTOGLOSSUM HALLI LEUCOGLOSSUM,
with pure white crimson-spotted labellum.
ODONTOGLOSSUM HALLI XANTHOGLOSSUM,
to which the variety "magnificum" belongs; lip yellow, spotted with rich red. Also a
NEW TYPE of ODONTOGLOSSUM HALLI VAR.,
found in a new locality, growing mixed with O. cirrhosum, and in which hybrids between the two abound. Sixteen of these were seen in flower. The collector says:—"For any one who could spare room to grow and prove this type of Halli, &c., it would be a good investment to buy all up at any price which they are likely to make at auction."
LYCASTE TRIPOLIATA (provisionally named),
a grand and profuse-flowering species.
MAXILLARIA AUGUSTÆ-VICTORIA,
the most gorgeous of the genus, measuring 8 inches across the sepals; only a few survived.
ZYGOPETALUM GRANDIFLORUM (or N. Sp.),
a noble large-flowered species.
LYCASTE DENINGSIANA?
One of the largest and handsomest of the genus.
LUDDEMANNIA, N. Sp.
A very extraordinary plant, bearing long stout racemes of large handsome flowers, said to be structurally very remarkable.
CORYANTHES WOLFII.
A fine new ivory-white and red species. Also COMPARETTIA SPECIOSA, LYCOMOSSUM Sp., ODONTOGLOSSUM ASPIRHINUM O. CRISTATELLUM, MESOSPINIDIUM VULCANICUM of a fine type, with large carmine-crimson flower, and white labellum; ONCIDIUM SERRATUM, O. OLIVACEUM LAWRENCEANUM, O. NUBIGERUM, and various other ORCHIDS of great botanical interest.

Continued on next col.

Tuesday, January 22.—*continued.*

Also Australian and South African rare TERRESTRIAL ORCHIDS, &c., and among which will be found DIARIS AUREA, D. MACULATA, CALADENIA ALBA, DISA DRACONIS, a beautiful white and violet fragrant species; DISA HARVEYIANA, very handsome lilac and purple; D. SPATHULATA, the most extraordinary of the genus, with the labellum profected on a long stalk; SATYRIUM CANDIDUM, S. MILITARE, S. MENITRANACUM, LILIUM NEILGHERRENSE, EUCHARIS SANDERIANA MULTIFLORA, NERINE CORNUSCA, &c.

On view morning of Sale, and Catalogues had.

Upper Edmonton.

DISSOLUTION of PARTNERSHIP. *Re* G. & J. AGATE.
Absolutely Without Reserve, in one lot, as a going concern.
IMPORTANT to FLORISTS, MARKET GARDENERS, and OTHERS.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY, February 13, at 2 o'Clock, the Old-established LEASEHOLD NURSERY and MARKET GARDEN, known as the Wyer Hall Nurseries, Tanner's End, Upper Edmonton, ten minutes' walk from Silver Street Station, comprising 10 acres of Land, part with Fruit Trees, two Cottages, spacious Barn, sixteen Greenhouses (about 16,000 feet super of Glass), heated by about 4800 feet of Piping. The whole of the Stock, Horse, Vans, and Utensils, will be included in the Sale; also Good-will. Lease 17 years unexpired. Rent £80.

May be viewed. Particulars had on the Premises; of Messrs. SOAMES AND THOMPSON, Solicitors, 12, Coleman Street, E.C.; Messrs. AVERY & Co., Solicitors, 792, High Road, Lower Edmonton, and 34, Finsbury Pavement, E.C. also of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Thursday Next.—Special Sale of

American Dwarf PEARL TUBEROSES, GLADIOLUS LEMOINEI, Exhibition hybrid GLADIOLI, ANEMONES, SPIRÆA JAPONICA, S. COMPACTA, extra choice double and single BEGONIAS, LILIUM AURATUM, L. HARRISII, VALLOTAS, DIELYTRAS, EUCHARIS AMAZONICA, &c.; also 70 lots of Stove and Greenhouse FERNS, and PLANTS, PALMS, and ARAUCARIAS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on THURSDAY NEXT, January 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Monday Next, January 21.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, January 21, at 12 o'Clock, choice HARDY PERENNIALS, thousands of CARNATIONS and PICOTEES, LILIES, collection of IRIS, CLEMATIS, SEAKALE, 300 DWARF ROSES, a surplus stock of rare Hardy BULBS, Home grown LILIES, Hardy CYPRIPEDIUMS, HOLLYHOCKS, &c.

On view morning of Sale, and Catalogues had.

Friday Next, January 25.

IMMENSE SALE of ORCHIDS.

WITHOUT THE LEAST RESERVE.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 25, at half-past 12 o'Clock, the following:—

Seventy Cases of

LÆLIA PURPURATA,

which will be offered in cases. Magnificent varieties will be found among this lot. Plants are full of fresh green leaves, in the most perfect order and condition—they could not be finer.

ASSAM and BURMESE DENDROBES.
The First Great Sale of the Season.
DENDROBIUM FORMOSUM GIGANTEUM,
grand masses, in simply wonderful condition, eyes plump and dormant.
DENDROBIUM LUTEOLUM,
a splendid lot of plants.
DENDROBIUM FYTCHIANUM.
D. CHRYSOTOXUM, enormous masses.
D. FIMBRIATUM OCULATUM.
D. DENSIFLORUM, a very remarkable type.
D. CHRYSANTHUM, D. CRETACEUM, D. MARMORATUM, D. FALCONERI, D. DEVONIANUM.
CATTLEYA INTERMEDIA,
CATTLEYA LEOPOLDII,
in the finest condition, full of fresh green leaves.
VANDA CŒRULEA,
The finest type of this inimitable Orchid. We specially recommend this importation, guaranteeing it to contain the finest varieties of this grand Orchid ever seen. Plants are simply marvellous.
CALANTHE SPECIES, from Burmah.
CYPRIPEDIUM SPECIES, from Tambelan Islands.
CATTLEYA,
from the Venezuelan Borders of Colombia, some of which are similar to C. Lawrenceana, and others resemble C. Mendelii. Only a small lot were received, and all are offered.
LÆLIA AUTUMNALIS? GRANDIFLORA,
imported by us for the magnificent L. Wendlandiana. An unpublished species, discovered by Herr Wendland.
A magnificent lot of the lovely
CYPRIPEDIUM PARISHII,
grand plants, in exceptionally fine order.
Also a fine lot of the charming
CYPRIPEDIUM BELLATULUM.
Also fine lots of
VANDA ROXBURGHII CŒRULEA MAXIMA, the large dark blue-lipped variety; V. HOOKERIANA, ONCIDIUM CAVENDISHIANUM, HABENARIA SUSANNÆ, MAJOR, H. CARNEA, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

OVER 1000 LOTS OF PLANTS AND BULBS.

2000 Choice named, Standard, Dwarf and Climbing ROSES, from a leading English grower, including many of the best and most popular sorts.

Surplus Stock of a Nursery, comprising a fine COLLECTION of LAURELS, RHODODENDRONS, AZALEAS, YEWS, PÆONIES, Golden BOX, IVIES, LILACS, ABIES, CUPRESSUS, CONIFERS, HYDRANGEAS, &c. All well grown and in fine condition for present planting.

200 Well-grown Pyramid and Dwarf-trained Fruit TREES, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, also CURRANTS, GOOSEBERRIES, &c.

A Collection of Carnations, Pinks, Picotees, &c., HOLLYHOCKS, GLADIOLI to name, CYPRIPEDIUM SPECTABILE, AMARYLLIS, BEGONIAS from Ghent, LILIUM HARRISI, FREESIAS, 15,000 LILY OF THE VALLEY Crowns and Clumps, 1000 SPIRÆA JAPONICA and PALMATA, DIELYTRA SPECTABILE, IRIS, ANEMONES, 3000 South African TUBEROSES, ARUMS, HYACINTHUS CANDICANS, &c.

An Importation of Liliums from Japan, comprising LILIUM AURATUM, L. A. PLATYPHYLLUM, L. KRÆTZERI, L. LANCIFOLIUM RUBRUM, SACRED LILIUMS, &c.

Also a Great Clearance of Dutch Bulbs, nearly 10,000 unsold lots from Sales during the season, comprising HYACINTHS, TULIPS, NARCISSUS, CROCUSES, LILIUMS, &c., in large quantities, without reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 23, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

WANTED, TO RENT, a good PIECE of LAND, suitable for Market Gardening, with Glass and a Cottage; no stock. South of London.—J. H., Mr. J. Noise, 32, Mercer Chambers, Long Acre, W.

WANTED, to RENT, at once, a SMALL MARKET NURSERY, with DWELLING-HOUSE attached preferred; within twenty miles. Option of Purchase. —FRUIT, 41, Wellington Street, Strand, W.C.

WANTED to Rent, PRIVATE GARDENS, with good Glass and Dwelling House. Midland counties preferred. No stock.
N., 41, Wellington Street, Strand, London, W.C.

ESSEX (10 miles from London).—MUST BE SOLD IMMEDIATELY through ill-health. A NURSERY of 3 a. 1 r. 4 p., with eleven Greenhouses, Dwelling House, and Stables. Lease 20 years. Rent £45. Any reasonable offer entertained.—Full particulars of Messrs. PROTHEROE & MORRIS, 67 and 68, Cheapside, London, E.C.

FOR SALE, Cheap, a Small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation house, &c., heated by hot water; near main road. Apply to— W. H., Park Row Nursery, Greenwich.

FLORIST and SEED BUSINESS for DISPOSAL.—Within twenty miles of London; near station; in main thoroughfare. For particulars apply to—
E. B., 41, Wellington Street, Strand, W.C.

TO BE SOLD.—A FREEHOLD NURSERY, about half a mile from station, and sixteen from London. The property contains a total area of 17 a 0 r. 11 p., 60,000 feet of Modern Glasshouses, heated with about 14,000 feet 4-inch hot-water piping. Brick pits, good dwelling-house, stabling, coach-house, packing, potting, and other sheds, hot and cold water tanks, and all requisite appliances for growing Fruit, Plants, or Cut Flowers. The whole would be sold to an immediate purchaser at a great sacrifice. The owner, through declining years and having another large business, and residing nearly 30 miles from Nursery, is now unable to attend to same. Part of the purchase-money could remain on mortgage at 4½ per cent. Apply to—
Mr. W. UNWIN, Salesman, Covent Garden Market.

TO FLORISTS.—TO BE LET, about 2 Acres of LAND, and 5 well-built Greenhouses.—Apply to ALFRED BOWYER, Surveyor, Enfield Town.

TO NURSERYMEN and OTHERS.—TWO TOMATO-HOUSES, 100 feet long by 14 feet wide; one 50 feet by 14 feet; one Rose House, 35 feet by 16 feet, with Heating Apparatus complete. These splendid houses cost over £500 not three years ago, and are being sold cheap, as the company having got notice to quit is giving up business. Also a large quantity of RHUBARB and SEAKALE ready for forcing. Large beds of ASPARAGUS, that may be lifted in April. Nearest Railway Station, Shireoaks.
Apply to the SHIREOAKS MARKET GARDEN CO., LTD., Netherthorpe, near Worksop.

GREAT SALE
OF
ORCHIDS.

(BY PRIVATE TREATY.)

JOHN COWAN & Co.
(LIMITED),

Have just purchased from His Grace the Duke of Montrose the large and well-known COLLECTION of ORCHIDS formed by the late DOWAGER DUCHESS OF MONTROSE, Sefton Lodge, Newmarket.

The Collection is now being removed to the Company's Premises at Garston, and will be on VIEW from THURSDAY, the 24th inst., and on SALE from TUESDAY, the 29th inst.

Descriptive and Priced CATALOGUES will be prepared, and, with a view to giving an equal chance to all Purchasers, all the Catalogues will be posted on SATURDAY, the 26th inst., and no Catalogue will be shown, nor Prices quoted, to anyone before that date. Copies of the Catalogues will be sent to all the Company's patrons, or to anyone who may furnish the Company with their name and address for that purpose, on the date named.

It will be in the recollection of many that one purchase of Orchids was made by the late Dowager Duchess of Montrose for her collection which consisted of ONE THOUSAND ORCHIDS FOR ONE THOUSAND GUINEAS.

The Company have also just received another very large Importation of ORCHIDS from BRAZIL, in the most splendid condition.

CATALOGUES, with full particulars, post-free on application to the COMPANY.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

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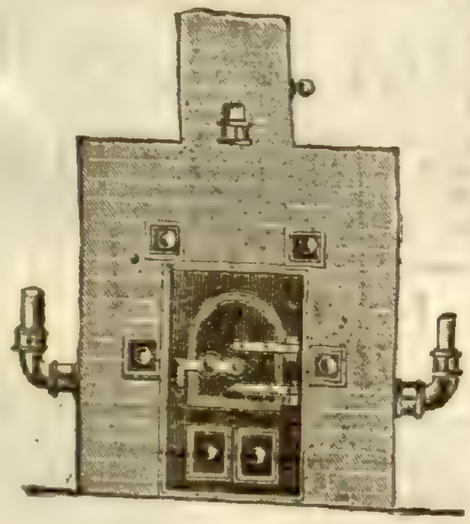
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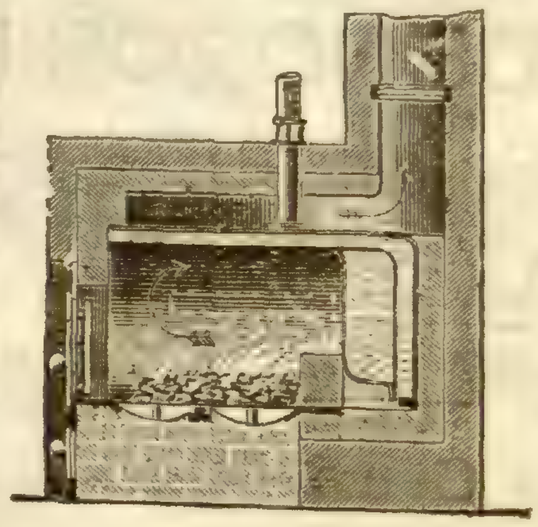
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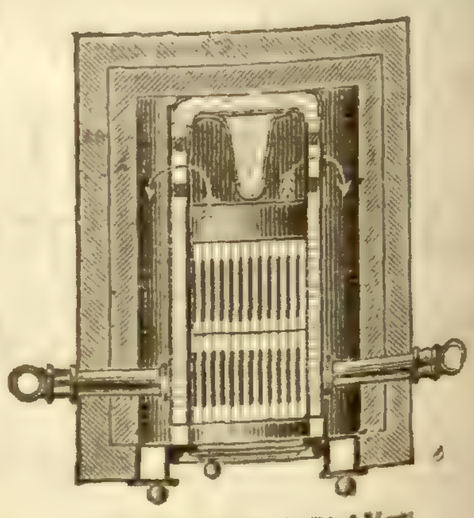
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Samples of three of each tree to be delivered, and Tenders also addressed to Mr. C. J. Gunyon, Surveyor's Office, Town Hall, Wood Green, N., on or before 5 P.M., on Friday, 25th instant. Prices to be sent in at per tree.

The Council reserves to itself the right to take part or the whole of the trees, and will not be bound to accept the lowest or any Tender.

(Signed) CHAS. J. GUNYON, Surveyor.

Town Hall, Wood Green, N., January 14, 1895.

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THE
Gardeners' Chronicle.
SATURDAY, JANUARY 19, 1895.

GARDENING IN NORTHERN RUSSIA.

WHEN we enter the Arctic Circle, and approach Russia from its northernmost European port, we can hardly expect to see much of horticultural interest. To any one, however, interested as I am in the history of our English gardens, the voyage round the coast of Norway to Archangel, and the brief sojourn there, which I had the advantage of making last summer, owing to the kindness of Mr. Harmsworth and Mr. Jackson, had necessarily an added enjoyment of association, for it was by this route that John Tradescant the Elder, the first botanist to visit Russia, sailed in 1618. He started from Gravesend on June 3; I from Greenhithe on July 12; but in 1618 they took thirteen days to reach Tynemouth, nineteen days more to reach the North Cape, and ten more to reach Archangel; whilst in the *Windward* in 1894, though we had contrary winds, we accomplished the whole distance in nineteen days. Tradescant accordingly was at Archangel from July 16 to August 5 (Old Style), whilst my stay in the vicinity occupied the first half of August. He, however, seems to have sailed round the North Cape, whilst we kept inside the fiords, within a short distance of the shore, from Christiansund to Honnings Vaag on Mager Oë.

We made but little close acquaintance with Norwegian gardens; but were struck by the spring-like verdure of the scanty pasturage, and the height to which vegetation of some sort extended up the granitic mountains of the coast-line. In places where a foreground of long bents and ling were all we could distinguish from the deck, close-growing Juniper on the lower slopes passed into straight-growing, well-thinned groves of Pine at higher levels, relieved by occasional silver Birches. As we approached Tromsoë we saw many good crops of hay being harvested or drying on lines, and some considerable patches of Barley and Potatos. The latter were in full flower, and though green and luxuriant enough in the haulm, suggested a poverty so far as tubers are concerned, which certainly was characteristic of Northern Russia. On reaching the neighbourhood of Hammerfest the coast became treeless and barren; but there was still some verdure up to an altitude of 1000 feet. After leaving Mager Oë Sound on July 26, we saw no vegetation, except a distant view of the Lapland tundra, until, on the 31st, the woods of Fir and Birch on the distant shores of the wide mouth of the Dwina came in sight. Then, as we entered a narrower channel, we were soon tantalised by an abundant

and most familiar river-bank flora. Bulrushes, Reeds, and Water Plantain, backed by Willows, Birches, Alder, Spruce, and Pine, were succeeded by clumps of Male Fern, Angelica, Meadow-sweet, Tansy, Yellow Loosestrife, and Rose-bay, tangled over with the tufted Vetch—and by evening we were at Archangel.

It is not my present intention to speak of the interesting assemblage of plants we found on the ballast heaps of Solombol, those ballast heaps which three centuries of trade have made practically into British soil; nor of the wild plants of the neighbouring swamps and shores, many of which are interesting from having been noticed by Tradescant—but of what there was of cultivation. As we rattled in our droshkis over the cobble-stones of its streets, Archangel strikes us as a bright summer city. The weather-boarding painted white, and the green roofs of the houses, conceal their solid internal construction and all those of any importance have a court-yard with some trees, and generally a swing or giant's-stride. These trees, are mostly Birch, with some Mountain Ash, Bird-cherry and Spruce; but more interesting to a horticulturist were the flowering-plants indoors.

Few things strike a Londoner more, throughout northern Russia, than the universal presence of well-grown flowering plants in dwelling-rooms. In the studio of the city photographer, and even in the monks' cells of monasteries farther north than Archangel, Oleanders, Crotons, Petunias, Pelargoniums, Coleus, or Fuchsias, occur in almost every room. The double windows, so necessary to keep out cold, now have the draught-tight space between them filled with such flowers as these, and it does not seem necessary to a Russian to open them for air, even during their short, hot summer. As many of my friends were obviously entirely ignorant of the climate of Archangel, and it tells one but little to say that its annual average temperature is 34° Fahr, I may mention that, though its January average is only 10° Fahr, and from September to June it is buried in snow, and shut in by ice, it is hardly to be wondered at, when we see the sun shining for about twenty-two hours out of the twenty-four, that its July average is 60° Fahr.

With nine months' winter we hardly expect much open-air gardening; but, judging from several fine large Palms lent by a resident when the English Polar Expedition entertained the Governor and local officials at luncheon, there must be some large glass-houses. The public gardens are not attractive, being merely a square enclosure, not larger than some London squares, with straight avenues of Birches not remarkable for size, coarse unkept grass, a band-stand and a refreshment-room. Our whole route to Moscow followed the track of a vanished British trade, and considerable consequent decadence. What the founding of St. Petersburg began, the Crimean War completed; and, though much is hoped from the railway now in progress between Vologda and Archangel, both these cities show many signs of departed grandeur. This is very evident in the garden of the British Vice-Consulate, once the head-quarters of the Russia Company. A fine vinery, orchard-house, and conservatory, with dwelling-rooms for a gardener attached to them, were all in ruins; and most of the extensive kitchen and flower-gardens and shrubberies had run wild. The many varied and large-flowered specimens of Viola tricolor in one bed suggested degenerate garden Pansies, until I found similiar ones wild in many places. I found a few Strawberries just ripe on August 2, but though the grey crows seemed to be already eating the Rowan berries, my hospitable host, Mr. H. A. Cooke, the British Vice-Consul, informed me that the Bohemian waxwing does not arrive to feed upon them until September. Under the Bird-cherries (Prunus Padus), the twigs of which, Tradescant says, were used to make hoops for casks of caviare, and made "the best hoops in the world," Aconitum septemtrionale was growing luxuriantly, its flowers now going off; whilst I do not think I have anywhere seen the ubiquitous Gout-weed more ornamentally developed. Though in shade, its white umbels were borne on numerous stems nearly 3 feet high over the familiar carpet of bright green foliage.

Among vegetables eaten here, Potatos are, as I have said, small and poor, Radishes large and coarse, Turnips and Lettuces good, Mushrooms much used in a very young stage. Small fruits, both wild and cultivated, are somewhat numerous. In addition to Raspberries and Currants, there are in the market an abundance of Whortleberries and Cranberries; but the most delicious preserve of the country is made from the Cloudberry (Rubus Chamæmorus), sometimes called the Yellow Cranberry, and perhaps better known to many Englishmen as the möltebeere of Norway than as the avron of Scotland. It was the first plant noticed here by Tradescant in 1618, and is still abundant on most moist, heathy ground. Tradescant accurately describes it as resembling the Strawberry, but with leaves in some measure like the avens, and as having an amber fruit, which was used as a remedy against the scurvy. He dried some of the berries, and afterwards sent some of the seeds to Robin of Paris. I first tasted jam made of this "maroschka," as it is called, in a peasant's house on my second evening in Russia. In flavour, as in colour, it resembles apricot. The Rowan-berries are soaked in "vodka" (corn-spirit), and make a somewhat bitter red-coloured liqueur, known as "Rubiniya," and I was informed that the Bird-cherry was similarly employed. I must not forget the little Russian Cucumbers, which were hardly ever absent from the menu. *G. S. Boulger*, 18, *Ladbroke Grove, W.*

(To be continued).

NEW OR NOTEWORTHY PLANTS.

ASPLENIUM HARRISI (EUASPLENIUM), *Jenm. n sp* *

THIS very fragile, delicately thin little species belongs to the A. viride group, from all which, however, it is characterised by several distinguishing features, but chiefly by its attenuation upwards into the naked thread-like tail, proliferous at the end, a feature which not only marks it from its Jamaica allies of the A. Trichomanes group, but also from the nearer Andean allies. The buds at the end of the tail form new plants, the tip of the fronds of which are again rhizophorous, and so go on making new plants and forming more or less matted patches, as in A. rhizophorum. *G. S. Jenman, Demerara, Dec.* 13, 1894.

LÆLIA ANCEPS, "ROSEFIELD VAR.," *n. var.*

A most beautiful and richly-coloured variety, the most striking features in which are the broad, dark blood-red lines displayed on the insides of the side lobes of the labellum, and which are almost merged into each other by a tinge of the same dark colour; the broad and well-rounded side lobes and front lobe of the lip, which are of a bright dark crimson, with a purplish shade; and the well-defined cream-white disc on the lip, up the centre of which runs the orange-coloured keels. The sepals and petals are bright rose-purple, with a clear white band at the base of each. The variety is good in form, very remarkable in colour, but in size equal only to a good ordinary variety. It flowered with De Barri Crawshay, Esq., at Rosefield, Sevenoaks. *James O'Brien.*

LÆLIA ANCEPS CRAWSHAYANA, *n. var.*

Two superb varieties of Lælia anceps have flowered in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, out of a selection of plants acquired from the Liverpool Horticultural Co., from their importation, known as L. a. Morada and L. a. grandiflora. The one selected to bear the name of its owner is, perhaps, the largest and most beautifully formed of any variety of L. anceps which has yet appeared; its massive flowers viewed at a distance having, in its broad petals and well-displayed sepals, a resemblance to those of Cattleya labiata. The petals of the flower measured were 3 inches in length, by 1¾ inch wide. Both sepals and petals are of a clear purplish-rose. The broad labellum is of a rich crimson-purple, on the front lobe, and edges of the side lobes. The keels running from the base of the lip are yellow, and the insides of the side lobes folded over the column, streaked with dark purple lines. *James O'Brien.* [See Royal Horticultural Society's Report in present issue, p. 81.]

VANDA KIMBALLIANA.

OUR illustration (fig. 10, p. 69) of a group formed of several fine specimens of Vanda Kimballiana, is taken from a photograph kindly sent by Major Mason, The Firs, Warwick, in the autumn of last year. The species was originally imported, together with the allied V. Amesiana, by Messrs. Hugh Low & Co. from the hills in the Southern Shan States of India a few years ago, and since that time the plant has been got over in quantity by several other firms. At first the plants were subjected to the highest temperature found in Orchid-houses, and many were not successful in cultivating them satisfactorily. Later, when it became known that the plants were found in their native habitat, at an elevation of 4000 to 5000 feet, and where occasional hoar-frosts were a consequence of the lowness of the temperature, the other extreme was advocated, and the plants advised to be grown in the coldest house. Where this was literally interpreted, the result was no more satisfactory than where the plants had been subjected to great heat, but with those whose cool-house was kept at a genial temperature, the results were satisfactory. Major Mason, whose plants have been in admirable condition from the first, seems to have adopted the middle course, and which is probably the proper one. Of his plants he says, "We grow them at the coolest end of a warm house, in baskets suspended near the glass of the roof. They grow in sphagnum moss and crocks, and certainly thrive in a marvellous manner. The plants were grouped in the fernery for the purpose of photographing them."

ORCHID NOTES AND GLEANINGS.

CALANTHES, &c., AT HARROW WEALD HOUSE.

A LARGE quantity of plants of Calanthe vestita and C. × Veitchii have been remarkably well grown by Mr. Rapley, gardener to H. Grinling, Esq., and they have produced a profusion of bloom, making a great show in the house, which has lasted for a considerable time past, and is at its best at the present time. The entire side of the house is occupied by the Calanthes, with a few other plants to afford foliage, and a very effective display is thus made. Some idea of the strength of the flower-spikes will be obtained when we state that one which we counted bore thirty-seven blooms.

Orchids are grown chiefly for cutting in this garden, consequently showy species, and especially those which bloom in the winter, are cultivated. Among those at present in bloom in the neat little Orchid-houses are fine examples of *Odontoglossum crispum*, O. Cervantesii, and O. c. roseum; O

* *Asplenium Harrisi* (*Euasplenium*), Jenm. n. sp.—Rootstock little larger than a pin's head, densely clothed with minute dark scales; stipites tufted, thread-like, dark glossy brown, 1 to 1½ inch long, often flexuose, channelled; fronds pinnate, semi-erect or prostrate, 3 to 5 inches long ⅓ to ½ inch wide; rachis very slender, glossy, brown, channelled, slightly margined in the upper part, and extending its thread-like naked tail 1 to 1½ inch, gemmiferous, and rooting at the end; pinnæ bright, glossy, translucent, membranous, naked, apart, spreading, both the upper and lower gradually reduced, 2 to 3 lines long, rounded and crenate in the upper and outer part, the base truncate, dimidiate from the inferior side being cut away, the minute upper ones cuneate; veins fine, forked, flabellate, open, no mid-veins, terminating within the margin; sori medial oblique, ⅓ to 1 line in length, occupying both the superior and inferior veinlets; involucres silvery, flat, eventually raised.—Jamaica, Blue Mountain Peak, over 7000 feet elevation, collected and communicated by Mr. Wm. Harris, November, 1894.

grande, O. gloriosum, Maxillaria grandiflora, Lycaste Skinneri, Sophronitis grandiflora, Lælia anceps, L. albida, and L. a. bella; Cattleya Trianæi delicata, Saccolabium giganteum, Dendrobium bigibbum, D. nobile, D. Wardianum, Epidendrum cochleatum, the singular Eulophia megistophylla, Cypripedium venustum, and a large and well-flowered lot of varieties of Cypripedium insigne. An interesting and uncommon example of good culture, is a fine plant, with several spikes of flowers, of the white form of Lælia rubescens, more commonly known as L. acuminata and L. peduncularis.

DENDROBIUM BURSIGERUM ALBUM.

A plant of this new white form of the pretty species, which was originally named by Dr. Lindley, and afterwards confirmed by the late Professor Reichenbach, is now in flower with Messrs. F. Sander & Co., St. Albans, the original introducers of living plants of the species a few years ago. The flowers of the type are rosy-lilac, but the variety alba has pure white flowers with orange-coloured labellum. It appears to be an ally of D. secundum, having the same one-sided raceme of flowers; but Professor Reichenbach stated that it was distinct from that species in having "nearly or quite acuminate sepals and petals, in the pouch of the lateral sepals being very curved and broader, in the base of the lip being nearly cordate hastate, in the yellow area of the anterior lip being far longer than in D. secundum.

FIG. 10.—VANDA KIMBALLIANA: GROWN AT MAJOR MASON'S, THE FIRS, WARWICK. FLOWERS 2 INCHES ACROSS, WHITE; LIP PURPLE. (SEE P. 68.)

It is not an easy plant to keep in health and bloom regularly for any length of time, but the specimen referred to is a perfectly healthy and vigorous one, and its pretty heads of flowers, which at a distance resemble some of the Ixias, are very attractive. The whole of the plants at Harrow Weald House are grown comparatively cool, and they are in excellent condition, and give promise of a good and continuous supply of flowers. Some plants of Cœlogyne cristata have pseudobulbs of extraordinary size. Formerly they were in pots, and were not remarkable for vigour. Ultimately, Mr. Rapley placed them in deep pans, and by skilful management they have become of extraordinary vigour and floriferousness.

ORCHID COLLECTIONS IN THE NEIGHBOURHOOD OF LEEDS.

Being in Leeds lately, and having a few hours to spare, I took the opportunity of calling at two well-known gardens on the outskirts of the city. My main object was to inspect the Orchids, having learned from various sources that considerable additions to each collection had been made during the past twelve months. First, J. Hawthorn Kitson, Esq., Elmet Hall, Roundhay. Some four good-sized houses contained a good all-round collection, two of them having been recently fitted up specially for Orchid culture. One of them is a low span-roof, some 45 feet long by 16 feet wide, which was filled with Odontoglossums of the cool section. There was a good number of established plants, which from their well-developed growths just finished and finishing are likely to furnish plenty of flower-spikes in the coming spring months. These plants were on the central stage, part of which, together with those on the side stages which run entirely round the house, number about 1000 plants. These are imported plants bought in May last, and fully 70 per cent. of them are making healthy growths. As time goes on, there should certainly be much to interest the proprietor and his gardener in watching the unfolding of the flowers. In what may be termed the Cattleya-house, the following varieties were in flower: Lycaste Skinneri alba, a fine plant and variety with five open flowers; L. aromatica, Cypripedium Leeanum superbum, Zygopetalum ciliare, and Maxillaria, splendid varieties of this old but yet useful winter-flowering sweet-scented Orchid. There was

also a fine lot of Calanthe Veitchi vestita rubra and the var. oculata; some spikes of the former had fully forty flowers thereon open and opening. Mr. Bonsall, the gardener at Elmet, is much interested in the hybridising of Orchids; and some of his crosses, if he should succeed, will doubtless be of a very interesting character. The whole collection showed that it received much intelligent care on the part of the gardener.

T. R. JESSOP, ESQ., THE GRANGE, ROUNDHAY.

The Orchid collection here is evidently extending amazingly. Those gardeners who, like myself, reside more or less distant from the enterprising centres of horticultural activity, have their minds opened by visiting such places as those of Mr. Kitson, and similar examples probably number hundreds in various parts of the country. Mr. Jessop is an enthusiast in Orchid culture. To a gentleman like him, well known as possessing one of the largest practices in the country as a consulting and operating surgeon, it must be a real solace to mind and body to spend a part of his few spare hours amongst his Orchids. Nearly all the leading genera and species are included in the collection, and by way of increasing the interest therein nearly all his purchases are of either new importations or unflowered plants. My notes being but brief, I shall not attempt now a full description. Odontoglossum grande, potted in turfy loam and clean crocks, had much finer growths than when grown in peat. In a vinery I noticed some plants of Dendrobium Wardianum with splendid growths, studded with flower-buds nearly their whole length of 3 feet. In the warmest corner of the Cattleya-house were Phalænopsis of various species, and which seemed to be in perfect health. At one end of a temperate-house I noticed, amongst others, the following Orchids in flower, viz. Dendrobium Phalænopsis Schroderianum, a splendid variety, no two plants being exactly alike; Odontoglossum Rœzlii, fine plant and variety; Oncidium tigrinum and O. pubes, Catasetum cristatum, a plant of Lælia anceps with fully fifty spikes. These plants had been grown in a Peach-house during the past summer; and among them were observed some fine plants of the Morada type. Other plants were Angræcum citratum, Lycaste plana Measuresiana, and Cattleya Schroderi, the latter being out of its season a while. In a span-roofed house, recently erected for Odontoglossums and other cool Orchids, was an excellent lot of established plants of the leading kinds. Though few were in flower, many of them showed by their healthy growths that there will be no lack of flower-spikes by-and-by. The whole collection bespeaks the great cultural care bestowed on them by Mr. Tyson, the gardener. *H. J. C., Grimston.*

GREENHOUSE HARD-WOODED PLANTS.

(*Continued from* vol. xvi., p. 722.)

POLYGALA.—This genus of plants is an extensive one, but the varieties best suited to greenhouse culture may very conveniently be kept under the half-dozen, and they are natives of the Cape. The time was when large plants of Polygalas were frequently included in exhibits of greenhouse plants during May, or early in June. These, when well-flowered, formed very distinct features in any collection, by reason of their colour and habit. It is very rare, however, to observe them now in anything like a presentable condition, owing to want of good management more than anything else. They are not difficult plants to cultivate, and are of very free growth. They will last in good condition for fully five or six weeks. When once the flowers are expanded, and have gained their proper colour, the plants should be kept in the shade, and as cool as possible, otherwise the colour will soon fade. Being desirous on one occasion to retard a large specimen of Polygala Dalmaisiana, I kept it out of doors from early in April onwards without any harm coming to it. I then noted how well the plants withstood the rain even when in full bloom.

As soon as the plants are out of flower, whatever pruning is needful should at once be done; this should not be later than the middle of June if possible, otherwise the growth will not have time to fully develop, so as to ensure another crop of flowers the following season; for if the embryo flower-buds cannot be detected on close examination by the middle of October, there will not be much hope of flower the next year.

It is the omission to prune early which has given many a Polygala the character of being shy-flowering, whereas it is not so. Some need more pruning than others. P. Dalmaisiana, for instance, may be cut back when of full size, as if clipping Box-edging. This variety will always break afresh very freely, and is of very compact and self-supporting habit. P. oppositifolia is more disposed to make stronger shoots, but fewer of them; therefore, when framing a plant of this species, it is better to tie down these strong shoots. Afterwards, by careful attention in stopping the stronger ones whilst still soft and sappy, there need not be any difficulty to maintain a well-balanced plant. I have seen this latter kind heated as a semi-climber, but I do not admire the plan. I see no reason, however, why it should not be trained to cover walls, or up pillars. I consider these two species to be the best for all practical purposes; they are perfectly distinct from each other. P. cordifolia much resembles P. oppositifolia, differing more in the shape of its foliage, which is heart-shaped, than in anything else. P. myrtifolia grandiflora, I believe, to be synonymous with P. grandis of catalogues. P. Dalmaisiana is the best form of P. myrtifolia. In all there are twenty-four species enumerated by Paxton in his *Botanical Dictionary*, but I am inclined to think that some of these are identical.

In all but the very worst positions the Polygala may be grown out-of-doors from June to the end of September. This covers the greater part of the growing season, and well-hardened outside growth is infinitely the best. Exposure to sunshine and frequent syringings will aid in expediting the growth, and also in keeping down the red-spider, which is about the only insect that is really troublesome, and this even not seriously so. When housed, the cool greenhouse is the best place, with liberal ventilation on all favourable occasions. Some writers recommend peat for growing the Polygala, but in my experience the best results have been from using about two-thirds of good fibrous loam to one-third of peat, with sand in addition. Bearing in mind that the plants may, under good management, remain in the same pots for two or three years, it is incumbent to pot thoroughly firmly. When plants are growing in large-sized pots, a reduction of the balls may be safely performed, so that the same size of pot may again be used. Polygalas require more water than many other hard-wooded plants, and they should never be allowed to become dusty-dry; in this respect, I should place them in the same category as Myrtles. *James Hudson.*

KEW NOTES.

TECOMA SMITHII×.—I have noted the flowering of this plant at Kew every year for the past four years, but it deserves noting again to keep it in mind. Many who have essayed its cultivation are disappointed with it because it does not flower, but when properly treated it flowers freely, producing its large terminal panicles of bright yellow, orange-tinged flowers in mid-winter and early spring. There is a group of it in flower now in the temperate-house at Kew, and there are other plants not so far advanced which will keep up the display until April. The history of the plant is now well known. It can be obtained from the London nurserymen, and it deserves to be in every conservatory. I believe it would be hardy in Cornwall. Cuttings struck in early spring in a warm house, and when rooted, potted on into 4-inch pots, will, if put outside in June, and left in full sunshine till the cold weather comes, make single stems 18 inches high, which cannot fail to produce a good head of bloom. All lateral growths must be removed, one stem with one head of flowers must be aimed at. For figure see *Gardeners' Chronicle*, Nov 25, 1893, p. 649.

KLUGIA NOTONIANA.

This is a good greenhouse plant, but a miserable failure in the stove. It has done well this year at Kew in a greenhouse along with Boronias, Chorizemas, and such like plants, and it has been in flower from midsummer until now. The plants are 18 inches high, with thick fleshy stems, obliquely cordate, dark-green, hispid leaves, and terminal racemes of flowers which are not unlike the flowers of the Bladderworts in shape, the lower segment of the corolla being large and lip-like. In the *Flora of British India*, the flowers are described as small, but at Kew they are fully an inch across, and, excepting the base, are of the richest blue colour, clear and rich as the bluest of Gentians. Mr. Nock, of Hakgala, recently informed me that on the Ceylon hills it grows in abundance in wet places, and that it is used for making curries. Klugia is a genus of four species, three Indian and one Mexican. It belongs to the Gesneiads, and is related to Cyrtandra, Æschynanthus, &c. Here it is a perennial, but in the *Flora of British India* it is said to be an annual.

MORMODES ROLFEANUM.

There is a plant of this distinct species of Mormodes in flower now at Kew, which differs in some particulars from the plate of it published in *Lindenia* in 1891, t. 289, in having a short raceme bearing two flowers and a bud; whereas, in the picture it is represented with a five-flowered raceme. There is a difference also in the colour and size of the segments, which, however, may be varietal. It may be described as a M. luxatum with tawny-yellow and red flowers. The sepals and petals are yellowish with green stripes, and the lip is a kind of Apricot red. A figure of it will shortly be published in the *Botanical Magazine*. This species was introduced from Peru by L'Horticulture Internationale in 1891, and was named by M. Lucien Linden in compliment to Mr. Rolfe of Kew.

PLEUROTHALLIS SCAPHA.

This is one of the most attractive of the numerous species of Pleurothallis. It has been in cultivation since 1874, when Reichenbach described it from a specimen flowered in the collection of the late Mr. John Day. It is now in several collections known to me, the Kew plant having been obtained from Mr. Moore, of Glasnevin, four years ago. It has a dozen leaves 8 inches long, and five flower scapes, the longest of which is 9 inches in length, and bears seven flowers, there being about thirty open flowers altogether. Each bloom is 3 inches long, and has two filiform petals which project and curl forward like a pair of antennæ; the two lower sepals are united, and form with the dorsal sepal a tube, the upper portion being prolonged and narrowed to filiform tails; they are dull creamy white, tinged and streaked with dull crimson. The lip is small, smooth, and lance-shaped, with the lateral lobes folded over, and looking like a supplementary lip. A figure of this plant has been prepared for publication in the *Botanical Magazine*. It belongs to the same section as P. insignis and P. glossopogon, which are equally remarkable for their large dull-coloured flowers, long sepals, and weak bristle-like petals. *W. W., Kew.*

SPOTS ON THE LEAVES OF ORCHIDS.

"THE black spots which sometimes appear on the leaves of Orchids, and which spoil their appearance, are generally produced by fungi, which fix themselves on the leaves, and are there developed as parasites, at the expense of the cellular tissue, which they gradually destroy.

These fungi belong chiefly to the genera Calospora, Dactylaria, Glæosporium, Cladosporium, Hypodermium, and Sphærella. Their determination is difficult, and requires not only a thorough knowledge of subject, but also long and very delicate researches, and sometimes special cultivation. When the

fungi are specially established on a leaf, it is easy to determine if it is a type already known, and if by chance it is not, to ascertain quickly its characters, and to assign to it its proper place in the system of classification. At the same time, it is possible to isolate them to study the conditions under which they live, their development, and the extent of their ravages, and thus, by knowing their habits, to know at the same time their subsequent occurrence, and to prevent their multiplication. It is, however, rare for these Cryptogams to occur isolated. There exist, moreover, a certain number of forms which inhabit our houses, and are found together on the same leaves, frequently with others growing upon them. When the parasitic fungi have penetrated the surface and attacked the substance of the leaf, the saprophytes which live upon the products of decomposition introduce themselves, whereupon the destruction of the leaf progresses rapidly, and the microscope can neither furnish indication of the nature of the disease, nor of its origin, the fungi being so much mixed up with other vegetation.

It sometimes happens, indeed, as in the case of the fungus which sometimes attacks the Vanilla in the Seychelle Islands, Calospora Vanillæ, that the same fungus undergoes successive transformations as the disease spreads over the leaf. Thus the species in question, C. Vanillæ, had already received three different names before the common origin of its three forms was known.

Supposing, indeed, that we are able to isolate and determine the different fungi present, it is impossible, without knowing thoroughly the life-history of each, either to say which form commenced the attack, and opened the way for the others, or what would be useful to check the spread of the disease. With four, five, or even ten different fungi present, how can we determine the parts played by each in the mischief? In such cases one must proceed to cultivate the species separately, and submit them to prolonged observation. One learns thus their nature and habits. Afterwards, if traces of analogous wounds are found on the leaves, their origin can immediately be determined.

Thus we see how much research is necessary to obtain a definite result on such a subject. It is much to be desired that amateurs should facilitate these researches by sending materials—namely, the diseased leaves which they find in their houses—to the laboratories established for this purpose, especially to the one which the Botanical Society of Brussels has recently established.

It is very important to cut the leaves as soon as the disease appears, and not when it is too far advanced to enable one to determine the origin. Sometimes, indeed, when the damage is first observed, the fungus itself which has caused it has already disappeared, having accomplished its work. This is the case, for example, with the Potato disease; the fungus dies after having destroyed the substance of the leaf, and when these become black, the mischief is already done beyond all possible remedy. The only things which we can then discover with the microscope are the various saprophytes which have succeeded the original parasite, now only represented by spores.

We may now speak of the methods of combating the fungi. These parasites generally develop when the houses are kept too hot or too cold, especially when the air is too close, and too much charged with stagnant humidity. In order to expel the fungi, we should therefore ventilate the houses as much as possible, and keep the temperature within proper limits, and observe generally all the precautions which tend to promote healthy growth. On the other hand, as we cannot entirely prevent the introduction of the fungi into our houses, we must examine the leaves from time to time, and wash them with weak tobacco-water. Those which we find attacked should be washed with a dilute solution of sulphate of copper, which is a better remedy in such cases. Lastly, those which are badly diseased, and on which the black spots have destroyed the surface, should be cut off and burnt to prevent the reproduction of the fungi. One should take care not to shake the leaves in cutting them, and should carry them wrapped in paper, so that the spores may not become detached, and so infect the other plants and propagate the disease. Lastly, one should avoid leaving dead leaves or other decomposing vegetable refuse on or under the stages, as this constitutes a very dangerous source of infection. Thus we see that cleanliness is of the utmost importance." *Comte de Moran* (*Journal des Orchidées*, vol. v.), *Lindenia, July*, 1894, *p.* 45 *et seq.*

FLORISTS' FLOWERS.

THE FLORISTS' SHOW TULIP.

Mr. James W. Bentley, Hon. Secretary of the Royal National Tulip Society, has taken upon himself a task which will undoubtedly elicit for him praises and thanks from all his brother florists who cultivate with so much pleasure and pride the florists' show Tulip. The task he has undertaken is to present to the public, through the medium of the *Journal of Horticulture*, a full history and descriptive account of the cultivation and properties of the florists' show Tulip, with a complete list or catalogue of all the varieties known to exist at the present period, and the first part of his paper appeared in the above-named journal (October 25 issue). The great object Mr. Bentley has at heart in writing so elaborately upon his favourite flower is evidently a desire to bring it as prominently as possible before the notice of all florists and amateurs in the suburbs and neighbourhood of London, and where, during the early part of the present century, the show Tulip was grown very extensively by many of the most distinguished and enthusiastic florists; and it is to be hoped that his endeavours will meet with the reward they so richly deserve, and that the exhibition tables of the Royal Horticultural Society and others of the south may, ere long, be abundantly adorned with stands and groups of this, the most gorgeous and fascinating species of florists' flowers. Mr. Bentley has already secured the support of one London enthusiast, who promises him great assistance, and that is the firm of Messrs. Barr & Son, bulb growers, of King Street, Covent Garden, and who have, I understand, purchased, at a cost of something approaching £150, upwards of fifteen thousand bulbs of the show Tulip, consisting of all the principal exhibition varieties.

Messrs. Barr & Son's object in entering into so bold a speculation is, as far as I can ascertain, to induce florists, and especially amateurs, to take the show Tulip in hand, and as an encouragement for them to do so, they are prepared to supply collections at the most moderate prices; and they have also entered into an arrangement with the Royal Horticultural Society for two exhibitions to be held in London during the ensuing May and June; and in conjunction with the above Society, Silver and Bronze Medals will be offered as prizes to exhibitors. May all their efforts be crowned with success will be the sincere wish of all lovers of this, the queen of florists' flowers. *James Thurstan, The Green, Cannock.*

Carnations.

January is a busy month for the florist, especially if the weather be favourable; his Carnations and Auriculas are practically at rest, but they are not off his mind. I have been busy to-day preparing compost for the Carnations. It is well known that the wireworm is a great enemy of the Carnation, and much too plentiful in fibrous turf, and partly-decayed fibrous turf is almost a necessity in the production of the best Carnation blooms. The amateur has to spend many hours carefully searching his compost, handful by handful, and where there is a good heap of it, this process may take the best part of a week. Many other plans had been tried to deal more quickly with the hard-skinned foe, but none was effectual until I hit upon a scheme which surely settles them. I said nothing about it until I was sure that its effects were also beneficial to the Carnations. The usual way of mixing the compost is to say so much loam, so much decayed manure, &c. Instead of this, as soon as the loam is brought into the yard I spread a thin layer on the ground, and over this a layer of fresh horse-droppings (I get a load fresh from stables where peat-litter has been used); another layer of loam and a layer of manure alternately, forming a good heap 6 feet high. We use three barrow-loads of loam to one of stable-manure, and the heap heats sufficiently to kill every living thing, wireworms included. I found some of them managed to get to the outer part of the heap in their effort to escape, but we set to work and turned the heap over, putting the outer part inside, and this was effectual. Leaf-mould can be added afterwards. I find composts mixed in this way are excellent for all kinds of pot-plants, such as Chrysanthemums, Cinerarias, Calceolarias, Fuchsias, &c. The ammonia from the fermenting manure is absorbed by the loam, nothing is wasted. I have just put up a heap containing eight cart-loads altogether, this will suffice for all the spring and early summer potting; our mind is easy on the subject of worms or grubs, and the compost is ready for using in about five or six weeks. It is always better to have a good heap of compost ready, so that everyone can use it for the different classes of plants to which it is adapted.

Except to see that Carnations and Picotees do not suffer from damp, in frames they do not require much attention. Auriculas must have decayed leaves removed, and both classes of plants should have free ventilation by tilting the lights well at the back whenever the weather is at all favourable. Hollyhocks claim attention this month, and preparation must be made to propagate them either by cuttings or root grafting. The Hollyhock cutting does not root so freely as a Dahlia cutting, or even a Carnation slip; and they require some care to get plants from them. The old stools are preserved during the winter in frames, or in a cool greenhouse, vinery, or anywhere if they are protected by glass-lights. All the growths round the neck of the stool are cut off closely but one; this one will form a vigorous plant itself. All the others are trimmed a little, removing the lower leaves, and they are planted singly and firmly in thumb-pots. These are plunged in the bottom-heat of a forcing-house, and protected by a glass frame; do not give them any water for a week at least, as water causes them to rot off at the base. If small pieces of roots can be obtained, the cuttings, if we may so term them, can be tied on to them firmly, the same as whip-grafting is performed. Any diseased leaves should be cut off, and the cuttings dipped into soft soapy-water and sulphur; this certainly seems to keep it off As soon as it is seen that the cuttings have formed roots, they should be taken out of the propagating-place, and in time they are inured to a cooler place, and re-potted as soon as they are established.

Seed sown now would produce plants that will flower in the autumn; they must, however, be grown on in boxes, and when large enough potted off. *J. Douglas.*

GAS-HEATING FOR CONSERVATORIES.

As I have had some little practical experience with these stoves, in connection with such tender-leaved foliage plants as Ferns, and managed, after much trouble, to vanquish all difficulties, so that I am now firmly convinced of the convenience and fitness of gas for the above purpose, a word or two on essentials may not be void of interest. Years ago, finding that the stoking, &c., attendant upon the usual system, was not only a nuisance to one who, like myself, has to see to it personally, but also inevitably led to breakdowns at critical periods, I resolved to try gas, and, for that purpose, had a small conical boiler fixed inside my fernery, with an atmospheric ring-burner underneath. The air-supply was admitted through a fairly closely-fitting door in the enclosing cylinder, and the fumes escaped, or were intended to escape, through a flue passing through the roof. This acted perfectly well in calm weather, and a nice genial

heat was maintained; but directly the wind rose, and became in the least gusty, it invariably blew down the flue a sort of snapdragon-kind of blue fire, which issued in volumes through the cracks of the door, and had an immediate toxic effect upon all young growth, and out went the gas, suffocated by its own fumes, leaving everything to freeze at its leisure. I tried to baffle this in all sorts of ways—various forms of revolving-cowl, &c.—but in vain; until one day, standing in the fernery, the door of which opening outward was shut, I noticed to my intense surprise and enlightenment, that after one of these exhibitions, and when the gust had spent its force, my fernery-door blew open from within. A little thought showed me that a great inequality of pressure was set up by the wind between the internal and external air. While the wind blew, it was forcing air into the house through every chink, the flue included, to restore the equilibrium, and when it ceased blowing, reaction set in, and hence the door blew open. I then perceived that if I closed the heating apparatus hermetically inside, and made the inlet outside, no air could possibly blow down the flue, damp out the gas, and poison the plants, because the same pressure was simultaneously applied at both ends, i.e., the inlets and outlets. I therefore had the thing reconstructed, and after that I had only to turn on the gas when frost sets in, turn it out when it was not needed, and pay the bill. Unfortunately, I cannot give definite data on this last point, as no separate meter was kept, but with a good atmospheric burner a little gas goes a very long way, and in my opinion, its reliability and freedom from trouble fully redeem any little extra cost involved. I have some frames now heated with a flow and return of 3-inch pipe, emanating from a small copper cone heated by a ring and little more than a pipe-light jet, and it keeps all frosts out in the worst weather. This is in a galvanised cylinder, housed in a little box set against the dwelling-house wall, and merely screened from tempestuous winds by a slate. *Chas. T. Druery, F.L.S.*

ASPARAGUS.

THERE is, perhaps, no crop in which the care devoted to its production is so largely repaid by the enhanced value of the product as Asparagus. It may be said that, like diamonds, the value of Asparagus increases as the square of its volume, so that a certain bundle of Asparagus which has cost twice as much that of some other to produce, sells readily for four times as much. Any good level land, provided that it be perfectly well drained, can be utilised for Asparagus-culture; but there is great advantage in choosing that which is light and easily worked, as the numerous operations involved in cultivating it, earthing up, cutting, and applying manures, are less costly, and can be executed in a far more complete manner. There are numerous cases in which plantations are made on grounds 10, or even 8, hectares (10 hect. = 24 acres) in extent, and cultivated entirely with the plough; nevertheless, handwork should always be employed in earthing-up and cutting. Manures should be plentifully given. It is in great measure to the liberal use of the street sweepings of Paris that the Argenteuil Asparagus owes its beauty and size. A little sea-salt, or such as is used for agricultural purposes, is a useful addition.

As regards varieties, preference should be given to the early and late Argenteuil varieties. The two varieties should be combined in every plantation, in the proportion of three-fourths of the former to one-fourth of the latter. The difference which characterises them lies not so much in the general period of production as in the more continuous yield of fine shoots of one or the other variety. At the beginning of the season the early sort yields very fine Asparagus; but soon the crop, though still abundant, diminishes considerably in size. It is then that the crop of the late variety comes in usefully to furnish Asparagus of good size, which then is still more welcome as the supply is scarcer.

It is used to improve the appearance of the bundles, or to form of itself choice bundles which sell for higher prices at the end than even at the beginning of the season. Among the reasons why the attention of growers should be directed to the wholesale cultivation of Asparagus may be mentioned: 1st, the general popularity of this vegetable, which keeps up its price in spite of the increase in its production; 2nd, the long endurance of Asparagus plantations when once established; 3rd, the possibility of making the cultivation of it exceptionally productive, by growing other crops at intervals between the rows, thorough preparation of the soil, and judicious use of manure; 4th, the relatively high prices obtained for the crop, which can be sent even to considerable distances to markets, before the local supplies are available. *H. de Vilmorin, in an address on "Les Legumes de Grande Culture," at Troyes.*

APPLE CANKER.

ALTHOUGH many years have elapsed since the life-history of the canker-fungus (Nectria ditissima), see fig. 12, p. 79, has been worked out by the mycologist, the majority of practical fruit-growers do not yet seem to fully recognise the fact that the parasite in question is the direct cause of the disease, and that—while every endeavour should be made to remove any unsuitable conditions of growth that may predispose to, and thus act as indirect causes of, canker—it is essential that steps should be taken to destroy or check the parasite itself.

It is not surprising that the "rank and file" of practical gardeners should fail to attach sufficient importance to the life-work of the destructive fungus, for nearly all our leading, pomologists have, in their published writings, treated this portion of their subject in a manner that is in the highest degree unsatisfactory. Some writers, when dealing with canker and its causes ignore the fungus altogether: this is playing Hamlet without the ghost. Others, while admitting that it may do something towards aggravating the complaint, regard its effects as of quite secondary importance. Others again look upon the fungus as an effect rather than as a cause. Thus, for instance, a well-known authority in a recently published and otherwise excellent little book on fruit culture says, with reference to Nectria ditissima, "although this fungus may be present in all canker wounds, yet it is probably only an accompanying effect and not the cause of the disease." In the same work is given a woodcut intended to represent the fungus; but the inaccuracy of the drawing compels one to suppose that it is the work of someone who has never examined the organism under the microscope. The fact of such an illustration being admitted indicates the slight importance attached to the fungus by the author.

Many similar instances might be cited, but my present purpose is not so much to criticise the work of my superiors, as to urge the necessity of directly attacking the parasite under consideration, in addition to adopting the preventive measures usually recommended. In other words, our warfare with fungoid pests should be offensive as well as defensive, if we desire to obtain a complete mastery over them.

Unfortunately, the presence of the fungus is not usually detected until it has been at work upon its spore capsules some time, for the bright red-coloured perithecia do not at first appear, and even these often escape observation unless carefully looked for. Remedies are seldom applied until the warty excrescences and open cancerous wounds proclaim the disease to be in an advanced stage. It is needless to say that when the disorder has progressed so far, drastic treatment is necessary. Diseased wood should be cut clean out with a sharp knife, and the wound after having been pared quite smooth, should be painted over with styptic made by dissolving shellac in spirits of wine. For dressing small wounds I have found Canada Balsam answer well, but this substance would doubtless prove too expensive for covering large surfaces. Spring is the best season for this excision of diseased wood and bark. If the cankered tissue extends so far round as to render the latter too weak to support a crop or to withstand the force of the wind, it is well to cut the branch clean off below the injured place. Should this amputation spoil the shape of the tree, the stump may be regrafted—unless, of course, a suitably-placed dormant bud be pushed into growth by the heading-back, in which case the gap may quickly be filled without re-grafting.

Although much may be done to arrest the spread of the disease by excision and amputation, it is highly desirable that the fungus should be checked at a sufficiently early stage to make such drastic measures unnecessary.

The most obvious precaution is to avoid grafting with a scion that is already affected, even in the slightest degree. If any of the red fructifications (perithecia) are to be seen, the shoot should be rejected, for, even if none of the innumerable spores contained in each perithecium succeed in obtaining a foothold, the mycelium which has given rise to the perithecia is able to grow within the living tissues of the stem. It is probable that the mycelium is able to keep pace with the growth of the host, so that a scion in which even the minutest portion of mycelium is present may produce a tree whose every branch and twig is ramified by mycelial threads. Sooner or later these must cause the characteristic sores of canker and the destruction of the tree is only a matter of time.

Whether the spores are able to penetrate the healthy cortex, or whether the fungus can only gain admission through cracks in the bark caused by frost or through puncture by insects, is a question that has not yet been decisively answered. Until recently it was believed that the spores of the fungus causing Larch canker (Peziza Willkommii)—a not distant relative of Nectria—could only attack its host through punctures or fissures in the bark, but it has been stated recently by Mr. J. B. Carruthers that they can pierce sound cuticular layers if the latter are sufficiently young. It is quite possible that the spores of Nectria possess the same power. This autumn I have observed numerous perithecia upon this year's growth of a badly cankered Victoria Plum tree. These perithecia are situated some thirty and odd inches above the point to which the shoot was pruned back last winter, and the growth in question has not so far as I have been able to judge, been attacked by aphides or other insects. Nor have I been able to detect, although I have cut and examined microscopically several hundred sections, any trace of insect attack. From this it may reasonably be concluded either (1) that the mycelium can traverse, in the Plum, as much as 30 inches of stem during a season; or (2) that the spores can penetrate sound cortex. In either case it is evidently essential to attack directly so virulent a disease, and to do so as early as possible.

On the continent, I believe, sulphate of iron is used as a fungicide for Apple and other trees affected by canker. A solution of 1 lb. of the proto-sulphate in 50 or 60 gallons of water, applied in a fine spray, might prove efficacious. The first application might be made before flowering, and the dose might be repeated after the fruit is set, and again once or twice at intervals of three weeks. This repetition is necessary, because the shedding of spores by the perithecia is a process which continues for some time.

The ammoniacal carbonate of copper spray is much used in the United States and Canada as a means of preventing Apple scab (Cladosporium dendriticum), and there is no reason why it should not be more widely used than it is in this country, both for scab and for canker. The formula is:—1 ounce of carbonate of copper, 36 ounces of ammonia, 20 gallons of water. The first spraying is given as soon as the fruit is set, and the process is repeated three or four times in early summer at interval of two or three weeks.

I am not aware whether Bordeaux Mixture, which is so valuable in connection with the Potato fungus, Phytophthora infestans, has been tried for Nectria ditissima; but it would certainly be worth while to apply it experimentally. *C. W. Herbert Greaves.*

COWTHORPE OAK, YORKSHIRE.

THE following is an extract from *Arboriculture*, by John Grigor, 1868, relating to this fine old Oak. The accompanying photograph (fig. 11), by W. Fisher, Filey, was taken some twenty years ago.

"In the West Riding of York, near the village of Cowthorpe, stands an Oak, perhaps the largest in England. Close to the ground it measures 78 feet in circumference, and 3 feet higher its girth is 48 feet. I was residing in Yorkshire during part of the summer of 1853, and the celebrity of this tree made me anxious to see it. I found it about an hour's drive east of Harrogate, at the upper end of the village of Cowthorpe, on ground slightly elevated. As it stands pretty much in a line with the street or road that passes along between two lines of thatched houses, a person has a good view of the Oak before getting close beside it. At a little way off it presented, as I thought, only a very moderate appearance; on getting near to it, however, I saw that its girth was very far beyond that of any species of living tree I had ever seen. I found it a great ruin. There were two entrances into its interior. The principal one was of ample dimensions to admit cattle, and thither those in the field resorted for shade and shelter. The interior of the tree was literally a byre. I paced within the tree in one straight line upwards of five yards. The innkeeper at Cowthorpe told us that the day previous to our visit, being a holiday at a neighbouring school, the tree was visited by the scholars, their teachers, and friends, and that eighty-four persons stood within the tree, and that it could have contained a considerable number more.

"The head of the tree presented a display of dead branches; a great many were strewn on the ground around, the effects of a recent hurricane. The head also exhibited some widely-spread living boughs, one of which, the nearest to the ground, extended 48 feet from the trunk in a horizontal line about 8 feet from the ground. I could discover no young shoots, but the live branches were well furnished with foliage of a very healthy appearance. Nothing is known of the age of this tree; but looking at its enormous size in comparison to trees the growth of centuries, whose ages are ascertained, one is led to believe that hundreds of years must have elapsed since this monarch of the forest was a small acorn in the ground and nursed among the weeds of a season. We left the scene with mingled feelings of wonder and regret—regret that so remarkable an object should be so little cared for."

Three years ago I walked 13 miles each way with two companions, to see this wonderful old tree, but found it had decayed very much since the time alluded to above, though cattle are prevented from getting near it by a stout wooden fence, which surrounds it. Part of it then was green and very healthy. *J. Snell, Grimston Park.*

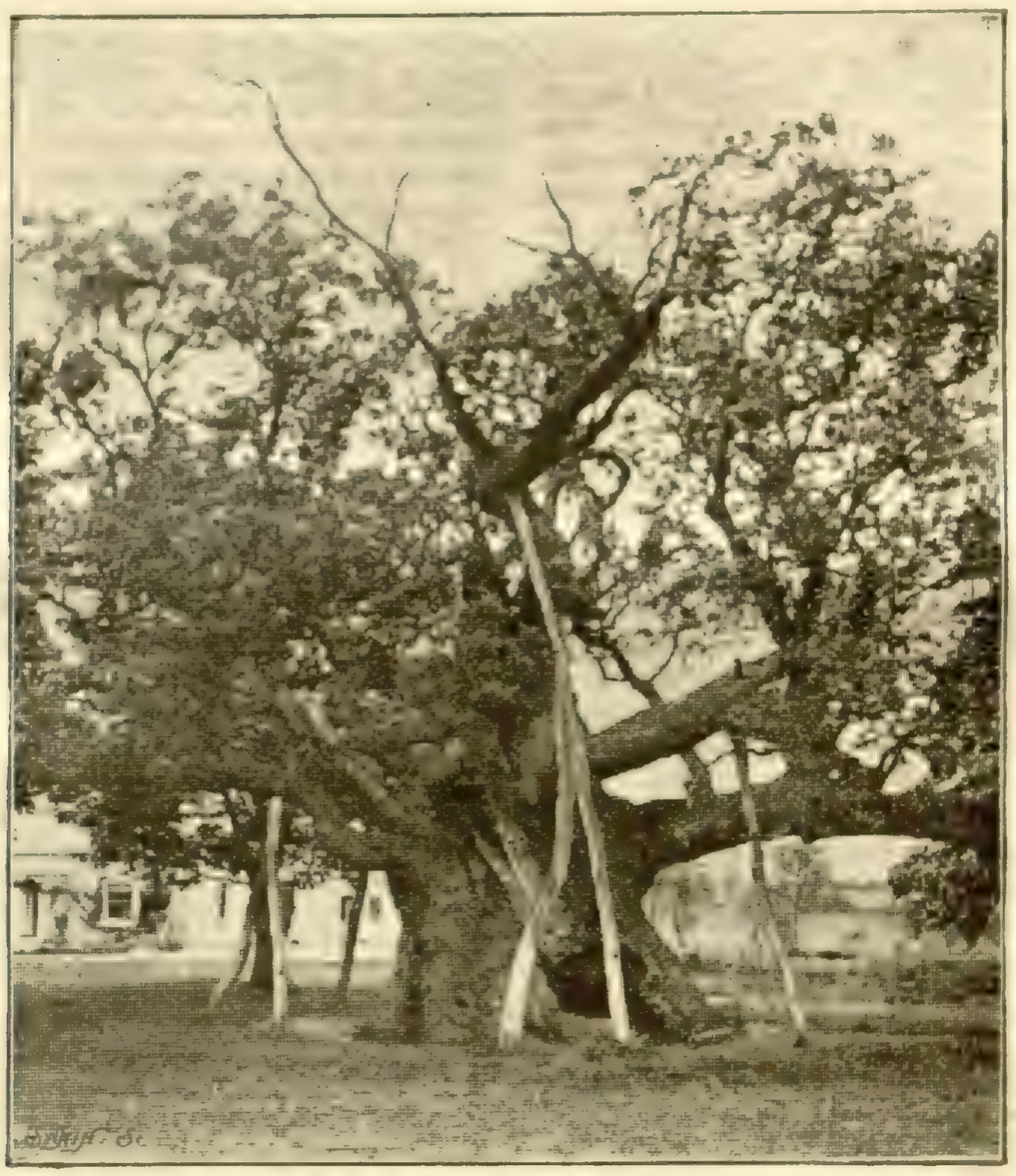

FIG. 11.—THE COWTHORPE OAK.

INDIA.

COSSIPORE PRACTICAL INSTITUTION.

THE sixth annual Report of this institution has reached us. The founder and president is Babu Hem Chunder Mitter, a most liberal and intelligent promoter of agri-horticulture. Free education in practical matters is given to a number of lads at his expense. An experimental garden and farm are also maintained. The annual flower show is in reality an exhibition of the products of the vegetable kingdom generally.

GOVERNMENT GARDENS, BANGALORE.

The Report for 1892 93 has reached us. Mr. Cameron reports that the Lathyrus silvestris is unsuited to the dry plains of India, the seedless variety of the Bread-fruit on the other hand promises well, and hopes are entertained that the Sisal hemp (Agave rigida var. sisalana) may be successful. Among other suggestions it is proposed to plant trees in the vicinity of railway stations "to provide shelter for the traveller, to arrest his attention through the beauty or novelty of the species employed, and to provide a little fruit for the railway *employés*. No wonder the official report of the government of H.H. the Maharaja of Mysore, in speaking of this report says, "Recorded to the remark that this is an interesting report of much useful work."

SAHARUNPUR AND MUSSOORIE.

The annual report for 1893 94 of the gardens under the direction of Mr. Gallan is of a favourable character. The Vine does not succeed well, but the Arabian Date seems likely to be successful. Oranges thrive as well as Florida Peaches; Bismarck Apple is recommended for hot countries. The American Cow Pea (Vigna Catiang) is recommended for culture in Rohilkund.

TREES AND SHRUBS.

THE PRUNING OF LAURELS AND OTHER SHRUBS.

WHEN the severity of the weather moderates, common Laurels, which, if let alone, soon grow out of bounds, becoming tall, with the consequence of naked stems near the ground, should be severely cut back with saw, hatchet, and knife, as the size of the branch may require. If a shrubbery is unduly thin, it is a good plan to layer the lower branches so far as is practicable. To do this job well, stout hooks should be cut 2 feet in length, and shallow, broad, basin-like holes excavated, into which the branches will be secured with a hook or two driven in with a mallet. The layer may be slightly topped, the earth re-turned over it, and trodden down firmly. In two years it will be a self-supporting plant, but it need not on that account be severed from the parent-shrub. Stubborn branches that will not bend, will not be hurt if slashed with the bill-hook, to make layering possible. All nurse-plants in shrubberies should be removed before they do injury to the better plants, or severely cut-in.

ROOTED CUTTINGS OF EVERGREEN PLANTS.

The Olearias, Cotoneasters, Hypericums, Box, Euonymus, Hollies, &c., which have remained in pits since put in last season, and which are well hardened off, may be planted out in mild weather in nursery lines in the warmer districts, should the space be wanted for striking others. The borders or quarters selected for cultivating them should be sheltered, warm, and well-drained. The soil should be light, and if poor it may have some well-rotted manure and leaf-soil dug into it, but in no case should they be put in a stiff soil. The siftings from beneath the potting-bench will form good material to place over and below the roots, finishing off with the staple. If the position is exposed to the depredations of hares and rabbits, it should be surrounded with wire-netting. *J. L.*

FORESTRY.

GROUND-GAME AND TREE-PLANTING.

IF there be good grounds for the belief that the Englishman's love of sport has exerted a beneficial influence upon the preservation of English woods, it is equally undeniable that one element of sport, ground-game, is the greatest obstacle in the way of economical wood-management the English forester has to contend with. The followers of all kindred crafts have their enemies among the lower animal creation; the gardener his slugs and caterpillars; the farmer his rooks and moles; and the suburban amateur his cats and poultry, but all these are instruments of partial or temporary destruction only. They come and go with the season, or their depredations are confined to certain crops or periods of the year. But the rabbit, like the poor, is always with us, and always devouring the forester's crops, more or less. The actual damage done by rabbits is only apparent to those who pay some attention to tree growth and development. When, as frequently happens, it resolves itself into wholesale destruction of young plants, it attracts the attention of the most casual observer; but in the majority of cases, little notice is taken of many injuries which do not mean

absolute death to the plant, but nevertheless cripple its early growth, and favour the attack of parasitic fungi and insects. Nibbling of leading or side-shoots, and partial barking of the stem, throw the growth of a young tree back for several years, and where the same thing happens several seasons in succession, the plant may never become more than a stunted bush. Such injuries almost all young plantations are liable to on estates where game is preserved to even a slight extent only. There are many estates, it is true, on which rabbits are not encouraged or allowed to increase to an excessive extent; but wherever pheasants are preserved, the rabbit usually succeeds in establishing himself on a permanent footing, thanks to the comparative quietness of game preserves, and the war waged by gamekeepers against his arch enemies—stoats and weasels. In all planting operations on game-preserving estates, protection from ground-game is consequently of the first importance. The ordinary method of providing this protection is by placing wire-netting round the area to be planted. With netting of sufficient width and smallness of mesh, and properly fixed in the ground, it proves sufficiently effective for areas of a few acres in extent, so long as the rabbits are kept within reasonable numbers. But where they are allowed to increase unchecked for any length of time, no fence with which we are acquainted is absolutely impassable by them, or succeeds in keeping them out of a piece of ground of any size. Like schoolboys, they manage to effect an entrance into the forbidden quarter somehow or other, either by burrowing beneath or climbing over like cats, while holes in the netting make their appearance sooner or later. Their entrance becomes all the easier on broken and rocky ground, where it is a difficult matter to avoid vulnerable spots and places in which the netting cannot be properly placed in position. The great disadvantage connected with wire netting, however, is its cost. An acre of ground cannot be netted round for less than £4, even when we only allow 4*d*. per yard for netting and labour, which is probably 2*d*. less than the average cost. With a large area, the cost per acre could be reduced, but much would depend upon the shape of the ground. It may also be taken into consideration that the netting may do service for more than one piece of plantation. After, say, five years' use, however, we usually find that the best netting has depreciated 50 per cent. in value at the very least, unless special care has been exercised in handling during erection and removal. Under such circumstances, therefore, the use of netting in economic forestry becomes absolutely prohibitive, and we only find it adopted where game is considered the chief aim in view, and trees merely as the means to an end. Several mixtures or tree compositions which are offered by the trade share the same drawback as netting. Their initial application is less costly, perhaps, but anything gained in this way is lost by their temporary efficiency, and they cannot be successfully applied to small plants of less than a foot in height.

With the above facts before us, we are forced to the conclusion that ground-game and economic planting cannot exist on the same area. All practical men know this only too well, but from the occasional utterances of continental experts who now and again favour benighted Albion with flying visits, and whose opinions on British forestry are seized by the daily press as gems of erudition, the fact is not so patent to everyone. We do not assert for one moment that sport and good forestry are uncongenial or impossible companions. Continental forests tell a totally different tale. But they must exist together as companions and not rivals. Newly-planted woods cannot withstand with impunity the attacks of ground-game during the first five or ten years, as the case may be, of their existence. After that critical period is past, a reasonable stock of rabbits can do little harm except in severe winters, but timely measures would prevent even this occurring. By a judicious grouping of age-classes, or so arranging the felling and replanting work on an estate, that all or the majority of young woods lay close together, it would be possible to keep down rabbits in this vicinity without interfering with other portions of the estate. The absence of ground-game on, say, one-tenth of the total wooded area, would not be a great loss on an estate of average size, while it would permit replanting to be effected at one-third of the usual cost, and give far better results than is usual at present. *A. C. Forbes.*

THE WEEK'S WORK.

THE KITCHEN GARDEN

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

SALADS.—During severe weather it will be difficult, if not well provided with plenty of pits, to protect the salads. Endive and Lettuce that were put for use and were unprotected, I fear will soon be useless. Lift Endive of both sorts every week, transplant them into boxes, and put them into the Mushroom-house, where, if not kept too moist, they will soon blanch and grow tender. Chicory and Dandelion should be taken into this house also, and will be especially useful if Lettuce are scarce. Lettuce in pits or under handlights should have plenty of air on all favourable occasions, and be kept clear of all decaying leaves; if not inclined to heart, they may be tied up for a week or two before use. Mustard and Cress should be sown every week.

POTATOS.—The pits should be prepared for these at once. Leaves, with a little stable-litter mixed with them are the materials generally used for this purpose, better if prepared beforehand by being mixed and afterwards turned once or twice, so that when they are put into the pits the heat may be moderate. A depth of about 4 feet will be sufficient, and when well trodden it should be left to settle down and warm through before the soil is put on, taking care to leave sufficient ventilation for the escape of the steam. When ready add about 9 inches of good rotten loam, dusting in a little lime, burnt earth, and some bone-meal. The sets should be moderately sprouted previously, by being placed on end in boxes in fine leaf-soil. Planting may be done as soon as the heat in the bed declines to 70°. Keep the tops cool, and give them all the light possible. The dwarf Ashleaf is the best for the purpose, and new seed should be planted in pits each year. The practice of sowing Radishes between Potatos I do not recommend. Potatos may also be grown fairly well in pots, filling them rather more than half full of soil, placing one set in each pot, and earthing-up as required.

CARROTS.—Prepare a frame for these in a similar manner as advised for Potatos, but the soil for these should contain more sand and some burnt earth, a little fine leaf-soil, and a sprinkling of soot added. Sow in drills about 9 inches apart. French Forcing, Parisian Forcing, Early Gem, and such varieties will have ample room. Give plenty of light, and directly the seedlings appear thin them a little, and dust them occasionally with soot to protect them from slugs. A temperature of 55° to 60° should be kept up.

MUSHROOM BEDS.—Continue to collect droppings for these. Droppings are difficult to dry at this time of the year, unless a good shed is available for the purpose. They require to be turned about every fourth day as thoroughly as possible. If a bed can be formed every three weeks or so a good succession will be kept up. Mushrooms from old, almost exhausted beds, are not equal in quality and size to those from beds just commencing to bear. Cover the beds with mats, which may be kept clear of the Mushrooms by strips of wood placed across the beds. Mushroom-houses having to be used for other purposes, the mats will keep the cold draught and light from the Mushrooms when other work is being attended to in the house. The beds do not dry so fast if the mats are kept moist by syringing. Keep a sweet moist atmosphere, or the Mushrooms will not have a good flavour. Spawn beds when the heat declines to 90°; and soil with rotted loam, warming it first and beating it fairly firm to about 1½ inches in thickness. Tan, leaves, or loam may be well to mix with the manure, to make it go further, but where plenty of good droppings is at hand, I prefer them alone.

GENERAL WORK.—If ice-houses are filled and stacks made, cart all manure (during frosty weather) on to vacant ground ready for trenching or digging. Look over Potatos for cooking purposes, and rub off all sprouts. Onions should be looked over for decaying bulbs.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

STEPHANOTIS PLANTS which have been kept dry for a time, should now be taken down from the roof, and all weak shoots removed and the stronger ones shortened back. Afterwards the shoots should be thoroughly cleaned, and if infected with mealy-bug, given a good dressing with Gishurst's compound or any safe insecticide. Parafin, in the proportion of one wine-glassful to 3 gallons of water at a temperature of 95°, with 2 oz. of soft-soap, if carefully used, will be found very effectual. This must be well and continuously mixed. The roof should be well washed with soft-soap and water before retying the shoots to the wires. Topdress with a mixture of turfy loam, a good sprinkling of bone-meal, a little cow manure, and some sharp sand; after removing the old soil from the roots. Afford a good watering with chilled water, and syringe on all favourable occasions.

EUCHARIS which have finished flowering should be removed from the plunging material, and kept a little dry. Those that have not been repotted for some years, and the soil has become sour, should be shaken out, and the bulbs and roots carefully washed with warm water. The large bulbs should be potted on for flowering, and the smaller ones placed by themselves to be grown on. The soil for repotting may consist of equal quantities of good fibrous loam and peat, a good quantity of charcoal (broken to the size of Walnuts), a little cow-manure, and enough coarse sand to keep the soil porous. Use clean well-drained 14-inch pots, planting twelve bulbs in a pot. If larger pots are wished for, more bulbs would be required, but the 14-inch pot is a very useful size. The freshly-potted plants should be plunged into bottom-heat of about 80°, and syringed once or twice daily until the pots are filled with roots, when they may be kept rather dry, and brought on to flower when required. [Eucharis bulbs in these large pots, if properly treated, and the soil never thoroughly dried, are best undisturbed for four years or even longer. ED.]

COLEUS.—This is a convenient time for putting in a batch of cuttings. Choose the finest shoots, and put them singly into 60-pots, and plunge in the propagating-case. As soon as they have struck place on a shelf close to the glass, and grow on.

BEGONIA.—A pinch of seed may now be sown, for early flowering. Use well-drained pans for the purpose, and a compost consisting of loam, leaf-soil, peat, and plenty of sand. Pass all through a fine sieve, and fill the pans to within half an inch of the top. Before sowing the seed give the soil a thorough soaking with water. When sown, a little fine sand should be sprinkled over it, and covered with a sheet of glass and tissue-paper. Should it be found necessary to water before the seeds germinate, the pan should be placed to the rim in water, so that it may soak from below upwards.

CELOSIA.—Sow a small quantity of this seed now, in well-drained shallow pans or pots, and cover the seed lightly with fine soil. Place the pans in gentle bottom-heat, and when the seedlings appear, move them to a shelf near the glass. When they have made their second leaves, prick off into other pans about an inch apart.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

FRUIT-TREES IN POTS.—If these trees were plunged in ashes out of doors during the autumn, it will be well in the case of protracted frost to place some bracken, leaves, or other light material over the pots, to protect the surface-roots and the rims of the pots. Where the orchard-house is not required to protect saladings, &c., it should be thrown open so that the frost can act upon the trees which are planted out in the borders, which is necessary in order to keep the former in health, and the soil in the borders will also be improved. The opportunity should be taken during inclement weather to employ the out-of-doors men to assist in cleaning trees or Vines that may be attacked with scale or mealy-bug. For the former pest the surest remedy I have tried is clear water used at a temperature of 130°, but the application must be thoroughly well done, drenching every branch several times over, and keeping the water at the above temperature, which will not damage the trees now the wood is hard and the buds dormant.

PINES.—If the same stove used for winter fruiters is required for the summer ones, any plants on which

the fruit has done swelling may be placed close together in some house or pit where is sufficient warmth to finish them off, so that the house they are now in may be cleaned, and the plunging material prepared for the earliest batch of Queens, to provide ripe fruit by June. It may not be necessary to remove the whole of the plunging material, but sufficient fresh tan or leaves should be added to ensure a steady bottom-heat of 80° to 85°. Select those plants which have thick stems or collars, and the greatest number of small, sharp-pointed leaves in their centres, as these will throw fruit at once. The plants having been rested, will require to be watered carefully, so that the ball be moistened well through, after which remove a few of the bottom leaves and some of the surface-soil, and top-dress with turfy loam, to which add a little bone-meal. When plunging the pots, be careful that the bed does not exceed the above temperature, or the delicate roots near the side of the pots and at the base of the ball may be injured. Arrange the plants 2 feet apart, and should there be any fear of the temperature rising, do not ram the material round the pots too firmly for a few days. It is better to water the plants before they are plunged, using in the first instance clear water, and afterwards weak manure-water or guano at 85°. The temperature of the house should range from 65° at night to 70° by day, allowing 80° with sun, and slight ventilation at mid-day. The atmosphere should be kept moist. The young stock of plants in the succession-houses must be kept free from any excitement from heat or moisture. Such might cause them to throw up prematurely, or induce growth, which at this season would be naturally weak. Rooted suckers in small pots, however, must be watched that they do not suffer for want of water.

TOMATOS.—Keep the house quite dry, and a gentle warmth in the pipes, with a little ventilation at all times. Anything approaching a close atmosphere must be guarded against. Continue to fertilise the flowers as they open, thin out useless growth, and cut the fruits as soon as they begin to colour, placing them on a light, warm shelf to finish. Pot on young plants as they require it, keeping them near the glass, and only affording water when it is necessary. Another pinch of seed may be sown thinly, and when ready, prick the seedlings out before they become drawn.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

ROSES.—Where the planting and formation of new Rose-beds and borders are contemplated in the early spring-time, advantage should now be taken to push on with the various kinds of labour connected therewith. The trenching of the soil should be finished as soon as possible, so that no delay be caused when the time to plant arrives. The planting of hybrid perpetuals should be completed by the end of next month. Teas growing in pots may be planted out at any season, but as a rule, it is best to plant them before March is over. In selecting a situation for a rosary, regard must be had to shelter from the north and east, and to placing it far from overhanging trees or high walls. Hedges of Gloire de Dijon and other hardy Roses, formed by training the plants on to rustic fences, may be arranged round a rosary, and these afford considerable shelter to tenderer varieties. The same kind of shelter is afforded by clumps and belts of evergreen shrubs, placing these at a sufficient distance from the Rose-beds, that the roots do not extend into and rob the soil of the beds. A rosary should be well drained, for although Roses like strong soil it must be pervious to moisture. If the subsoil is clayey, trench it well, after draining, and mix with it wood-ashes, burnt earth, lime rubbish, and turfy loam; but if it be light and sandy, afford plenty of strong loam with some clay-leaf soil and farmyard manure, mixing these substances with the staple. When planting H. P. dwarfs, set them at 2½ to 3 feet apart, according to the habit and vigour of the varieties, and the size and shape of the bed, and strong plants of one year old should be selected. In planting standard Roses, drive a strong stake into the ground, and, holding the stem against it, spread out the roots at the bottom of the hole, which should first be made firm by treading the soil, covering them with fine fresh loam. Dwarf Roses that are worked on Briar, &c., should be planted at such a depth that the point of union is covered about 2 inches, spread out the roots, and place a short stake against them. Mulch the ground after planting with half-rotten manure. Pruning may take place soon after planting, except the latter be done in the autumn, when it is better left till the spring. Short pruning-shears are very suitable for Roses, as they cut without breaking the shoots, and the work is more rapidly done than with the knife. Varieties of weak growth should have the shoots thinned out, the remaining ones being cut back to about the third bud from the base; strong-growing varieties, on the contrary, may be cut back to about the sixth bud. March is usually the best month for pruning H.P.'s, but Tea, Bourbon, China, Moss, and other climbing and pillar Roses should be pruned at different times during autumn, winter, and spring, so as to insure a succession of flowers. Tea, China, and Moss Roses in beds should have the shoots carefully thinned out, the beds being afterwards pricked over with a digging-fork, and the shoots pegged down near to the soil, in which manner the shoots do not get damaged by winds. Mulchings of malt-combings and short rotten manure should be frequently afforded, with good supplies of manure-water during dry weather, and also after new plantations have been made.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

MANURING FRUIT QUARTERS, ETC. — Take advantage of frosty weather to wheel manure on to fruit quarters and borders, short, well-decomposed farmyard manure being generally the best for the purpose. On the Gooseberry and Currant quarters it may be lightly forked in, taking care not to dig deeply, excepting on freshly-planted plots, where it is intended to crop between the bushes for a season, or the middle of the spaces between the rows. In the case of Raspberries, the manure should be left upon the surface. Rich half-decayed material will be the most suitable for them. A good mulching of this nature should be likewise applied to Blackberries, which may be grown in rows like Raspberries, except that they be planted 3 feet apart in the rows, and will require a higher trellis, or some other device for training the shoots to. A warm, open situation is requisite for the American species to give the best results. The pruning of Blackberries consists of cutting away all old weak growth, leaving four or five strong shoots to each stool, which may be tied to the trellis at their full length; the Parsley-leaved Bramble (Rubus laciniatus) is one of the best for all purposes.

PRUNING APPLE AND PEAR TREES.—In pruning, it should be borne in mind that some sorts of Apples and Pears produce their finest blossom, and fruit on the terminal points of the last year's wood, and it is advisable in these cases to leave as many of these as possible, excepting the longest, which may be cut back to a couple of buds at the base of each. If summer pruning has been properly attended to there will be little use for the knife at the present season, except for thinning-out wood that is not wanted, or spurs where too thickly placed. It is often the case that weakly trees are very thickly set with blossom-buds, and to leave all is to court failure, as the trees exhaust much of their energy in producing flowers, but by somewhat severely thinning the trusses of blossom the remainder will be strengthened, and given favourable weather they will not fail to set a crop of fruit.

APRICOTS.—These trees should have been pruned in the autumn at the fall of the leaf, but if this was neglected at that season, no time should now be lost in cutting away any old fruitless wood, and very long or weak spurs, if these are at all crowded, the aim of the pruner being to keep the growth as close to the wall as is convenient to enable the tree to reap full advantage of the shelter and warmth the wall affords. As soon as pruned, train the shoots, for with the resumption of milder weather the buds will swell rapidly; keep a sharp outlook for bullfinches, shooting or trapping them on their first appearance, for in a few hours, if left to themselves, they will sometimes ruin a crop of Apricots or Plums. They may be easily taken in a trap-cage at this season, if a good call-bird is used.

PLUMS AND CHERRIES should also be pruned and nailed as early as the work can be pushed on with. Any shoots not wanted for laying-in may be shortened to about an inch of their base, round which (unless the trees are too vigorous), a number of fruit-buds will usually form. If there is space for further extension, the leading growths must not be shortened if sufficiently vigorous, and otherwise in good condition. Morello Cherries should have any bare, straggling wood cut away, laying-in the shoots of last year thinly at their full length, and endeavouring by cutting back old shoots to secure plenty of young growth this year for laying-in all over the tree, as it is on these that the best fruit is produced. Foreright shoots, unless quite short, should be entirely removed. Take care in nailing the trees that all shreds and ties are not so tight as to cripple the branches as growth advances, and that the nails are clear of the wood, the contact of metal with the rind being a fruitful cause of canker and gumming, especially among sweet Cherries, Apricots, and Plums. Old trees, or those which have become exhausted by carrying heavy crops of fruit, may receive liberal top-dressings of good manure. Most fruit-tree borders, even where cropped with vegetables, have an uncropped space of 4 or 5 feet which is specially reserved for the roots of the trees, which if it have the top soil removed, and a dressing of manure placed over the roots, and the old soil returned to its place, or fresh soil used instead will be of great service to the trees. Young trees which may be badly furnished with suitable branches should be cut back and allowed to form fresh shoots. Such trees will generally break freely, and the strongest and best-placed shoots may then be selected and tied in, carefully rubbing off the rest, or pinching them back to a couple of leaves. If those laid in ripen well, they will form fruit-buds along the entire length.

Book Notice.

JOSIAH WEDGWOOD, F.R.S.: HIS PERSONAL HISTORY. By Samuel Smiles, LL.D. (London: John Murray, Albemarle Street.)

Admirers of the works of Mr. Smiles will welcome this new addition to the many biographies which we owe to his pen. In Josiah Wedgwood the author finds a subject greatly to his taste, and at least as interesting and deserving of attention as are the other self-made men whose careers he has sketched.

Josiah Wedgwood was essentially an Englishman; it was in our own country that his whole life's work was done, and it is our own countrymen of every degree who reaped (and still reap) the advantage of it.

Wedgwood may be regarded as the principal reviver of the pottery industry, and his improvements and introductions in connection with it have affected all classes of goods from small domestic utensils to large and priceless works of art.

It is to his example as well as to his actual handiwork that we owe the enormous advance witnessed in pottery during the end of the last and the whole of the present century; it is thanks in great measure to him that ware of improved quality, texture, form and design has replaced the far inferior make known to our predecessors, and which has moreover been brought within the reach of all, since, when once the industry is started on a large scale, vessels of elegant form are as easily made as are ungainly ones.

The book before us deals, then, with the Master Potter of Stafford, who accomplished so much good in spite of physical drawbacks calculated to daunt a less courageous spirit.

To Mr. Smiles' pages we refer our readers for details concerning the life and work of this hero. Letters and cullings from diaries which have not hitherto been published are given in this book, and form the author's excuse for setting before his readers a tale which has already been told by others. Mr. Smiles' style need not be commented on, since it must be so well known to all; it is here, as usual, easy and sympathetic, and his language also is not obscure. Into the pages a few repetitions have crept, such, for instance, as the description of the state of the Burslem roads in the eighteenth century, which occurs three or four times in the course of the volume, and in almost identical language. With this exception we can again assure those with whom this biography-writer is a favourite that they will find no falling off either in interest or carefulness in the present work.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	JAN. 21	Hardy Perennials, Home-grown Lilies, Roses, &c., at Protheroe & Morris' Rooms.
TUESDAY,	JAN. 22	Imported Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 23	Importation of 710 Cases Japanese Lilies, also Palm Seeds, Roses, Begonias, &c., at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 24	Tuberoses, Gladioli, Greenhouse Plants, Begonias, &c, at Protheroe & Morris' Rooms.
FRIDAY	JAN. 25	Orchids, from Messrs. F. Sander & Co.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°.

WILLIAM THOMSON.

A GREAT gardener has gone to his rest. This hale octogenarian might have survived a few years longer, but for an accidental fall on the 3rd inst., which induced pneumonia and jaundice, to which the patient succumbed on the 12th. He will be missed, not only amongst the fraternity of gardeners, but amongst a wide circle of acquaintances of all ranks all over the country. Like most of our best gardeners, he rose from the ranks, beginning at the A B C of the profession, and finishing his life in active harness in the secluded village of Clovenfords, where he has added to his fame by the culture of Grapes for profit on a very extensive scale. His handling of Orchids, too, in the afternoon of his life, particularly of Vandas and Cypripediums, has been a theme of general favourable comment. Indeed, there was nothing he put his hand to in the cultural way but was more or less of a success. Latterly, he applied himself to the manufacture of a concentrated manure, which has been widely used, not only for the cultivation of Vines, but for many other products of the soil, and that, too, with compensating advantage.

He began life in the gardens of Mr. MACLAINE, of Lochbuie, Mull, serving under the late Mr. WILSON, who migrated from Mull to take charge of Lord PENRHYN's woods in Wales; from thence he found his way to AUSTIN & MCASLAN's nurseries, Glasgow, in the time of JAMES AUSTIN, who was a great friend of the late ANDREW TURNBULL, of Bothwell Castle, and who recommended what he called the "Mull Hero" to Mr. TURNBULL. After a few years he was engaged from Bothwell to be head-gardener to the Hon. Mr. BYNG, Wrotham Park, Middlesex, where he made a name for himself at the London shows of the time. From thence, after sixteen years' service, he was appointed to succeed Mr. CHAS. MCINTOSH, the author of the *Book of the Garden*, remaining at Dalkeith till 1871, after which he started business for himself as above noticed at Clovenfords.

He was a prince among gardeners, of stately mien, and of great tact, using his influence at all times for the advancement of gardeners and gardening. He was a man of strong commonsense, thoroughly practical in all his ways and his teachings, so that we have had a brood of gardeners hailing from Dalkeith that has well maintained the prestige of that practical school of learning. His influence did much to raise the importance of the Edinburgh Horticultural Society to begin with, as well as the Royal Caledonian Horticultural Society. His figure was to be seen at all the great shows, and he could take his place either at the head or foot of the luncheon-table with the most influential of associates, and with becoming dignity plead for the success of the cause to which, during a long life-time, he was indissolubly wedded.

His life-long friends MARNOCK and TURNBULL have preceded him. ANDREW TURNBULL was naturally proud of him, and many a time the writer of the notice has met him at Bothwell Castle and enjoyed the stories of the reminiscences of these two worthy gardeners. He had an excellent memory, and a large measure of dry Scotch humour about him which gave a polish to his tales.

It is not easy accomplishing anything very startling or very useful in the way of novelties in Grapes. The Muscat of Alexandria and the Black Hamburgh stand out prominent, but there is a decided gain in that large fine amber Grape, Duke of Buccleuch; only it wants cultivating, and then the small-berried Duchess of Buccleuch is still unrivaled for flavour. These two seedlings will stamp his name. To him mainly belongs while at Dalkeith, the credit of bringing into notice the invaluable late-keeping Lady Downes. He tried there, also, to bridge the year with ripe Grapes, by having a house ready for cutting in January. It was quite practicable in a way, but too expensive to sacrifice a house of Vines every two years. Vines will not rest during midsummer with impunity. He leaves one son and two daughters to mourn his loss.

Hybrid Roses.

IN the volume of the *Bulletin de la Société Royale de Botanique de Belgique for* 1894, M. CRÉPIN gives a long paper on the occurrence and appearances of hybrids among the species of Rose. To those who desire to gain a knowledge of the morphology of Roses, and the relative importance of their distinguishing characteristics, this treatise will be very valuable. Indeed, we should go further, and say that a judge at a Rose show would be all the better equipped for his work if he were well grounded in the principles laid down by M. CRÉPIN, and his eye well trained to recognise and estimate the variations he may meet with. This may seem chimerical, but with the practical training now given under the auspices of some of our County Councils, it is not so unlikely to be realised as at first it may seem. Judging by points will probably in the future receive a great extension, and the significance of the "points" better appreciated than now. We have never yet met a judge who could give the correct explanation of a divided Rose or of the "quartering" of Roses, or could explain the mode of doubling in Roses generally, and yet these matters should be the very foundations of judging. We may give a few illustrations from M. CRÉPIN's paper which are of a character to interest our rosarians.

Our hybrid perpetuals are the result of a cross between R. gallica and R. indica. R. indica possesses the faculty of flowering throughout the season, owing to the uninterrupted formation of flower-buds.

From a cross between Rosa gallica and R. multiflora has arisen a group of Roses remarkable for the abundance of their flowers, such as La Grifferaie, &c. The history of the Manetti Rose, in spite of all that has been written concerning it, remains very obscure. M. CRÉPIN considers it a hybrid from Rosa gallica and some unknown species.

Rosa multiflora, Thunberg, crossed with R. rugosa, has given origin to R. Iwara of Siebold. Rosa polyantha is synonymous with R. multiflora, and when crossed with R. indica, has given rise to a series of dwarf perpetuals. Rosa moschata, crossed with R. clinophylla, the R. involucrata of Roxburgh, has produced R. Lyelli of Lindley, which is, according to M. CRÉPIN, the R. lucida duplex of Mr. W. PAUL's *Rose Garden* (edition 1889).

The Rosa polyantha var. grandiflora is stated to be the result of a cross between R. moschata and R. multiflora. The intercross between R. rugosa and a form of R. indica has originated the Rose known as Madame Georges Bruant. Rosa lutea, crossed by Lord Penzance with R. rubiginosa, has produced a hybrid figured in our columns, May, 1891, p. 671.

Rosa bracteata, as grown in our gardens, is, it appears, not the plant originally described under that name, but possibly a mongrel between R. bracteata, Wendland, and R. moschata. Marie Leonida is assigned to the same parentage.

Rosa Hardii, Cels, a hybrid between R. clinophylla and R. berberifolia, Pallas, must be considered a bigeneric hybrid, if, as M. CRÉPIN thinks, Rosa berberifolia is generically different from Rosa, and the representative of a distinct genus Hulthemia of Dumortier. (See Masters in *Gardeners' Chronicle*, July 6, 1889, p. 8, figs. 1, 2.) Rosa Fortunei of Lindley, is supposed to be a hybrid between R. lævigata of Michaux, with R. Banksiæ, R. Brown.

We are not able, from considerations of space, to mention the very numerous other possible hybrids discussed at great length of M. CRÉPIN. This much must be said, however, that there is a wide field open to the hybridist to prove, or it may be to disprove, the opinions of M. CRÉPIN. No one would be better satisfied than our learned Belgian *confrère*, to have the truth brought to light, whether his own suspicions were confirmed or otherwise.

Commercial rosarians have another object in view than the distinguishing of hybrids, *per se*; but they have, and will doubtless in the future, contribute largely to our knowledge of the true relationships of Roses. The experiments of Lord PENZANCE are of great importance from our present point of view, and it is greatly to be hoped that his lordship will continue his experiments with all the care that he has hitherto done.

The microscopist may also do something to disentangle the problem. The researches of Dr. MACFARLANE, formerly of Edinburgh, now of Philadelphia, show what may be done in this way, and M. CRÉPIN might do worse than set some of the students of his university to work in the botanical laboratory on the comparative histology of the species of Rosa and of the hybrids known or suspected. The task would be a very long one, but each single fact gained would of itself be important.

Direct proof such as can be obtained by the hybridist, and indirect proof, such as can

View in the Grounds at Trelisick, Truro.

furnished by the microscopist, are the more needed, in view of the opinions put forth by M. CRÉPIN. The great majority of botanists, in his opinion, possess only a very incomplete knowledge of species, and are often incapable of distinguishing a hybrid from a variety. It is only after very long-continued research that one can flatter oneself that one has grasped the whole cycle of modifications of a specific type, and is enabled to recognise it under all its phases. . . . The knowledge of hybrids is thus, says M. CRÉPIN, scarcely to be obtained by any but monographers of long experience.

Botanists of the old school indeed were very chary in admitting the existence of hybrids, unless in very exceptional cases; but the general adoption of Darwinian views of the nature of species, and the daily practice of horticulturists, have shown how frequent is the phenomenon when the conditions are favourable.

Incidentally, we are pleased to see so experienced a practical botanist, and so untiring a monographer as M. CRÉPIN, raising his protest against that exaggerated application of the law of priority, which is causing such totally unnecesary confusion. Rosa alpina of Linnæus is, it appears, to be called R. pendulina, Rosa indica is to be known as R. chinensis Jacquin, and so on. "At the present day," says M. CRÉPIN, "out of respect to certain more or less arbitrary rules concerning the right of priority, it has become the fashion to disinter ancient generic and specific names, which were completely forgotten, or which are obscure and enigmatical, and thus to upset the recognised synonymy without any advantage to science. . . . In presence of the enormous amount of work still requisite to enable us to attain a thorough knowledge of plants, it is deplorable to see industrious men of science employing their time in these vain archæological researches. To these would-be reformers," continues M. CRÉPIN, "must be added others—the Græco-Latin purists, who wish to reconstruct all imperfectly or erroneously constructed names. It is high time to act vigorously against the invasion of this parasitic science of old books and orthographic rules which more and more obstruct the course of true scientific work."

This expression of opinion from so qualified a person as M. CRÉPIN will have much weight. It will be even more influential for good if M. CRÉPIN and other monographers will decline to adopt these unnecessary corrections. Botany is not for the glorification of present workers, nor for the canonisation of those that are past. It is for the advancement of the knowledge of all that concerns the life and attributes of the vegetable kingdom. Those who wantonly put obstacles in the way incur a very heavy responsibility.

The Royal Horticultural Society.

A PACKET of literature from the Society is before us, including the report of the council for 1894, the first part of the eighteenth volume of the journal, and the prospectus of the arrangements for the present year. It is impossible for us to deal with all these publications at the present moment. It must suffice for the time to reproduce the arrangements for the meetings and lectures. The most noticeable thing is the entire omission of Chiswick from the programme. We know the circumstances which have probably led to this result, but we can but deplore the resolution of the council, especially at a time when Chiswick within its narrowed limits, has been rendered more efficient than for many years past. Success in such matters is not to be measured merely by the number of shillings taken at the gates.

Fruit, Floral, and Orchid Meetings will be held in the Drill Hall, James Street, Victoria Street (within a stone's throw of the Army and Navy Stores), on the following dates, and a popular lecture will be given on the subject named on each date. The meetings are open to Fellows at 1 P.M., and to the public (on payment of 1*s.*) at 2 P.M. The lectures commence at 3 P.M.

NOTE.—On May 21, 22, and 23, the meeting is at the Inner Temple, E.C.; on September 26, 27, and 28, at the Crystal Palace; and on all other dates at the Drill Hall.

Jan. 15.—Show in the Drill Hall, James Street, S.W.; Meeting at 3 P.M. for election of Fellows.

Feb. 12.—Show in the Drill Hall, and Annual General Meeting, at 117, Victoria Street, S.W., at 3 P.M.

March 12.—"The Diseases of Tomatos and Vines," by Mr. Collenette.

" 26.—"Lifting Large Trees and Shrubs," by Mr. T. H. Crasp.

April 9.—"Campanulas from a Garden Point of View," by Mr. J. Wood.

" 23.—Primula and Auricula Conference. "New Primulas," by Mr. J. G. Baker, F.R.S. "Culture and Classification of Primulas," by Mr. H. Selfe-Leonard. "The Auricula," by Mr. James Douglas.
Special Show of Auriculas, Primulas and Narcissi.

May 14.—"Plants and Gardens of the Canary Islands," by Dr. Morris.

" 21, 22, 23.—Great Flower Show in the Inner Temple Gardens, Thames Embankment.

June 11.—"Rose Culture under Glass," by Mr. Frank Cant.

" 25.—"The Uses and Organisation of National Botanical and Horticultural Gardens," by Mr. W. T. Thiselton Dyer, C.M.G., F.R.S., &c.
Special Show of Hardy Perennials and Cactaceous Plants.

July 9.—"The Effect of Darkness on the Form of Plants," by Mr. Francis Darwin.
Great Show of Roses.

" 23.—"The Carnation in Scotland," by Mr. R. P. Brotherston.

Aug. 13.—"Hardy Bamboos," by Mr. A. B. Freeman-Mitford.

" 27.—"Crotons and Dracænas," by Mr. C. F. Bause.

Sept. 26, 27, 28.—Great Show of British-grown Fruit at the Crystal Palace.

Oct. 15.—"Nut Culture in England," by Mr. S. Omer Cooper.
Special Show of Vegetables.

" 29.—"Potatos," by Mr. A. W. Sutton.

Nov. 12.—"Substitutes for Larch," by Dr. Maxwell T. Masters, F.R.S., &c.

" 26.—"Asparagus Culture," by Mr. James Mason.

Dec. 17.—Show in the Drill Hall, and Meeting for the Election of Fellows.

TRELISSICK, NEAR TRURO (see Supplementary Illustration).—We lately gave a short account (p. 500 in our last volume), of some of the features of this property, accompanied by an engraving of the southwest corner of the Lily-pond. This has been formed by a raised bank thrown up across the south-end of one of the many branches of the Falmouth estuary, thereby excluding the salt water; while the stream, which is constantly running in, has converted the pond into a freshwater lake, the form of which is that of an elongated triangle, the sides of which are richly wooded. The raised bank, which is 150 yards in length, has been thickly planted with Tamarisk; on the north side of it, in the water, is a border 9 or 10 feet wide, of Richardia æthiopica, made up of many thousands of plants, which in previous years have been flowered under glass for Christmas and Easter decorations. In the spring of this year they were covered with ice, thick enough to bear a man; nevertheless they bloomed so profusely that on one day during last summer Mr. Sangwin cut 1000 blooms, and he assures us that he could easily have cut a further 500 blooms. The illustration which we now present is taken from the boggy valley above the north end of the lake, where there is a foot-bridge over the stream, the position of which is indicated in the picture by the white hand-rail which is fastened at one end to the dead branch of a tree. In this valley are gigantic specimens of our commonest Ferns, growing in wild luxuriance, interspersed with large clumps of the Regal Fern. Amongst them are scattered specimens of the Giant Heracleum, Gunnera scabra, G. manicata, various Spiræas, Polygonum cuspidatum, Eulalia zebrina, and many bog-loving plants. In the distant view of the further end of the lake may be seen the Tamarisk-covered bank, with the Arums in front of it.

CODE OF JUDGING.—The Council of the Royal Horticultural Society has requested the following gentlemen to act on the proposed committee on judging at shows (see p. 7 of Report, 1894—95), viz., Messrs. Barron, Bennett, Blair, G. Bunyard, A. Dean, Dunn, Douglas, Findlay, Gordon, Laing, Marshall, McIndoe, Moore, G. Paul, Outram, Shea, Smith of Mentmore, Thomas, D. Thomson, Wilks, Wright. The first meeting of the committee will be held on Monday, January 21, at 117, Victoria Street, at 2 P.M. It is hoped that those living within reach of London will attend the meeting, and those at a distance assist by correspondence.

SCOTTISH HORTICULTURAL ASSOCIATION.—The annual general meeting of this Association took place at 5, St. Andrew Square, Edinburgh, on Tuesday, January 8, Mr. M. TODD, presiding. The Secretary (Mr. R. LAIRD) submitted the report, which summarised the work of the past year, and stated that there were now 520 members on the roll. Acknowledgment was made of the continued support and co-operation of the Town Council. On the motion of Mr. W. WELSH, the report was adopted. The Treasurer (Mr. ALEX. MACKENZIE) gave in his statement, showing a total income of £52 14*s.* 11*d.*, and an expenditure of £41 1*s.* 7*d.*, leaving a balance of £11 13*s.* 4*d.* The total returns from the recent Chrysanthemum show amounted to £998 7*s.* 2*d.*, and after meeting the expenses there remained a surplus of £125 7*s.* 5*d.* The free funds at present in possession of the Association were £647 12*s.* The report was adopted.

ROYAL BOTANIC GARDENS, EDINBURGH.—The visitors during 1894 to the Botanic Gardens were as follows:—Total visitors during the year, 526,948. Of these, 268,793 were on Sundays, and 258,155 on week-days. The largest number of visitors on a Sunday was 13,515, on July 1; the smallest 68, on February 11. The largest number of visitors on a week-day was 2578, on July 7; the smallest 28, on February 16. The largest number of visitors on a public holiday was 3153, on Queen's Birthday, May 24.

INCREASED RAILWAY RATES.—The following notice is made by the Mansion House Association on Railway and Canal Traffic for the United Kingdom (Incorporated): "It should be borne in mind that the time within which rates increased before the Act of last session was passed can be appealed against, will very shortly expire. The period allowed by the Act is six months from the date of its passing—that is, six months after August 25, 1894. Forms for use in making complaints in accordance with the Board of Trade's requirements can be obtained from the Mansion House Association at Eastcheap Buildings, Eastcheap, E.C. Apart from the heavy outstanding balances which await settlement, the question is one of very serious importance to traders,

in view of the probable continuance for an indefinite period of any increased rates which are not made the subject of appeal."

ANCIENT SOCIETY OF YORK FLORISTS.—The annual general meeting of the Ancient Society of York Florists was held in the Agricultural Club Chambs., York, on the 8th inst. Mr. A. SIMPSON presided, and there was a large attendance of members. The minutes of the last annual general meeting were read and confirmed. The Secretary, Mr. J. Lazenby, read the committee's annual report for the year 1894, of which the following is an extract:—"The year has been exceptionally propitious as regards the operations of the Society. There is a considerable increase of subscribing members, the number being 642, as against 600 last year, and about 50 new names for the coming year. The receipts for the year amounted to £555 7*s.* 11*d.*, and the expenditure, having been £519 5*s.* 6*d.*, there was a surplus on the year's working of £36 2*s.* 5*d.*, which, added to last year's balance, made a total balance of £199 2*s*, and a total income of £718 7*s.* 6*d.* Mr. Pannett moved, and Mr. T. Abbey seconded, that the report be adopted. The proposition was unanimously carried. The Rev. H. Vyvyan was unanimously re-elected chaplain, and the Lord Mayor of York (Alderman W. McKay), the City Sheriff (Dr. T. Anderson, J.P.), and Mr. Robinson were elected vice-presidents for the year. Mr. J. Pillmoor was elected for the office of junior steward. Mr. G. Lamb, treasurer, and Mr. J. Lazenby, secretary, were unanimously re-elected to their office. Mr. A. Farnborough was elected junior auditor. A vote of thanks was proposed and unanimously carried to donors of special prizes, who had afforded liberal aid, and most of whom renew their offer, thus evincing their confidence in the Society.

MADAGASCAR PIASSAVA.—Mr. C. H. WRIGHT describes, in a recent number of the *Kew Bulletin*, a new Palm from Madagascar, under the name of Dictyosperma fibrosum. It yields a valuable fibre. Young plants have been raised at Kew, and many have been distributed in the colonies.

THE BIRKENHEAD AND DISTRICT GARDENERS' ASSOCIATION.—The second annual *soirée* was held in the Claughton Music Hall, Charing Cross, Birkenhead, on Tuesday, January 8, in aid of the funds of the newly-inaugurated Gardeners' Mutual Improvement Association for Birkenhead. There were over 300 gardeners, their wives and friends, present, and a most enjoyable evening was spent. His Worship the Mayor (Alderman THOMAS SHAW) presided at the dinner, and was supported by Mr. JAMES SMITH, of the Palm Grove Nurseries. The venture will result in a sum exceeding £10 being handed over to the funds of the new Association.

BHABUR-GRASS.—Following the suggestions of Dr. KING, the Director of the Royal Botanic Garden, Calcutta, this Grass (Ischæmum angustifolium, of HACKEL) is now largely used for paper manufacture in India. A slight sketch of the history of the plant is given in a recent number of the *Kew Bulletin*.

BRISTOL AMATEUR HORTICULTURAL SOCIETY.—The first of the 1895 series of free monthly lectures was given under the auspices of this energetic and growing Society, at the Colston Hall, on Wednesday evening, 9th inst. In the unavoidable absence of the President (Councillor JOHN WALLS, F.H.S.), the chair was taken by the honorary treasurer, Mr. ERNEST G. MACHON, who, after announcing the addition of a dozen subscribers to the roll since the last meeting, introduced the lecturer, Dr. JAMES LEICESTER, Ph.D., F.C.S., &c. The subject selected by him was "The Influence of Plants upon the Physical and Moral Atmosphere." A hearty vote of thanks brought the proceedings to a close.

EARTH-STARS (GEASTER).—Miss CAROLINE DESTRÉE, of the Hague, has described the sixteen species of this genus found in the Netherlands. Prof. F. W. VAN EEDEN has placed at the lady's disposition all the material, literary and artistic, that he had accumulated. We see no reference to the descriptions and figures of this singular genus published in our columns by Mr. WORTHINGTON SMITH in 1873.

THE ULSTER HORTICULTURAL SOCIETY.—The sixth annual meeting of this Society was held on the 10th inst., in Belfast, when there was a large attendance, presided over by the Lord Mayor (Mr. WM. MCCAMMOND, J.P.). Regret was expressed that notwithstanding the magnificent prizes offered for the encouragement of the cultivation of Flax, this section proved quite a failure. The report presented a favourable balance of £30 9*s.* 11*d.* on the year's working, and was considered highly satisfactory.

MINOR INDUSTRIES.—A recent number of the *Kew Bulletin* calls attention to the importance of these so-called minor industries. Thus, twenty-five years ago, in Jamaica, the culture and export of Bananas was practically nothing, but in the year 1892—93 the value of the Bananas exported amounted to over £400,000, thus exceeding in value the exports of either sugar, rum, or Coffee. All classes of the community have been benefited, and the general resources of the Government for public works have been improved.

WEST OF ENGLAND CHRYSANTHEMUM SOCIETY.—The annual meeting of the above was held on the 9th inst., at the Borough Arms, Plymouth, Mr. G. H. E. RUNDLE presiding. The committee, in presenting their report, commented on the continued success of the Society, and the excellent support they had received at the hands of members and friends. The Chrysanthemum show was a good one, but owing to the bad weather that prevailed, the attendance was small, and the financial loss resulting was a serious one. The scheme of amalgamation, by which similar societies in Devon, Cornwall, Somerset, and Dorset were to be invited to coalesce, was postponed on the recommendation of the committee; and as a preliminary step, prizes are recommended to be offered to competitors in those counties. The treasurer's statement showed a small balance in hand. The report was unanimously adopted. The annual dinner was held in the evening at RISDON'S Restaurant, George Street.

ARTIFICIAL FOLIAGE IN ARCHITECTURE.—The Cantor lectures on this subject before the Society of Arts, were delivered by Mr. HUGH STANNUS in the spring of last year. They have been lately published in the *Journal of the Society of Arts*, and we commend them to the notice of designers, landscape gardeners, and decorators generally as being based on the principles of growth in plants, which are too often ignored in practice. The lecturer shows that he has studied the "why" as well as the "how," and the application of his knowledge is the more satisfactory in consequence.

THE LATE CHARLES COLLINS.—A meeting of horticultural journalists, held on Friday, the 11th inst., to consider what steps should be taken in order to raise a fund for the benefit of Mr. COLLINS' widow and children, decided to make a public appeal in their favour, and for this purpose a committee was elected, consisting of the permanent staffs of each of the horticultural journals. A fairly good start has been made, and we wish the movement a very large success, it being well known that owing to domestic illness, and other inevitable drawbacks, Mr. COLLINS was unable to provide in any adequate measure for those from whom he was called so suddenly away. We shall be pleased to acknowledge any subscriptions that may reach us.

BOX-WOOD AND WALNUT-WOOD.—Reporting on the trade of Poti, the British Vice-Consul thus refers to Box-wood and Walnut-wood:—"In the accessible private forests the large Box-wood has been mostly cut down, the Government not desiring that these forests shall in a few years be cleared of wood that takes hundreds of years to mature, place but little on the market. But substitutes from other parts of the world are taking the place of Box-wood in the English market." This is welcome information, that will be news to most of us, and we shall be glad to hear more about these substitutes, as solving a difficult question that has been long before the dealers in hard-woods. Walnut, we are also reminded, is getting less abundant, and large logs are only now obtainable in remote places difficult of access.

ARTIFICIAL MANURE FOR ALPINE PLANTS.—Dr. HUGO MÜLLER, who is an enthusiastic collector and grower of alpine plants in the south of England, has concocted a mixture which he applies to all his rock-plants, with, he says, beneficial results. The mixture is composed as follows:—40 gallons of water (in paraffin cask), 2½ oz. potassium phosphate, 1½ oz. potassium nitrate (nitre), 1½ oz. magnesium sulphate (Epsom salts), 1½ oz. calcium nitrate. The calcium nitrate is prepared by taking 100 oz. or less of chalk, dissolving it in dilute nitric acid until it ceases to give off carbonic acid. This leaves a solution of 1½ oz. of calcium nitrate for each oz. of chalk. This is mixed in the paraffin cask, and the plants are watered with it about once a fortnight during the growing season. Dr. Müller is a gardener as well as a chemist, and, therefore, a safe adviser in a matter of this kind. *Garden and Forest.*

TROPICAL FODDER GRASSES.—A recent number of the *Kew Bulletin* contains a very valuable article on the grasses suitable for cultivation in tropical countries. A list is given of the grasses considered best for the purpose. The list has been revised by Sir JOSEPH HOOKER, who has for some time past been studying the grasses of British India. Limitations of space forbid our making any extracts from this useful compilation, but the subject is one of such great importance to tropical cultivators that it is a duty to call attention to the article.

BAILLON'S "HISTOIRE DES PLANTES."—The last issued part contains the botanical history of the Taccaceæ, the Commelinaceæ, and several minor orders. The remarks on structure and affinity are very interesting, and the bibliographic notes very serviceable to the student. The illustrations are also very instructive.

VIOLAS BEST SUITED FOR BEDDING.—At the Viola Conference held at Birmingham in August last, the following varieties were selected as the most appropriate:—*White:* 1, Countess of Hopetoun; 2, Sylvia; 3, Marchioness of Tweeddale. *Deep Yellow:* 1, Bullion; 2, Lord Elcho. *Pale Yellow:* 1, Ardwell Gem; 2, Lemon Queen. *Dark Blue or Violet:* 1, True Blue; 2, Archie Grant. *Pale Blue or Mauve:* 1, Blue Gown; 2nd Bessie Clarke. *Blush or Rose:* 1, William Neil; 2, Blush Queen. *Edged or Bordered Varieties:* 1, Duchess of Fife; 2, Blue Cloud. *Fancy Varieties:* 1, Countess of Kintore; 2, The Mearns; 3, Princess Beatrice. *Purple:* 1, Acme; 2, Crimson King.

FATAL ICE ACCIDENT TO A YOUNG GARDENER.—On Monday, the 7th inst., A. W. BUNN, aged 23, one of the under-gardeners at Caversham Park, fell through the ice while skating on a pond known as the Big Basin, and was drowned. The deceased was a very steady young fellow, and a general favourite among his fellow employés. His father is head gardener at Quidenham Hall, Norfolk.

TORQUAY GARDENERS' ASSOCIATION.—At the annual dinner of the Torquay Gardeners' Association, held on the 9th inst., at the Exeter Hotel, the chair was occupied by the President of the Society, Dr. HAMILTON RAMSAY, and there was a good attendance. Mr. F. C. SMALL, Hon. Sec., said that the Society now numbered 140 members, and there was a good financial balance. The speeches were congratulatory, and the rest of the proceedings enjoyable.

BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—We glean from the *Birmingham Post*, that on Monday evening, the 7th inst., the annual meeting of this Association was held at the Athletic Institute, John Bright Street, under the

presidency of Mr. W. B. Latham. Mr. A. W. Wills was unanimously re-elected president, and Professor Hillhouse was appointed vice-president. The whole of the retiring committee were re-elected with the exception of Mr. W. Earp (late head-gardener to Mr. Joseph Chamberlain), the vacancy being filled by Mr. J. Haynes. Mr. W. Gardiner was elected assistant librarian; and Mr. W. Eades, the assistant secretary, was appointed a member of the committee.

"The Garden Annual and Address-book for 1895," published under the direction of Mr. W. Robinson, will be found as useful as its predecessors. It must necessarily in a large measure be dependent on the gardeners for its accuracy and completeness.

Liquorice.—As an instance of the increase in the importation of Liquorice-root into America, where it is stated to be largely used in the Tobacco manufacture, it may be mentioned that out of the total quantity of root and paste shipped from Batoum in 1893, 16,720 tons were forwarded to the United States, the balance of 1196 tons being shipped to England and France; out of the latter mentioned quantity only about 300 tons were paste, and the rest pressed roots. Over-production has brought about more or less of a crisis in this trade, and about 14*s.* 7*d.* was being paid, towards the end of last year, to the peasantry for every ton of root delivered at the factories in the Governments of Baku and Elizavetpol. The result was that little or no root was being collected by the natives, and it is said that in consequence of the large quantities of pressed roots in stock two out of the three root-pressing works of the Caucasus remained inactive during a portion of the past year.

Bromley Chrysanthemum Society.—The fourteenth annual general meeting was held on the 7th inst. in the Parish-room. The report presented by the secretary (Mr. W. Weeks) congratulated the Society upon winning the Challenge Shield at the National Chrysanthemum Society's Exhibition. During the year there had been an increase of forty-one in the subscribing members, and there was a favourable balance of £17 odd.

Manures for Orchids.—M. le Comte de Moran, writing in the *Journal des Orchidées*, calls attention to M. George Truffaut's analysis of a Cattleya, from which it appears that that Orchid contains over 90 per cent. of water. The dry matter of a plant, weighing 32·8 grammes, amounted to 3·596 grammes. The composition of the 3·596 grammes of dry matter is given as silica, 0·004 (we omit further decimals); phosphoric acid, gr. 0·003; iron, 0·0003; calcium, 0·06; ammonia, 0·04; magnesia, 0·01; grammes in each case being intended. One gramme = 15 grains. The ammonia, phosphoric acid, and nitrogen together, give a weight of 0·08. From these data Comte de Moran concludes that no artificial manures are needed.

"Les Engrais en Horticulture."—Under this title MM. Joulie and Desbordes have published a useful little handbook on the nature and employment of manures in horticulture. It is published at a low cost by M. Doin, Place de l'Odéon, Paris. M. Joulie supplies a brief account of the chemical nature of the food of plants, while his colleague deals with the application of the required chemical manures to various classes of plants. M. Desbordes gives the results of numerous experiments, and supports his assertions by abundant confirmatory evidence; moreover, he gives numerous formulas for various classes of plants, by the aid of which the gardener can readily supply himself with the requisite manures at a price very much lower than that usually charged.

Mr. George Hollingworth, who for the last five years has filled the post of General Foreman in the gardens at Alton Towers, Staffordshire, succeeds the late Mr. Collins on the staff of the *Journal of Horticulture* and *Cottage Gardener*.

United Horticultural Benefit and Provident Society.—The quarterly meeting of this Society was held at the Caledonian Hotel on Monday evening, the 14th inst., Mr. Joseph Wheeler presiding. Twelve new members were elected, and four others nominated. Two deaths have occurred during the quarter, one being that of Mr. Charles Collins, who died suddenly on December 26 at Forest Gate Railway Station; and the widow being left in distressed circumstances, and in very delicate health, the committee granted her £10 from the Benevolent Fund, in addition to the small amount standing to her late husband's credit. The other member who died was Mr. Arthur Locke of Woking, after seventeen weeks on the sick-fund. The amount standing to his credit was paid to the widow according to rule. The proposed increase of sick-pay was discussed, and a requisition signed by members present for a special meeting to be called in March for alteration of rule bearing on the point. The treasurer was instructed to invest £400 in West Bromwich 3 per cent. Stock. A vote of thanks to the chairman ended the meeting.

Fig. 12.—A, B, canker in apple: showing progress of the disease. Half natural size. (See p. 72.)

Mr. Simpson.—We are glad to hear that the Société Nationale d'Acclimatation de France has conferred its medal of the first-class ("Medaille de la première classe") upon Mr. J. Simpson, of Wortley Hall Gardens, Sheffield, for his book lately published, entitled *The Wild Rabbit in a New Aspect*, and noticed in these pages some time back.

The Surveyors' Institution.—The next ordinary general meeting will be held on Monday, January 21, when a paper will be read by Mr. H. Blackbourn (Fellow), on "The London Building Act, 1894." The chair to be taken at 8 o'clock.

Transmission of Cuttings.—There are more plants destroyed by packing them in airtight tin boxes than is pardonable. If people would only bear in mind that plants require fresh air just as animals do, and that even seeds and bulbs, if packed moist in airtight boxes, are often asphyxiated, or perish through putrefaction, those who send seeds and plants long distances would be more successful, and those who receive them would have less cause for complaint. Even seedsmen treat seeds for exportation wrongly, first subjecting them to severe drying, and then packing them in hermetically-sealed tin boxes. Growing plants require light, fresh air, and a suitable temperature. They will live for some time without light if they get fresh air, a very short time without either, and if the light and air are moderately good, they will bear a considerable range of temperature. Chrysanthemums could be sent all round the world with safety if they were packed in accordance with these essentials. The best method of packing for young plants is as follows. Turn them out of pots and roll the ball of soil in oiled paper, tying it top and bottom. Then pack them upright, with a little wet moss between the balls, pressing them tightly together in a wooden box deep enough to protect the tops. A box 9 inches deep would be ample. Across the tops of the balls, between the rows, fix narrow strips of batten, nailing them through the sides of the box. Over the top of the box fix a sheet of perforated zinc, and over this again battens should be firmly fixed about 3 inches apart. Label the box, "Living plants, to be placed in a light cool position, out of reach of salt water," and unless the plants have very bad luck, they will be in good condition when they arrive in Australia. Such plants as Strawberries, Primulas, Pelargoniums, and Carnations can be sent with safety to distant countries if packed in this way.

A Great Sale of Lilies.—Messrs. Protheroe & Morris held an unusually important sale of Japanese Lilies at their rooms, on Wednesday last, of between 60,000 and 70,000 bulbs, when the whole of them were disposed of. There was a large company present, the competition being very keen, especially for the various varieties.

Home Correspondence.

Plums as cordons.—Forming my opinion from the great crop of Plums borne by trees trained as cordons up the roof of the orchard-house at Basing Park, I am sure that Plums thus cultivated are very profitable. Never have I seen anywhere else such fine crops of Jefferson, Pond's Seedling, Transparent Gage and the old Greengage, as were borne on these trees last year. Judging by the appearance of the fruit spurs on these trees, the trees must be close upon twenty years old. *E. M.*

Border labels.—New labels, or modifications of old ones, are frequently commented upon in the pages of the gardening papers, but none that I am acquainted with is perfectly satisfactory for herbaceous plants and bulbs in borders. These plants are fast coming to the front again, and deservedly so, and what is now wanted is a cheap, lasting label, which is not easily broken or destroyed. I have some faint recollection of a label which, perhaps, is not known to the rising generation of gardeners, and which, I believe, is not yet surpassed, all points considered. This label was made of hard wood, such as Oak or Larch, half or three-quarters

of an inch square, and about 18 inches long, and on one of the surfaces transverse cuts were made, some being oblique and notched on one of the edges, these signs representing numerals; and by keeping a list of plants, with these signs prefixed, their names could be easily ascertained if perchance they were forgotten. But the correct naming of plants is not the only necessity for a good strong label; anyone who has charge of a large collection of hardy plants knows there are numerous things which at certain seasons leave not a trace of their positions above-ground. Now, I think this is where this label will tell, for if desirable it could be thrust down in the very centre of most plants, and remain there hidden from view from the casual observer, and continue sound for many years, showing the whereabouts of the plants, and, by its numerals, its name. Can any correspondent recommend a more suitable border-label for private gardens? combining the following advantages, which I claim for this label, such as durability, cheapness, easily comeatable, which can be made in bad weather, when outside work is not advisable; sightly, as the portion above-ground can be painted to please one's taste; sure indicators, for being well thrust down, frost cannot lift it, or rake or hoe remove them. Perhaps, Mr. Editor, this label is known to you; if so, could you give a drawing of it in the pages of the *Gardeners' Chronicle*, showing and explaining their numerical signs? *J. Easter, Nostell Priory Gardens.* [We know the label our correspondent favours, and always thought highly of it; and if it be slightly charred for two-thirds of its length, and whilst warm dipped in melted Stockholm pitch, it will be found in good preservation after a lapse of ten years. ED]

TOMATO CULTURE.—Your correspondent, Mr. Pettinger (p. 18) compares Horsford's Prelude to a Tangierine Orange in shape. This description would apply with more correctness to Conference, a cross between Ham Green Favourite and Prelude. When the strain is pure, Horsford's Prelude is nearly oval in shape. It is a most prolific variety, and I have frequently had seven thickly-set bunches on a single bine at a time, but the fruit is rather small, and it would take twenty bunches to weigh "15 lb." A much better and more profitable variety is Chemin rouge, which Mons. de Vilmorin justly considered the best of all Tomatos. Even last summer it ripened out-of-doors with me, and in an unheated house it grew to great perfection in company with Ham Green Favourite (see *Gardeners' Chronicle*, September 22, p. 349). I have grown Tomatos for many years in pots, both outdoors and in, and find many advantages in this mode of culture. The roots are restricted, and kept warmer than when in the ground. The soil is completely changed every year. If the autumn be wet and cold, the plants can be carried indoors to finish the crop, and they are less liable to disease. I prefer 10 or 11-inch pots, with a single plant in each. When two are planted together in a larger pot, a struggle for the mastery ensues, which is not conducive to fruitfulness. I smile at the statement that "Prelude, when fully ripe, is equal in flavour to the best dessert fruit in cultivation." It is strange that the present generation should crave for Tomatos, although fifty years ago few people liked them. We had the old red variety then, and it still holds its own for flavour. Criterion and Blenheim Orange are good. It is a meat-eating age, and Tomatos are a good corrective. The flavour of even the best Tomato is, in my opinion, a combination of Melon, Onion, Mushroom, and Potato-apple, which I once tasted when a boy, but never since, but I can trace it in the Tomato. It is a good friend to the horticulturist. *W. R., Streatham Hill.*

WANT OF COLOUR ON WHITE GRAPES.—One of the chief reasons why so many white Grapes are poorly finished is lack of sunlight. The majority of gardeners have themselves to blame in this matter, as they do not avail themselves of the amount of sunshine that these isles are favoured with. In most of the vineries that I have seen, the back wall has been covered with Vines, Figs, or some species of climbing plant. Now this is a practice which I object to, as I never saw a first-rate crop of fruit taken off a back wall, and what fruit is obtained is always at the expense of the proper occupants of the house. Besides being a harbour for pests, the plants thereon hinder the reflection of sunlight from the wall. Therefore, in a house that is devoted to white Grapes I would advise that the back wall be quite bare and be white-washed or painted white. The rods should not be closer than 4 feet, nor the spurs a less distance than 18 or 20 inches apart. These things can be attended to just now while the Vines are at rest. In the summer the growths should be stopped, so that each Vine stands clear of the other by 3 or 4 inches, to enable the light to penetrate to the back wall and be reflected. When the berries begin to change in colour, the leaves should be tied aside, to let the sun have full play on the bunches, and the border should receive a good watering, and then be mulched with new clean wheaten straw, and so retaining moisture within the border, and to reflect the light. *A. Morton, Kenmore.*

PROPAGATION OF THE MISLETO BY BIRDS.—Allusion is made in your interesting article on the Misleto to the assumption that one of the most likely modes of the propagation of the parasite is the deposition of the seed on the branches of the trees in the excreta of the bird, the seeds being passed through the intestinal canal uninjured. This theory, however, appears to be erroneous, considering that in its passage through the canal of the bird, deglutination of the seed must take place, and thus render the seed's adhesion to the bark of the branch comparatively small, though enveloped in the ordinary excreta. It is more likely that the birds in the act of wiping their beaks on the branches of the trees to relieve them of any of the viscid substance of the berries, would cause their adherence as in the artificial method of propagation of the Misleto by rubbing it on by the hand. Miller, the old botanist, noticed both ways, but objected to the former theory, because he considered that the seeds would not grow after passing through the stomachs of the birds, and also because their deposits could not adhere to the undersides of the branches where the Misleto is generally found to originate. Regarding the comparatively few kinds of trees on which the Misleto has been generally found, those of a more succulent nature appear to be the most suitable, hence the reason why it is seldom seen on the Oak, and the vigorous young branches with their succulent bark. I have observed as affording the readier means for the union and germination of the seeds, more especially of such as the Apple and Poplar trees. Another interesting feature connected with the organisation of the Misleto is the nature of its more matured wood, which is exceedingly hard to cut with a knife, and very brittle, yet of strong tension and not inclined to splinter. The arrangement of the minute medullary rays issuing, as I have found on inspection, from one side of the stem instead of the centre, so that the concentric rings present the form of an ellipse, is also interesting, but this peculiarity is perhaps open to further investigation. *Viscum.*

TREE CARNATIONS.—Being one of the tyros for whom Mr. Douglas writes (see p. 732 of *Gardeners' Chronicle*, December 15), I should be glad if he will tell me when the final potting of Tree Carnations should be done, the kind of soil to use, the size of last shift, when the plants should be placed in the greenhouse, and the temperature best suited for obtaining good results. I should like him to kindly tell me the names of those varieties which carry their flowers on strong erect stems, and those which do not require elastic bands to prevent the "pods" bursting. *A. H.*

POTATO GROWING.—Now that the Potato planting season will soon be round again, would any reader of the *Gardeners' Chronicle* kindly inform me of his experience of the practice of rubbing away all the eyes from the seed tuber, except one or two of the strongest. I should suppose (seeing that the Potato is a great lover of the sun), that the more stems and leaves it could rear to the light the greater the crop and the better the quality. *P.* [Experience teaches the contrary of this. ED]

EUCHARIS GRANDIFLORA.—Seeing an account of some well-grown Eucharis grandiflora cultivated in a garden at Wimbledon in a recent issue of the *Gardeners' Chronicle*, I would like to state that here at Highwood, Roehampton, is a 12-inch potful of bulbs, which threw up two crops of flowers in one month, thirteen spikes at each time. In October of the previous year it had twenty-five spikes of flowers at one time, averaging five and seven flowers on each. This season some of the spikes had as many as eight flowers. I think that the free use of weak soot-water has been a great help in getting these Eucharis to flower so well. *W. Sharpe.*

LUCULIA GRATISSIMA.—When visiting the beautiful gardens of the Rev. H. G. Jebb, at Firbeck Hall, near Rotherham, on January 9, I was particularly struck on entering the large conservatory with the delightful perfume from some plant in bloom, and on looking round I noticed a magnificent plant of Luculia gratissima, which as Mr. Eggleston, the gardener, informed me, had over 400 of its beautiful trusses fully expanded. I was told no special kind of treatment was afforded, except in so far as making a good border for it when the gardener planted it about eighteen years ago. *S. A. Woods, Osberton Gardens, Worksop.*

THE NONPAREIL DAFFODIL.—There is a portrait of this Daffodil earlier by seven years than Parkinson's, to which Mr. Hemsley refers. It is in a volume of admirably-executed plant portraits called *Theatrum Floræ*, published in Paris in 1622. The plate is No. 19, on which are two figures of Nonpareils, one called N. luteus major amplo calice; the other, which is a more solid flower, and has a much larger crown in proportion, is called N. omnium maximus subalbus calice luteo. The work contains sixty-nine folio plates, but no letterpress. The figures are freely and unmistakeably pirated by Parkinson, according to the fashion of those times—as are those of Clusius also—but the copies are very inferior, as works of art, to the originals. My copy of this scarce book was bought at an executor's sale in Nottingham for a few shillings in 1852. It is in solid calf binding, with ornamental gold lettering on the sides, marking "Bibliothec Bignon." I conclude this was the Abbé Bignon, after whom Tournefort named the Bignonia. He was librarian to Louis XIV., and it is recorded of him that he sold his own library that he might pay exclusive attention to that of the king. *C. Wolley Dod, Edge Hall, Malpas.*

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS AND VILLA GARDENS (*Continued from p.* 48).—In the concluding remarks of our paper in *Gardeners' Chronicle* on December 29, we were speaking of the beauty of autumn-sown annuals, and there is this in favour of autumn sowing, they are generally more bright and beautiful during the early spring months than they are throughout the warmer days of summer. They are not particular as to soil, for they will succeed in any soil that will grow an ordinary garden plant. A rather poor soil, providing it was well dug and broken up, would suit them for spring blooming, and induce them to flower early; while, on the other hand, we have found, when the beds have been made too rich, they have run too much into foliage, at the expense of an early display of flowers. When sown in spring for blooming during the summer, the ground can scarcely be made rich enough. If we wish to obtain a grand spring display, we must make the selection for that purpose. We presume that those who are anxious to make the most of their flower-garden plots would want the autumn-sown annuals off the ground by the end of May, in order that their places might be occupied with some of the most showy of the hardy and half-hardy annuals, that can be raised from seed in the spring, and bloom freely during the autumn months. We are now dealing with annuals for spring blooming. For this special purpose there should be a bed made in the kitchen garden early in August, just the same as if we were about to make a bed for sowing Cabbage or Tripoli Onion seed. Sow the seed very thinly in drills 9 inches apart, and let it be covered very lightly with fine soil. Any position will do for the seed-bed in the vegetable garden, provided it is not shaded or exposed to sweeping winds. As soon as the seedlings peep out of the ground the hoe must be at work amongst them, cutting up weeds, and keeping the surface open. Thinning must be attended to at an early stage of the plant's growth. Even the most hardy and robust annual will succumb to the cold of winter if left too crowded in the seed-bed. If thinning is properly attended to, they may be lifted from the seed-bed any time during the winter when the weather is open, and planted in the flower-garden. We cannot enter into detail respecting the habit, growth, and height of all the plants that are useful for this style of embellishment, but will just name a few of the most useful for the purpose. We will begin with the Collinsias: of these we have bicolor, grandiflora, and verna; they are all very pretty and useful hardy annuals, of easy culture and great beauty. They can be grown in clumps or beds,

and in any form the flowers are most effective. Candytuft, crimson, lilac, and white, are useful hardy annuals, very strong and effective in beds or groups. A circular bed, with a centre of lilac, then a band of white, with an outside ring of crimson, would be most beautiful and effective in the villa garden. A bed of this kind could be planted for the small sum of 3*d*., allowing it to be 6 or 7 feet in diameter. There need only be one outlay, as the seed can be saved for the succeeding year. During the last few years we have had some marked improvements in the Candytufts, and now we have them with much brighter colours than usual, while the habit of the plant is more compact and upright. Limnanthus Douglasi is one of the best of the Californian annuals for autumn sowing. It never fails, let the weather be what it may, and it is not injured either by frost or wet; its beautiful straw-coloured flowers come in great abundance with the first flush of sunshine, and continue six or eight weeks. A small packet of seed would make a large bed, and would be ample for any villa garden—few things would produce a better effect. When once it becomes established, it grows and seeds like a common weed. Nemophilas are well known annuals of a great diversity of colours, all worthy of a place in the flower-garden, though insignis is the best. When the plants are grown thinly (and here is the secret with annuals), the plants grow strong, and they will last a long time in good condition. Saponaria calabrica, S. calabrica alba, and the dwarf S. ocymoides, are well known useful annuals, of easy culture, and perfectly hardy. The first two named are useful either for ribbon or chain beds, and the latter is most useful for hanging over the sides of baskets, vases, or creeping on the rockery. Then we have the Silenes, of which there are several beautiful forms, including pendula, pendula alba, ruberrima, compacta, and compacta alba; they are all free-flowering showy plants, excellent either for spring or summer blooming. The Silenes may be used with very great success in every kind of flower garden embellishment, and they are adapted for every sort of bed, and also for vases and baskets. If any of the Silenes are grown for spring blooming, they must be sown a fortnight earlier than those previously named. There is the old Virginian Stock, though an old-fashioned simple flower, is very effective in spring. All the above may be sown about the second week in August, except, as just stated, the Silenes a fortnight earlier. Other annuals may be added to this short list with which the cultivator may be acquainted, and which are equally useful. We would not omit to mention two old-fashioned flowers, yet universal favourites; they bloom early in spring, yet cannot be called annuals, but must be classed with the biennials—we refer to the common Wallflower and the Forget-me-not. These should be sown early in May, and encouraged in their growth through the summer and autumn. The Wallflower is everybody's flower, and it is quite as much at home in the garden of the miner as it is in that of the noble duke. They are useful for planting in masses or in window-boxes; and, in fact, they are real ornaments so long as they are kept in nice compact, round bushes, and not allowed to become straggling. All the single varieties may be raised from seed, and also the double German sorts; but the old double Bloodwalls must be perpetuated by cuttings, struck when they are just going out of flower. The cuttings will strike freely on a shady border. The best and quickest method to get the cuttings rooted is to select shoots not too much overgrown, and cut them through just below a joint. Put them in about 2 inches apart, give them a good watering, and they will strike in a very short time. All the single varieties should be sown in drills, and afterwards transplanted on any vacant bit of ground in the kitchen garden. We would strongly recommend the culture of Wallflowers to all lovers of simple, innocent beauty, for they do not only bloom early, but fill the air with their delicious fragrance. The Forget-me-Nots are found so abundantly in wood, or grassy banks, and by the tiny streamlet, that few people think of cultivating them. They are, however, amongst our most beautiful spring flowering plants, and they are within the reach of all lovers of plants possessing a garden. The seed should be sown early in May in any corner of the vegetable garden, either in drills or very thinly broadcast; when the plants are up those that are sown broadcast may remain on the beds if they are not too crowded, but those in drills should be planted in rows 5 or 6 inches apart. They can be moved into their blooming position any time before they start into growth in spring. Wallflowers blended with Forget-me-Nots produce a fine effect; a plant of the dwarf yellow Wallflower and one of Forget-me-Not planted alternately; in the blooming season the bright yellow Wallflowers stand on a carpet of blue Forget-me-nots; a bed of Forget-me-nots, dotted over with white Tulips, is also most effective. Plant the Forget-me-nots in the first instance at the proper distances apart, then plant the Tulips with a dibber all over the bed; in the blooming season it will not only be a thing of beauty, but a joy that may be dreamed about for ever. A large bed might be planted with a centre of Wallflowers, encircled with a broad band of Forget-me-nots; this also, though simple, is a very effective arrangement. At planting-time, a plant or two should be left in the kitchen garden to run to seed; this would give a succession of plants year by year without the trouble of sowing. *R.*

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

January 15.—The New Year's Meeting of the Society was held on Tuesday last in the Drill Hall, James Street, Westminster, when the new committees were represented in considerable force. On the whole, the exhibits were far from numerous, though the collection of Orchids was equal to the average for the season, both in size and interest. Primulas and Cyclamens were also very well shown, and several novel types were exhibited, and there were two collections of Apples from the trade, beside a variety of miscellaneous exhibits.

Floral Committee.

Present: W. Marshall, Esq. (chairman); and Messrs. J. Fraser, O. Thomas, R. Dean, C. T. Druery, H. B. May, G. Stevens, J. Jennings, J. D. Pawle, C. Jeffries, C. E. Shea, H. B. Ironside, H. J. Jones, H. H. D'Ombrain, J. Laing, H. Herbst, C. T. Druery, F. H. Fitt, W. Bain, C. Beckett, H. Cannell, C. E. Pearson, and C. Blick.

Mr. Owen Thomas showed, from the Royal Gardens, Windsor, some plants of a late white Chrysanthemum in flower, known as L. Camioux. The plants were well flowered, and the blooms very suitable for decorative purposes (Award of Merit). A like distinction was conferred upon a Chrysanthemum sport from Princess Blanche, shown by Mr. D. Sheaham, Hartfield Road Nursery, Wimbledon, Surrey. The sport, which in all other respects is similar to the capital Princess Blanche, is a pretty canary yellow in colour, and the blooms are said to last exceedingly well.

Messrs. W. Paul & Sons, Waltham Cross Nurseries, Herts, exhibited some plants of Rhododendron ponticum foliis purpureis. The leaves of this variety are deep purple in colour, the plants were dense in habit, and were well budded (1st Class Certificate).

An Award of Merit was given to the Rose from America named Mrs. Pierpoint Morgan, noticed by us in last week's issue. The flowers as shown were different in appearance from what they were when submitted for our inspection; but this could not be avoided, the blooms having been cut twenty days. They were exhibited by Mr. J. M. May, Rose grower, Summit, New Jersey, U.S.A.

From Mr. F. W. Moore, Royal Botanic Gardens, Glasnevin, came a scape bearing two flowers of Hippeastrum aulicum grandiflorum, and some scapes of Lachenalia tricolor (quadricolor) maculata. This is a very pretty variety of tricolor, being almost apricot in colour at the base of the sepals, and having a crimson band round the apex of the petals (1st Class Certificate).

Messrs. Collins Bros. & Gabriel, 89, Waterloo Road, London, S.E., exhibited a yellow tree Carnation named Jane Collins. The flower was pretty in colour and form, but we could detect no perfume.

Messrs. John Laing & Sons, Forest Hill, London, S.E, exhibited some plants of Nicotiana affinis variegata. Mr. H. Howell, Queen's Nursery, Hammersmith, exhibited a form of Pteris tremula called P. t. Howelli.

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited a number of plants representing types and colours in varieties of Primula sinensis, Eynsford White, Kentish Purple, Duchess of Fife (a very delicate and pretty flesh colour), Neatness, Kentish Yellow (with large yellow eye), Kentish Fire, Cannell's Pink, and Swanley Giant, are all of good strain in foliage and flowers. There were also blooms of Primulas, and some immense flowers of Cinerarias shown in boxes. A fine bunch of Canna Queen Charlotte was also noticed.

It should be said that Messrs. Sutton & Sons have striven for years past to improve the strains of Chinese Primroses, and with most gratifying success. Several new breaks were exhibited in batches of several plants, so that it may be seen the types are fixed in character. The fine double, or shall we say semi-double types, are most valuable and distinct; and not only do they produce seed, but the seedlings reproduce the type with noticeable fidelity. The Double Blue, with fern-leaf foliage, appeared to possess a distinct shade of this colour, perhaps deeper than is generally seen in the single flowers, the ground colour of the florets delicate bluish-lilac, deepening on the edges to violet-blue. The double Heliotrope can lay claim to decided distinctness of colour, but it is unfortunately one of those tints so many consider washy. In the dull light of the Hall it was seen at a great advantage, and when taken to the full light the colour became intensified. It is a palm-leaved variety that is certain to become a favourite. The double Rosy Queen is a bright and very pleasing variety, the flowers tinted with fleshy rose, and they are large and full: it is a fern-leaved variety. The double Carnation Flaked has the pale florets flaked, striped, and indurated with rose and purple; a very pleasing fern-leaved form. The double Alba Magnifica has large white flowers, the fern-leaved foliage curiously curled at the edges. The single varieties included Grenadier, bright cerise-scarlet with fern-leaved foliage; Giant Pink, a large flowered variety, the massive florets tinged with bright fleshy pink; fern-leaved Giant Rosy Queen (Award of Merit) a very fine variety, the corollas very large, stout, and handsomely fringed; colour warm, rosy pink; the flowers produced in massive bold trusses, the foliage intermediate between the old and the fern-leaved, and Peach, pure white, fern-leaved. Two batches of Cyclamen persicum came also from Reading, one a high-coloured variety named Purple King, having a distinct glow of bright purple on the flowers; and Salmon Queen, a blending of warm salmon and rose, the petal edges a little paler. A very distinct variety, representing some six years' work in fixing it; and as twenty-eight plants were shown raised from seed, and they were exactly similar, its fixity of character is assured. An Award of Merit was made to this, and a Silver Flora Medal to the Collection. The plants had travelled from Reading in admirable condition.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Sec.), De B. Crawshay, T. H. Bond, T. Statter, F. Hardy, E. Ashworth, H. M. Pollett, W. H. White, J. Douglas, H. J. Chapman, W. Cobb, E. Hill, T. B. Haywood, H. Williams, F. Sander, and M. T. Masters, F.R.S.

The first meeting of the year proved an interesting one, many excellent new things being exhibited, although only one succeeded in obtaining a First-class Certificate, viz., Lælia anceps Crawshayana, a grand form, with flowers of extraordinary size, and remarkably good colour (p. 68), shown by De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke). Mr. Crawshay also showed L. anceps, Rosefield variety, a remarkably brilliant form, and Odontoglossum Andersonianum pulvereum, a very neat and distinct flower, with clear yellow ground, closely set with small red spots.

The Right Hon. Lord Rothschild, Tring Park, Tring (gr., Mr. E. Hill), sent a grand spike of the Veitchian hybrid, Phalænopsis × F. L. Ames (amabilis × intermedia). The flowers were much larger than any previously exhibited; white, with a slight flesh tint, and peculiar reddish markings on the lip (Cultural Commendation).

H. Graves, Esq., Orange, New Jersey, U.S.A., showed Cypripedium Henry Graves (Lawrenceanum × Marshallianum ×), a most peculiar and distinct hybrid in the production of which the beautiful C. × Marshallianum illustrated in the *Gardeners' Chronicle*, 1887, i., p. 513, is used. The flower of C. Henry Graves is peculiar in its ovate-acute upper sepal, and the novel colour of its flowers, which are of a pale apricot-yellow, tinged and dotted with rose (Award of Merit).

Messrs. F. Sander & Co., St. Albans, staged a charming group of Orchids, in which the new hybrid Cypripediums especially were excellent. The best of these were Cypripedium Mrs. Fred. Hardy (superbiens ♀, bellatulum ♂), a very distinct and pretty novelty, with clear wax-like white flowers, bearing a few lines of large dark purple blotches,

and on the upper sepal fine lines of purple, both petals and upper sepal having over the lower halves a pretty light emerald-green tint; lip cream-white, with rose veining in front; staminode rose-purple (Award of Merit). C. Madame Georges Truffaut (ciliolare × Stonei), a noble hybrid, partaking largely of C. Stonei, but with a reddish-bronze hue over its whole surface; the upper sepal was pale rose on white, and with ascending purple lines; the petals, which were broad, like those of C. Stonei platytænium, had numerous chocolate spots; lip bronze or brownish-rose (Award of Merit). C. × J. H. Berry (Harrisianum superbum × concolor), which, from a florist's point of view, is one of the nearest to perfection yet attained, the segments being broad and round, and the whole flower massive; in its various tints, purple and white predominate (Award of Merit). Not less beautiful was C. × Leeanum virginale, in which the upper sepal is almost entirely pure white, and some other hybrids shown. Remarkable in Messrs. Sanders' group also were Maxillaria ochroleuca (Botanical Certificate), the white Dendrobium bursigerum album (Botanical Certificate). Pescatorea Klabochorum, a fine series of Lælia anceps, among which were the richly-coloured L. a. Schroderæ, and the large white L. a. Schroderiana, a fine specimen of Cymbidium × Wynnianum, Phaio-Calanthe × Arnoldiana, and many handsome Odontoglossums, &c.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), staged a select group, in which the Burford hybrid Dendrobiums were very attractive, the varieties of D. xanthocentrum (Ainsworthii × Findlayanum) varying very much in their delicate tints, that named "pallens" being nearly white, while most of the others had rose-tipped petals and orange disc to the lip. D. × Hebe and D. × Burfordiense were also very handsome. In the centre of the group was a fine specimen of Dendrobium Wattianum, with many pure white flowers with orange base to the lip (Botanical Certificate); beside it the pretty D. dicuphum, white, with rose centre (Botanical Certificate); and in front a fine mass of the little Epidendrum polybulbon with over forty flowers (Cultural Commendation). Other remarkable plants in the collection were Masdevallia × Courtauldiana, Cypripedium × Sallieri Hyeanum, with six flowers; Lælia autumnalis alba, Dendrobium nobile Burfordiense, and cut spikes of Phalænopsis leucorrhoda, P. Schilleriana, and P. Aphrodite, between which the first-named is said to be a natural hybrid. M. Jules Hye-Leysen, Coupure, Ghent, sent his fine Cypripedium × Madame Jules Hye (Spicerianum superbum × tonsum), and which has the massive form of C. tonsum in a great degree, and is one of the largest flowers of its class. The upper sepal is white, with a pale rose-flush and crimson band up the centre, the rest of the flower yellowish, with reddish-rose tint over the surface (Award of Merit). It was described in our columns February 17, 1894, p. 198.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed three distinct hybrid Cypripediums, two of which were beautiful, and the third curious. The handsome ones were C. × Mimosa superba (Arthurianum ♂, Spicerianum ♀), which adheres in form to the favourite, C. Arthurianum, and has similar colour in its petals and lip; the upper sepal is large, green at the base, and pure white on the upper half, the green base and lower portion of the white bearing purple spots (Award of Merit). And C. Norma (Niobe ♂, Spicerianum ♀); the upper sepal is white, with a purple band up the middle, and slight purple feathers at the sides, the wavy petals and lip resembling C. × Niobe (Award of Merit). The other, C. Aeson (insigne ♀, Drurii ♂), resembled insigne, with the short lip and more concave form of the petals which C. Drurii might be expected to impart.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R Johnson), showed the singular greenish Cypripedium (Selenipedium) Boisserianum (Botanical Certificate), C. × Daviesianum (Boxalli atratum × Argus); C. × Euphrosyne (Spicerianum × Selligerum majus); C. × Leeanum aureum, and C. × nitens.

Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), exhibited Odontoglossum nebulosum candidulum, a fine pure white flower with yellow base to the lip (Award of Merit); Cattleya Percivaliana, Tyntesfield variety, a fine form, with open, richly-coloured lip, displaying the dark orange base; Lælio-Cattleya × Pallas superba; Cypripedium × Swinburnei magnificum, a large-flowered hybrid Cypripedium, Lawrenceanum × Curtisii, and other Cypripediums; Lælia anceps Dawsoni, &c.

Walter Cobb, Esq, Dulcote, Tunbridge Wells (gr., Mr. J. Howes), showed a fine plant of the best variety of Cypripedium × nitens superbum (Award of Merit), and C. Boxalli, Cobb's variety, a striking variation being that the upper sepal is almost covered with blackish shining blotches. E. Ashworth, Esq., Harefield Hall, Cheshire, showed a fine collection of cut spikes of rare varieties of Lælia anceps, including L. a. Amesiana, L. a. Schroderiana, &c., and a good plant of the original L. a. alba, a fine thing, which is still rare; also Zygopetalum Mackayii major, Lælio-Cattleya × exoniensis, and Lælia autumnalis. Chas. Ingram, Esq., Elsted House, Godalming (gr., Mr. T. W. Bond), showed Cattleya Percivaliana alba, which had been previously certificated.

Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, sent a number of spikes of their Cattleya maxima gigantea, a light form showing great variety, but unfortunately the flowers had suffered much injury in transit (Vote of Thanks).

Mr. J. Prewett, Swiss Nursery, Hammersmith, showed the fine Cymbidium Tracyanum; and A. H. Smee, Esq., Wallington (gr. Mr. Cummins), Lælia autumnalis gigantia.

Fruit Committee.

Present: P. Crowley, Esq, in the chair; and Messrs. T. F. Rivers, T. J. Saltmarsh, Geo. Bunyard, H. Pearson, J. Cheal, J. H. Veitch, G. W. Cummins, W. Pope, A. Dean, C. Ross, J. A. Laing, W. Bates, J. Hudson, G. Wythes, F. Q. Lane, J. Smith, Geo. Reynolds, and R. Fyfe.

Messrs. J. Cheal & Sons, Crawley, Sussex, exhibited ten dishes of excellent fruit, consisting almost exclusively of Apples, in good condition. Some of the more noticeable were the following:—Ribston Pippin, Golden Noble, Mère de Ménage, King of Pippins, Frogmore Prolific, Lord Derby, Colonel Vaughan, Emily Child, a small fruit, that colours similarly to Mère de Ménage; Emperor Alexander, Bismarck, Swedish Reinette, and Baumann's Winter Russet.

The following Pears were also shown: Catillac, Uvedale's St. Germain, Verulam, Duchesse de Nemours and Charles Cognée (Silver Knightian Medal).

Another collection of capital Apples was shown by Messrs. John Laing & Sons, Forest Hill, London, S E. These included Striped Beefing, Magnum Bonum, Alfriston, Bismarck, Beauty of Kent, Gloria Mundi, French Crab (rather small), Lane's Prince Albert, Sandringham (very nice), Hoary Morning, Lady Henniker, Royal Russet, Mère de Ménage, &c. (Silver Banksian Medal).

Mr. W. Gradwell, 4, Manor Road, Tottenham, exhibited some sticks of a red Rhubarb called Tottenham Early; and Mr. J. Gray, Anglesey, North Wales, sent a dish of Tomatos (Vote of Thanks).

EDINBURGH BOTANICAL.

JANUARY 10.—The January meeting of the above Society was held at 5, St. Andrew Square on the above evening, Professor F. O. Bower, F.R.S., the President of the Society, occupying the chair. After the reading of the report of the Council proceedings, Mr. W. Oliphant Gibb was proposed as a resident Fellow, while Mr. R. Stewart Macdougal, B.Sc., was elected a resident Fellow unanimously.

Specimens of Musa coccinea and Hæmanthus albiflos were exhibited from the Royal Botanic Garden. Mr. Malcolm Dunn brought branches, bearing cones, of the Cedar of Lebanon, the fruiting of this tree in Scotland being rare; the dimensions of the tree bearing these cones at Dalkeith was given. The same exhibitor also showed fruit of the Almond ripened near Dalkeith. An interesting cross between a Swede Turnip and Green Kale was placed upon the table by Mr. R. Turnbull, B.Sc. These plants bore evidence of the parents by the curled foliage and the swollen root of the Turnip. It was stated by Mr. Turnbull to have originated amongst a field of Turnips in the north of Scotland, the first generation possessing large swollen roots, while the present forms bore traces of reverting to the form of Kale. A specimen of Hieracium auratum, a plant new to the flora of Orkney, was shown by Surgeon-Major H. H. Johnston.

In the absence of Mr. George W. Trail, the assistant secretary read a second series of supplementary notes on the marine Algæ of the Orkney Islands, specimens of these beautifully mounted being shown. Professor Bower spoke of the work going on in connection with these plants in the Clyde and elsewhere round the coast of Scotland. Professor Balfour, F.R.S., Keeper of the Garden, placed upon the table a communication upon the genus Gloiopeltis, by Professor Schmitz, and referred to the valuable contribution as a welcome one for the pages of the Society's *Transactions*. Dr. Craig suggested that the thanks of the members be notified to Professor Schmitz. A vote of thanks was also expressed to the Assistant-Secretary, Mr. J. A. Terras, B.Sc., for the translation of the paper. In the report upon the vegetation in the Royal Botanic Garden, Mr. R. Lindsay, Curator, gave an enumeration of plants flowered upon the rock garden during the year. Mr. A. D. Richardson gave an interesting report on the meteorological observation taken in the garden for December, and a summary for the past year. The mean barometric pressure at 9 A.M., reduced to 32°, was 29·754, mean temperature, 41°.1, Rainfall 1·995 inch, for December. For the year 1894 the mean barometric pressure at 9 A.M. reduced to 32° = 29·739 inches. Mean temperature = 47°.5. The highest temperature was registered on July 6, 76°.9 being the reading. Lowest temperature on January 6 11°.8. The rainfall for the year = 29·894 inches, the wettest month being February, when 6·697 inches fell; the fall for September, the driest month, being 0·455 inch. An account of the variation in the leaves of White Beam Tree (Pyrus Aria) was also read by Mr. Richardson. Mr. R. L. Harrow exhibited several specimens from the houses of the garden, with notes upon plants therein. The meeting then adjourned until February 14.

PARIS HORTICULTURAL.

At the last meeting of the Société Nationale d'Horticulture de France, on Thursday, January 10, Mr. Page, head-gardener to Mr. R. Lebaudy, Rougival, presented some very fine seedlings of Cypripedium Leeanum, one of these plants named Leeanum Imperiale, being remarkable for the size of the flowers, about 3½ inches long and 4 inches wide. He also showed Cypripedium amabile, a cross between Cypripedium Boxalli and Dauthieri. *H. D.*

Obituary.

WILLIAM THOMSON, OF CLOVENFORDS.—One of the foremost figures in the gardening world has dropped out of line in his eighty-first year. He died on the 12th inst., after an illness of nine days—an illness supervening upon an accident, but for which he might still have been with us. On the 3rd inst. he fell on an ice-covered road, and shortly afterwards showed signs of inflammation of the lungs and of jaundice, from which he speedily succumbed. Mr. Thomson was born in 1814, in Roxburghshire, but the family having migrated to Mull, it was there that Thomson received his first instruction in gardening. In due time he passed into the gardens of Bothwell Castle, then under the management of our old correspondent, Mr. Andrew Turnbull, who became famous not only for the cultivation, but also for the production of new varieties of Heath. From Bothwell he proceeded to Wrotham Park, Herts, where he made his mark as a Grape-grower. Here he remained sixteen years, proceeding thence to Dalkeith on the retirement of Mr. Charles McIntosh. It was here that he established the monthly journal called the *Gardener*, remarkable among similar periodicals for the high tone of its practical articles; and here, too, he issued his treatise on the Vine, one of the best works on the subject. It was here, too, he raised the two Grapes, the Duke of Buccleuch and the Duchess of Buccleuch, which are well known to Grape growers, as well as others less widely known. In 1871 Thomson resigned the charge at Dalkeith, and set up as a Grape grower at Clovenfords, furnishing the London and other markets with copious supplies of Grapes of the best quality. Orchids of late years occupied his attention, in conjunction with his son, with whom Mr. Thomson was associated in business. To the last, Mr. Thomson retained his mental and bodily vigour, and was a familiar figure at most of the great shows in the North, and on great occasions in the South also.

The funeral took place on Wednesday, January 16, last, when it was estimated that nearly 200 persons were present, representing all classes of the community. Even more would have been present but for the inclement weather. Arboriculturists and agriculturists were largely represented, as well as gardeners of all degrees, and members of the great nursery firms. A deputation from the Council of

the Royal Caledonian Society attended to pay the last tribute to one whose aid and counsels were so highly valued by them.

The chief mourners were the son, Mr. John Thomson, and the nephew, Mr. D. W. Thomson, of Edinburgh. Mr. David Thomson, who shared with his elder brother, the respect of the horticultural community, was unfortunately unable to be present owing to ill-health. Owing to the early hour at which we are now compelled to go to press, we are unable to insert fuller particulars, enough, however, to enlist the sympathies of the gardening fraternity, who would respectfully share in the sorrow which the removal of the great gardener and good man has created.

ROYAL BOTANIC GARDEN, EDINBURGH.

Medinilla javanensis.—This species, which, as its name implies, is a native of Java, is a pretty winter-flowering shrub-like plant, growing to about 4 feet in height. The foliage is smaller than the better-known M. magnifica, but possesses the same prominent venation. The inflorescences, which are in terminal panicles, as well as springing from the older parts of the stem, bear numerous pink-white flowers, and dark purple anthers. Messrs. Rollison are credited as being the first to introduce this species. A figure may be seen in the *Bot. Mag.*, t. 4569. As a pot-plant it succeeds well, but by being planted out in a light situation, a much better idea of its beauty is given.

Crinum Macowani.—A fine plant of this Cape species has, for the past few weeks, been flowering here in one of the cool greenhouses. In some respects it greatly resembles C. Moorei, especially in the colour and size of its individual flowers. The bulbs are large, and the leaves grow to nearly 3 feet in length; amongst these rise the stout peduncles, some of which are 4 feet in height, and carry ten or more flowers of a light pink colour. Like other members of this genus, it should be valuable for planting among other flowering plants, above the foliage of which the handsome flowers could be seen.

Beaufortia purpurea. — This handsome New Holland shrub should receive a place in all collections of hard-wooded greenhouse plants, where its dense inflorescences of Bottle-brush appearance are always attractive. These are formed at some distance from the apex of the branches; and the scarlet stamens, which occur in bundles, renders the flowers conspicuous. The foliage is small, sessile, and opposite, being largest where the flowers are formed in their axils. They succeed admirably in a compost of peat and loam, the former in the larger proportion. This species was introduced in 1814.

Viburnum macrocephalum.—A plant of this Chinese species is now producing its large cymes of flowers in the Temperate-house. These are borne in a very free manner upon small axillary branches, or terminally, and last for a considerable time in good condition. The foliage is evergreen, which gives the plant at all times a well furnished appearance. Being rather irregular in growth, it is particularly adapted as a wall plant, but it is always a handsome object when in full flower, whatever method of training may be used. *R. L. Harrow.*

MARKETS.

COVENT GARDEN, January 17.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	6 0	8 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	3 6	4 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	4 0	6 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, per lb. ...	1 0	1 6
Cauliflowers, per dozen	2 6	3 6
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb.	0 8	0 10
Onions, per bush....	2 0	2 6
Potatos, Channel Islands, per lb. ...	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 6
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

Potatos.

The weather being milder arrivals are much heavier, and prices not quite so firm. *J. B. Thomas.*

SEEDS.

London: *January* 16.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's market as thinly attended, with not much business passing. Holders, meantime, await with confidence the on-coming consumptive demand. Good yearling Cow grass is much wanted. Choice Trefoil is rather better. White Clover-seed is said to firm in America. Grasses are dull. The fine quality and low price of Spring Tares, attract attention. Canary-seed is steady, Liverpool rates for this article being particularly strong. Scarlet Runner Beans offer at tempting figures. Large and small Haricots keep firm. Peas slow. Mustard unchanged. Rape-seed hardening. The Board of Trade Returns give the imports of Clover and grass seeds into thto the United Kingdom for the past year as 340,929 cwts., value £311,297, as against 333,412 cwts., value £792,061 for 1893.

FRUITS AND VEGETABLES.

Borough: *January* 15.—Quotations:—Savoys, 2*s.* 6*d.* to 3*s.* 6*d.* per tally; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Sprouts, 9*d.* to 1*s.* per half-sieve; Greens, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Turnips, 2*s.* to 3*s.*; Carrots, 1*s.* 6*d.* to 2*s.* per bag; Parsnips, 1*s.* 6*d.* per score, and 2*s.* per bag; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Celery, 11*s.* to 12*s.* per dozen bundles; Onions, English, 3*s.* to 4*s.* per cwt.; do., foreign, 1*s.* 9*d.* to 2*s.* 3*d.* per bag; Apples, English, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.*; and other sorts, 8*s.* to 14*s.* per barrel.

Stratford: *January* 15.—This market has been well supplied with all kinds of produce during the past week, and there being a large attendance of buyers, a brisk trade was done at the undermentioned prices:—Cabbages, 1*s.* to 2*s.* per tally; Savoys, 1*s.* to 2*s.* 6*d.* per tally; Greens, 6*d.* to 1*s.* per bag; ditto, 4*s.* to 6*s.* per tally; Cauliflowers, 1*s.* to 2*s.* per dozen; Celery, 6*d.* to 1*s.* per bundle; Brussels Sprouts, 6*d.* to 1*s.* per half-sieve; ditto, 1*s.* to 1*s.* 6*d.* per bushel; Horse-radish, 1*s.* to 1*s.* 3*d.* per bundle; Turnips, 1*s.* 9*d.* to 2*s.* 3*d.* per dozen bunches; ditto, 45*s.* to 50*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* per ton; do., cattle-feeding, 18*s.* to 22*s.* 6*d.* per ton; Mangolds, 13*s.* to 16*s.* per ton; Swedes, 10*s.* to 18*s.* per ton; Onions, English, 80*s.* to 100*s.* per ton; do., Dutch, 2*s.* 6*d.* to 2*s.* 9*d.* per bag; do., Valencia, 4*s.* to 8*s.* 6*d.* per case; Apples, English, 2*s.* 6*d.* to 6*s.* per bushel; do., American, 14*s.* 6*d.* to 18*s.* per barrel.

Farringdon: *January* 17.—Quotations:—Carrots, 25*s.* to 35*s.* per ton; Parsnips, 40*s.* to 50*s.* do.; Onions, 80*s.* to 90*s.* do.; Celery, 10*s.* to 12*s.* per dozen; Rhubarb, 1*s.* 6*d.* per dozen bundles; Seakale, 1*s.* 3*d.* per punnet; Curly Kale, 9*d.* per bushel; Beetroot, 2*s.* 6*d.* per cwt.; Grapes, English, 1*s.* 6*d.* per lb.; do., Spanish, 14*s.* per barrel; Pears, 7*s.* to 12*s.* per case; Apples, American Greenings, 17*s.* to 18*s.* per barrel; Chestnuts, 12*s.* to 14*s.* per bag of 50 kilos.

POTATOS.

Borough: *January* 15.—Quotations ranged from 60*s.* to 110*s.* per ton.

Stratford: *January* 15.—Quotations:—Magnums, Dark-land, 70*s.* to 75*s.*; do., Light-land, 75*s.* to 80*s.*; Imperators, 75*s.* to 80*s.*; Scotch Bruces, 80*s.* to 90*s.*; Main Crop, 90*s.* to 105*s.* per ton.

Farringdon: *January* 17.—Quotations:—Main Crop, 100*s.* to 105*s.*; Colossal, 90*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bruces, 75*s.* to 80*s.*; Magnums, 80*s.* to 85*s.* per ton.

London Averages: *January* 16.—Main Crop, 80*s.* to 11 0*s.* Snowdrops, 80*s.* to 100*s.*; Magnums, 70*s.* to 90*s.*; Hebrons, 80*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Kidneys, 60*s.* to 70*s.*; Black-lands, 55*s.* to 65*s.* per ton.

CORN.

Averages. — Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending January 12, and for the corresponding period in 1894:—1895: Wheat, 20*s.* 8*d.*; Barley, 21*s.* 3*d.*; Oats, 13*s.* 9*d.* 1894: Wheat, 26*s.* 4*d.*; Barley, 28*s.* 10*d.*; Oats, 18*s.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 132*s.*; do., inferior, 45*s.* to 115*s.*; hay, best, 6 0*s.* to 98*s.*; inferior, 36*s.* to 60*s.*; mixture, 90*s.* to 120*s.*; and straw, 20*s.* to 36*s.* per load.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending January 12.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	9 —	0	85	— 15	+ 87	8 —	9	1·6	14	10
1	12 —	0	118	— 15	+ 109	4 —	6	0·6	22	22
2	9 —	0	92	— 15	+ 76	5 +	10	1·5	17	17
3	9 —	0	90	— 14	+ 64	2 —	10	1·3	11	16
4	11 —	0	103	— 18	+ 89	1 —	6	0·6	10	21
5	9 —	0	81	— 21	+ 73	1 +	7	1·0	23	25
6	10 —	0	85	— 20	+ 84	12 —	7	0·7	19	27
7	9 —	0	75	— 17	+ 56	6 —	6	0·6	11	23
8	9 —	0	67	— 30	+ 64	1 —	8	1·4	26	32
9	7 —	0	65	— 27	+ 57	4 —	10	1·3	18	20
10	8 —	0	59	— 40	+ 43	7 +	9	2·7	24	26
*	6 —	1	39	— 38	+ 32	3 +	11	1·8	21	25

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending January 12, is furnished from the Meteorological Office:—

"The *weather* was extremely rough and cold generally, with frequent falls of snow and sleet. Towards the end of the week the snow was very heavy at some of the south-western and western stations.

"The *temperature* was much below the mean, the deficit varying from 6° in the 'Channel Islands,' and 7° in 'Ireland, N.,' to 9° or 10° in most other districts; 11° in the 'Midland Counties,' and 12° in 'Scotland, E.' The highest of the maxima, which were recorded on rather irregular dates, ranged from 48° in 'Ireland, S. and the Channel Islands,' to 39° in 'Scotland, E.,' and to 38° in the 'Midland Counties.' The lowest of the minima were registered

during the middle part of the week over 'Scotland and Ireland,' but towards its close over 'England.' In 'Scotland, E.' (at Braemar), the sheltered thermometer fell to below zero on four consecutive days, the lowest value reached being 5° on the 9th. In 'England, E.' (at Hillington), the lowest reading was 2°, while elsewhere the minima varied from 8° in 'Scotland, N. and England, N.E.,' and 9° in the 'Midland Counties,' to 17° in 'England, N.W. and S.W., and Ireland, S,' and to 26° in the 'Channel Islands.' Towards the end of the period temperature began to rise decidedly in the west, and the rise spread eastwards with great rapidity.

"The *rainfall* exceeded the mean in 'England, N.E., Ireland, S., England, S., and the Channel Islands;' the excess in 'England, N.E. and Ireland, S,' being very considerable. The heaviest fall of snow recorded at any individual station was at Dublin, where it yielded 1·80 ins. of water in the gauge, and is reported to be the heaviest snowfall since 1855. Over 'Scotland,' the north of 'Ireland,' and the greater part of 'England,' the fall was less than the normal."

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The annual meeting on the 17th inst. was presided over by Mr. H. J. VEITCH, the Treasurer. The meeting was one purely of a business character, and no discussion on any one point arose. The following members were unanimously selected as of right:—

R. VERTEGANS, of Birmingham, aged 68, nurseryman, annual subscriber of £1 1s. for 25 years, and a contributor of £7 7s.; J. LEMMON, of Chichester, aged 67, gardener, annual subscriber of £1 1s. for 18 years, and a contributor of £21; C. H. FEARENSIDE, of Boultham, aged 68, gardener, annual subscriber of £1 1s. for 25 years; CHARLES HARRIS, of Manchester, aged 67, gardener, life member for 15 years; H. PARSONS, of Foots Cray, aged 65, gardener, annual subscriber of £1 1s. for 18 years; M. REED, of Abbots Langley, aged 69, gardener, annual subscriber of £1 1s. for 15 years; SUSAN RIDOUT, of Reigate, aged 61, widow of JOHN RIDOUT, gardener, who was an annual subscriber of £1 1s. for 22 years, and a contributor of £63; and ELIZA BURRELL, of Esher, aged 78, widow of EDWARD BURRELL, a gardener, who was an annual subscriber of £1 1s. for 20 years.

The election of the remaining six resulted as follows:—JAMES CLARREN, THOMAS THOMAS, EMMA A. IVERY, HENRY FIELDER, CLARA E. BROWN, and ROBERT PETITT.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ALTERNANTHERAS DYING: *Brockley.* The loss of the plants may be due to fog, of which you have had a good deal; or it may also be due to lack of vigour in the plants, consequent on the length of time that has elapsed since they were struck; and we are more inclined to this opinion from noticing the numerous flowers on some of them. The amount of heat you employ is about right for Alternantheras. At the best they are miffy subjects, and summer-struck plants keep the best during the winter. Under the circumstances you would be acting wisely to put them into bottom-heat; get a crop of cuttings, and then throw them away.

BLACK FRONTIGNAN GRAPE GRAFTED ON GROS MAROC. *H. B. Arksey.* We should imagine that the effect of grafting would be to improve the former in size of berry, and perhaps colour, at the expense of flavour; moreover, it is not desirable to effect a cross by placing an early ripening variety on a late or midseason one. A better stock for the purpose would be some of the forms of Black Hamburgh, and perhaps Madresfield Court.

BOOKS: *A. Windleson.* A book that will suit you is *The Garden Calendar*, by T. W. Sanders, published by Hamilton, Adams & Co., Paternoster Row, London.—*W. C. C.* You will obtain much information about seedling Orchids, and how to raise them, from a little manual by Mr. F. W. Burbidge, called *Cool Orchids, and How to Grow Them.* It was published in 1874 by Robert Hardwick, 192, Piccadilly.

CAMELLIAS: *H. G. P.* Under the circumstances, we should look for weevils or their grubs—perhaps slugs.

CONIFERS: *Esher.* 2, Cupressus thyoides; 4, Thuya orientalis, var. pendula. The others next week.

CYCLAMEN, &c.: *J. J.* We neither find fungus nor insect. Can the plants have been smoked or dosed with too strong an insecticide?—or has steam escaped from a pipe? One of the Cyclamen leaves looks as if it had been subjected to drip.

GARDENERS' ROYAL BENEVOLENT INSTITUTION: *S. L.* The office is at 50, Parliament Street, Whitehall; the Secretary is G. F. Ingram, Esq.

GARDENIA LEAVES: *S. B.* Have you been using too strong an insecticide, or been smoking your plants too freely?

GARDENIAS: *H. J.* We find no insect nor fungus. On the other hand, the appearances are quite consistent with the application of an overdose of some insecticide or over-fumigation.

GRAPE VINES AND FROST: *W. G.* A very low temperature will kill the Vine to the ground, but scarcely any degree of cold experienced in this country will do so. The plant obtains the most complete rest when exposed to cold. Some gardeners turn the Vines out of doors in the winter, but it is seldom that that can be done after the stems become thick and strong. Others take the lights off the vineries, and that is not possible with most modern vineries. It is always possible to open the ventilators to the full extent, and keep the hotwater apparatus warm, so that frost does not injure the pipes; or empty the boiler if the vinery has one to itself.

GROWTH ON MUSCAT: *Constant Reader.* We do not think the growth will do any harm. It is probably caused by some injury to the Vine.

HAND LIST OF TREES AND SHRUBS AT KEW: *W. T.* It is published by Eyre & Spottiswoode, Queen's printers, &c., price 8*d.*

HOLLYHOCKS: *S. S.* A warmth of 55° to 60° is sufficiently warm to strike cuttings with bottom-heat of 85°. Established roots for grafting purposes are best, but not very essential. The operation requires about the same degree of top-heat as above given for cuttings. See present issue, p. 71.

INSECT: *C. H. H.* Polydesmus complanatus. See Answers to Correspondents in our last issue.

LÆLIA ANCEPS: *A. G.* Particularly fine varieties of this useful and beautiful Orchid.

LYCASTE SKINNERI: *C. S. W.* There is nothing remarkable about either.

MARROW-FAT PEAS FIFTY YEARS AGO: *J. R. Haig.* There are still some of these Marrow-fat Peas to be bought at the seedsmens' shops, and we may indicate a few, viz., Champion of England, Hair's Dwarf Mammoth, and the improved form of it; Veitch's Perfection, Princess Royal, Paradise or Champion Marrow, a most productive variety; British Queen, Ne Plus Ultra, Advancer, Laxton's Supreme and Quality, Woodford Marrow, and Little Gem (Maclean). These varieties were commonly grown in gardens fifty years ago. The largest Marrow-fat Pea known fifty years ago, was the Milford Marrow. Most of these old varieties have been superseded by new ones, with larger pods and seeds, but there is little advance to chronicle in flavour or productiveness.

NAMES OF FRUITS: *E. B.* 1 and 5, Lane's Prince Albert; 2, Northern Greening; 4, Bedfordshire Foundling.

NAMES OF PLANTS: *J. W.* Eupatorium Weinmannianum.—*J. J. F.* Laurus canariensis. Very potent, but scarcely poisonous.—*H. F. E.* Euonymus radicans variegata; Santolina incana. The Red Plum used for a stock on which to graft or bud is probably Prunus Myrobalana.

PELARGONIUM: *Dalton.* The plant is perfectly healthy, and what you take to be fungus at the root looks like some chemical change taking place in the soil—due, perhaps, to the water you use.

PETROLEUM AND WATER: *R. T.* Soap-suds made with soft-soap form a good medium in which to mix petroleum, and if the water is at 130° it makes a more efficient insecticide either alone or mixed with petroleum for deciduous plants whilst in a dormant state. To make sure that the petroleum is mixed intimately with the water, it should be stirred frequently. For trees at rest, use the oil at the rate of half a pint to 2 gallons of soap-suds; and for plants in leaf, half this quantity of oil. For aphis on tender plants, hot soap-suds and oil, the latter in proportion of a wineglassful to 3 gallons; or soapy water alone, at a temperature of 110°, applied strongly with a single-nozzle syringe. For plants of any kind in flower in a glass-house, use Richards' XL-all-vaporiser. This means of killing insects can be used against insects on wall trees and Roses in the open by using oiled sheets of calico to cover the plants.

PRIMULA SINENSIS: *C. H. B.* No, it is not uncommon to have a white flower on a dark-leaved form.

RHUBARB FROM SEED: *Rhubarb.* The roots will not be strong enough to force with any prospect of obtaining good returns in less time than three years.

RICHARDIA (CALLA): *J. H.* The spike in all three specimens shows a tendency to branch, which is very unusual. We can only suggest that at an early period of the plant's growth some check occurred.

THE GARDENERS' ROYAL BENEVOLENT: *B and others.* As this issue cannot appear till after the annual meeting on the 17th, it can serve no useful end to insert letters which have only a temporary significance. So long as the present system of voting is retained, so long will abuses creep in. The majority apparently think it is better to bear the ills we have, than fly to those we know not of.

THE NAME AND ADDRESS OF A PHYSICIAN: *One out of Health.* Very sorry we cannot assist you. Ask your friends, and avoid quacks.

VINES: *B. G.* The roots sent have precisely the kind of appearance we are accustomed to see when they are taken from a soil which consists of the wrong kind of soil, or which has lost all the fibry parts of the loam, or which never had any, or the drainage of the border is not what it ought to be. If the whole of the soil is like that sent to us, you must take up the Vines this season, cutting unsound parts back to healthy tissue, making the drainage ample, with a good outfall-drain at the lower side, and replanting in rich fibry loam, 2½ feet deep, and only of a width at the first to accommodate the longer roots. The other substances it will be advisable to employ intimately mixed with the loam, are—crushed bones, one sixteenth; charcoal, one-sixteenth; broken mortar-rubble, two-sixteenths of the whole mass. The bottom of the border should be rendered impervious to the roots by means of concrete. Put none of the roots at a lower level than 10 inches.

COMMUNICATIONS RECEIVED.—G. Day.—W. Collins.—M. T.—M. Poisson, Paris.—W. W.—Col. Thompson.—M. C. C.—H. G. S.—F. W. B.—J. T.—R. L. H. (many thanks).—J. F. J.—T. W.—E. J. H.—F. O.—C. E. S.—G. S.—G. & S.—Messrs. L. W.—J. S.—W. & Sons.—T. T.—J. G. B., Hoole.—Rev. J. S.—W. H. B.—E. & S.—G. A. B.—Jadoo.—A. D.—H D., Versailles.—V. A. G. Ledeberg (next week).—H. M.—F. G.—A. H —R. D.—J. O'B.—W. J. G.—F. B.—A. D. W.—J. Douglas.—J. A.—E. M.—J. J. W.—J. B.—W. Kilgour.—W. B. H.—Q. R.—J. S.—J. Cooper.—J. Smith.—J. Laing & Sons.

DIED.—We regret to hear of the death, at the age of ninety, of Mr. THROWER, formerly gardener at High Canons, near Barnet.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper*

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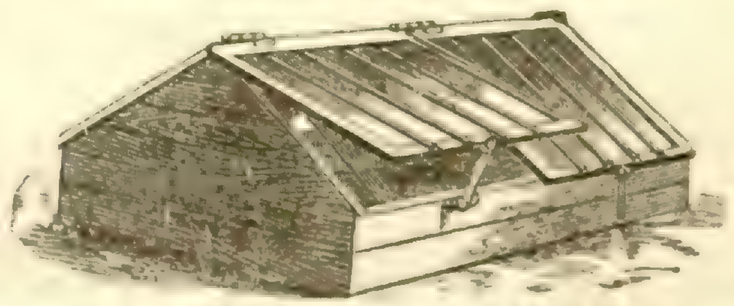

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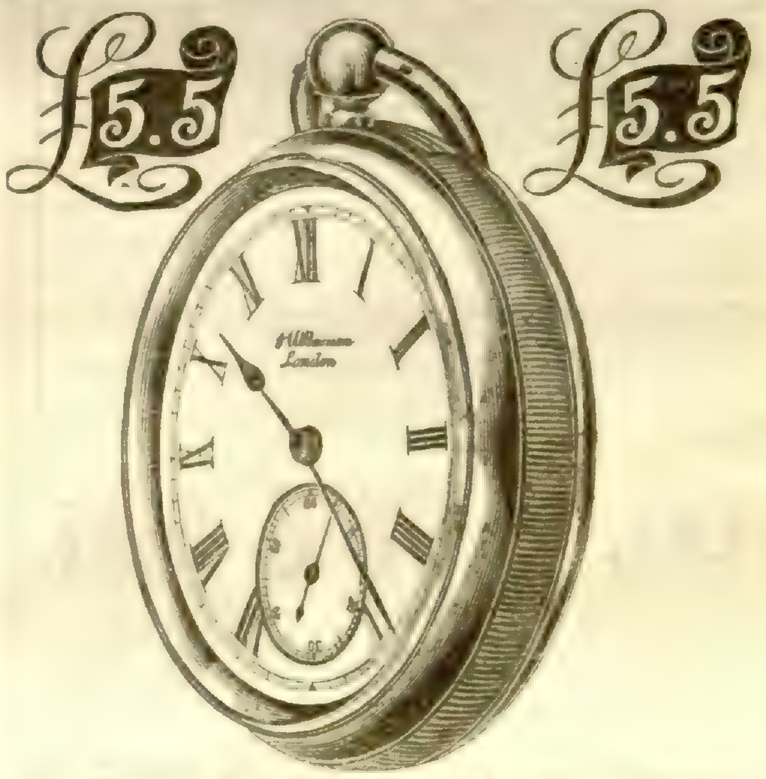

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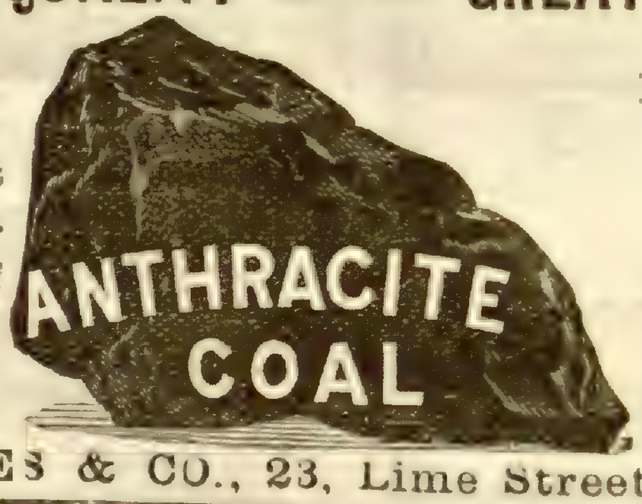

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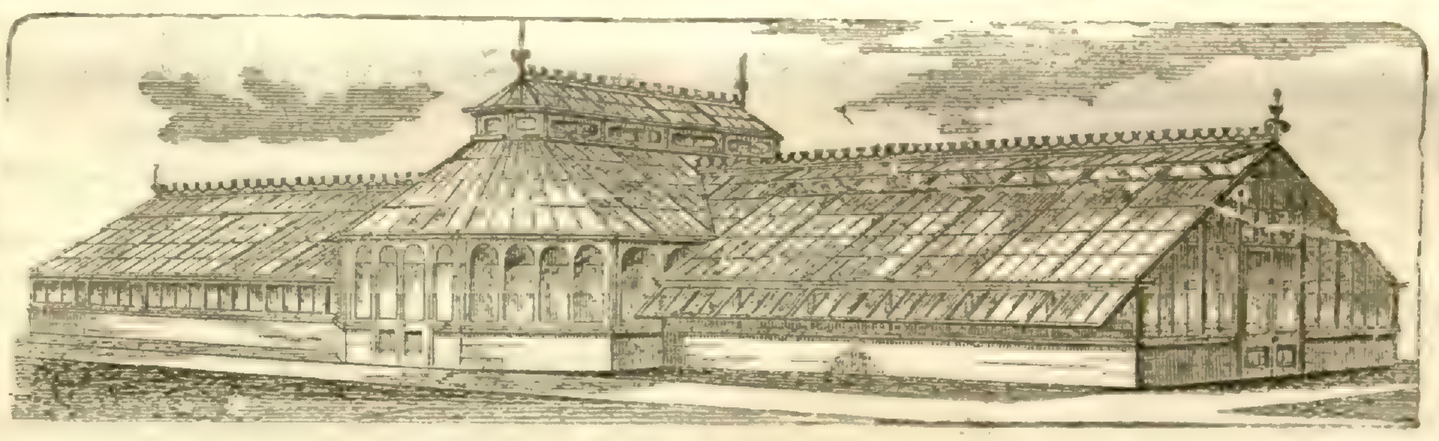

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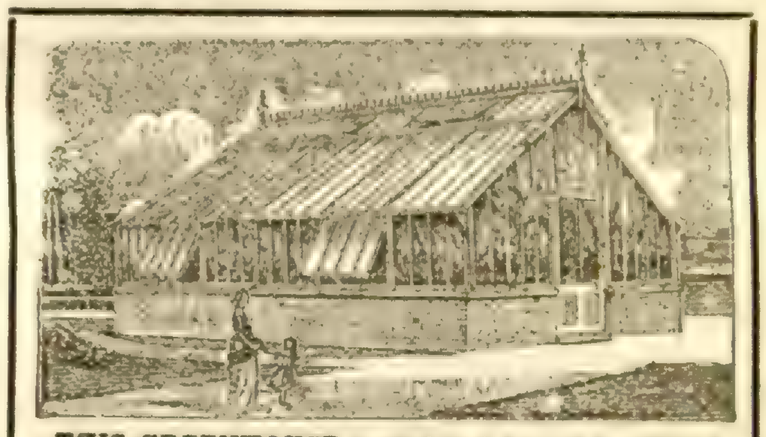

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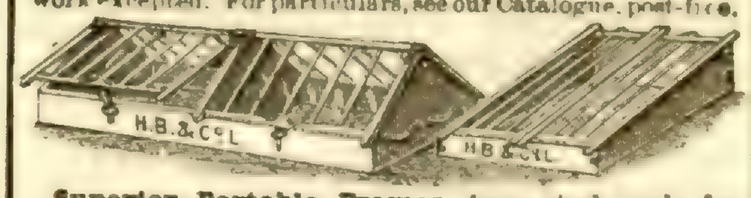

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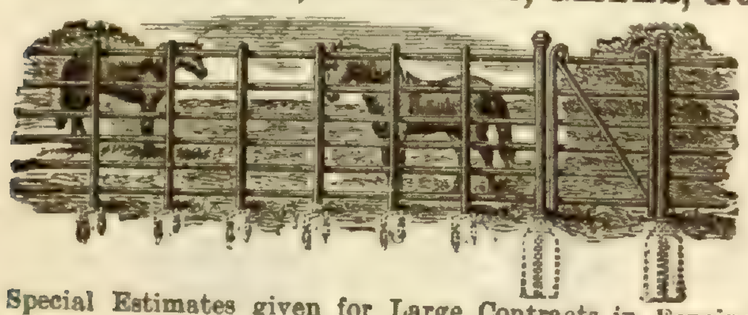

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Mr. A. H. HALL, formerly Head Gardener at Manor House, North Rode, Congleton, as Head Gardener to J. C. Waterhouse, Collar House, Prestbury, near Macclesfield.

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KENT & BRYDON, Darlington—Seeds, &c.

FREDK. GEE, Riverford House, Biggleswade, Bedfordshire—Seeds, &c.

Sir JAMES WM. MACKEY, 23, Upper Sackville Street, Dublin—Seeds.

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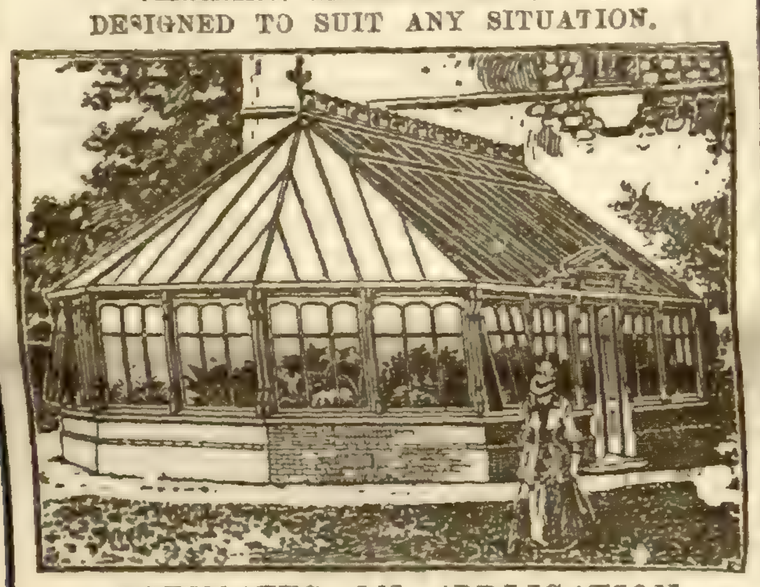

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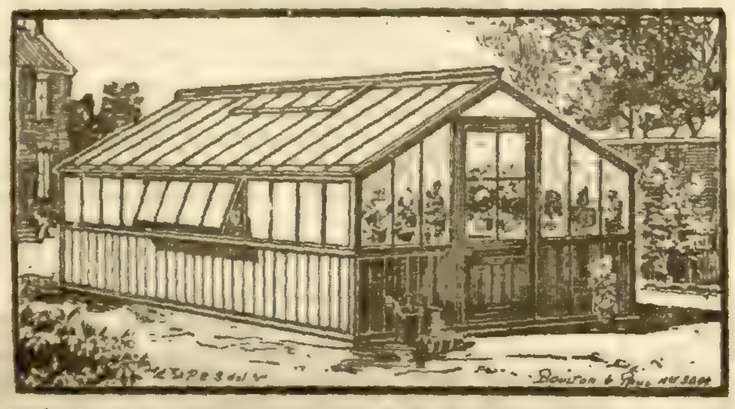

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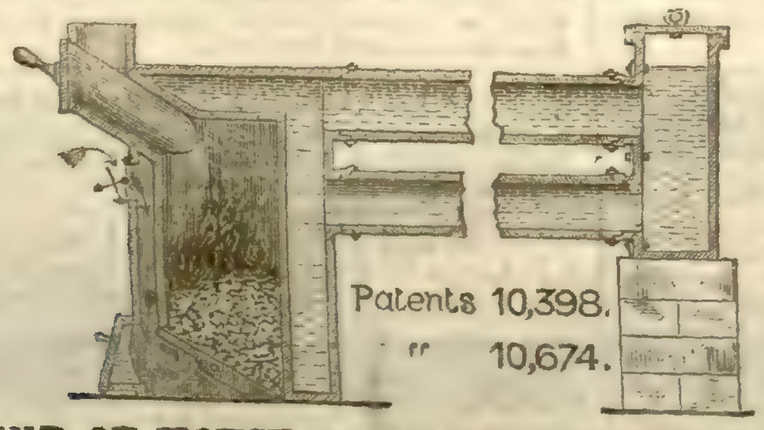

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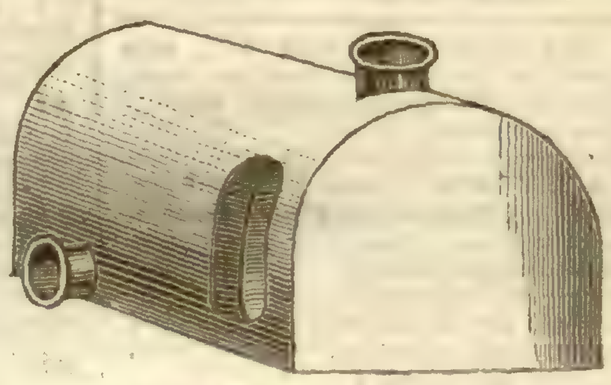

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PRICE LIST free.

CHRYSANTHEMUMS. — New Illustrated, Descriptive, and Priced CATALOGUE of all best varieties in commerce, now ready, post-free, two stamps.

R. OWEN, Castle Hill, Maidenhead.

VINES, VINES, VINES.—Grand Stock of both Fruiting and Planting Canes in all the leading varieties. Prices on application.—JOHN PEED & SONS, Roupell Park Nurseries, Norwood Road, West Norwood, S.E.

ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.

Terms, Cash with Order.

E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

By Special Appointment

To H.R.H. The Prince of Wales.

MACKENZIE AND MONCUR, Limited, Hothouse Builders & Heating Engineers, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.

London Office:—50, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

WEDNESDAY NEXT.

300 CASES JAPANESE LILIES

COMPRISING

15,377 **LILIUM AURATUM,** including 300 monster Bulbs
3,000 ,, ,, **MACRANTHUM**
216 ,, ,, **PICTUM**
1,080 ,, **SPECIOSUM RUBRUM**
720 ,, ,, **ALBUM**
480 ,, **CORDIFOLIUM**

ALSO

200 LILIUM HENRYII, fine Bulbs; the beautiful yellow Speciosum

100 LILIUM ODORUM JAPONICUM, splendid Bulbs

500 STANDARD and 300 DWARF ROSES.

2,000 KELWAY'S HYBRID GLADIOLI
3,000 AMERICAN PEARL TUBEROSES
4,000 CHOICE DOUBLE AND SINGLE BEGONIAS
300 AZALEA MOLLIS from Belgium

10 Lots of FRUIT TREES, LILIUM ROSEUM, RUBRUM, and others; Home-grown LILIES, TIGRIDIAS, CALOCHORTI, DAHLIAS, GREENHOUSE PLANTS, &c.

MESSRS. PROTHEROE & MORRIS

Will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **WEDNESDAY NEXT, JANUARY 30, 1895,** at Twelve o'clock.

On view morning of Sale, and Catalogues had.

Monday Next, January 28.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, January 28, at 12 o'Clock, choice HARDY PERENNIALS, thousands of CARNATIONS and PICOTEES, LILIES, collection of IRIS, CLEMATIS, SEAKALE, 300 DWARF ROSES, a surplus stock of rare Hardy BULBS, Home grown LILIES, Hardy CYPRIPEDIUMS, HOLLYHOCKS, &c.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Special Sale of

American Dwarf PEARL TUBEROSES, GLADIOLUS LEMOINEI, Exhibition hybrid GLADIOLI, ANEMONES, SPIRÆA JAPONICA, S. COMPACTA, extra choice double and single BEGONIAS, LILIUM AURATUM, L. HARRISII, VALLOTAS, DIELYTRAS, EUCHARIS AMAZONICA, &c.; also 70 lots of Stove and Greenhouse FERNS, and PLANTS, PALMS, ARAUCARIAS, and 500 DWARF ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, January 29, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Upper Edmonton.

DISSOLUTION of PARTNERSHIP. *Re* G. & J. AGATE.

Absolutely Without Reserve, in one lot, as a going concern.

IMPORTANT to FLORISTS, MARKET GARDENERS, and OTHERS.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY, February 13, at 2 o'Clock, the Old-established LEASEHOLD NURSERY and MARKET GARDEN, known as the Wyer Hall Nurseries, Tanner's End, Upper Edmonton, ten minutes' walk from Silver Street Station, comprising 10 acres of Land, part with Fruit Trees, two Cottages, spacious Barn, sixteen Greenhouses (about 16,000 feet super. of Glass), heated by about 4800 feet of Piping. The whole of the Stock, Horse, Vans, and Utensils, will be included in the Sale; also Good-will. Lease 17 years unexpired. Rent £80.

May be viewed. Particulars had on the Premises; of Messrs. SOAMES AND THOMPSON, Solicitors, 12, Coleman Street, E.C.; Messrs. AVERY & Co., Solicitors, 792, High Road, Lower Edmonton, and 34, Finsbury Pavement, E.C.; also of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.—Without Reserve.

By Order of Messrs. F. Horsman & Co., Colchester.

Over 100 Grand Masses of LÆLIA PURPURATA from a new district. Among them will be found huge masses with upwards of 200 well-leaved Bulbs, measuring from the tip of the leaf to the base of Bulb 34 inches. Also Grand Masses of the rare

DENDROBIUM ALLUM (AQUEUM),
CATTLEYA LEOPOLDII. CATTLEYA AMETHYSTINA.
,, HARRISONIÆ. ONCIDIUM CRESPIUM, &c.

Also 50 Plants in grand condition of DENDROBIUM FALCONERI and Semi-established Plants of CATTLEYA AUREA and C. TRIANÆ ALBA, ORCHIDS in Flower and Bud, &c. (another property).

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London E.C., on FRIDAY NEXT, February 1, at Half-past Twelve o'Clock.

On view morning of the sale, and catalogues had.

Tuesday, February 5.

A CONSIGNMENT RECEIVED DIRECT, and collected by Mr. F. LECHACEK,
Comprising Fourteen Plants,

LÆLIA AUTUMNALIS ALBA,

very rare.
LÆLIA ALBIDA, L. MAJALIS,
ODONTOGLOSSUM INSLEAYI SPLENDENS,
ONCIDIUM TIGRINUM, &c.

Also an IMPORTATION, by order of Messrs. Walter Kemsley, & Co., including

DENDROBIUM WARDIANUM,
DENDROBIUM DEVONIANUM,
DENDROBIUM THYRSIFLORUM,
and others in variety.
CYPRIPEDIUM PARISHII, C. BELLATULUM,
VANDAS AMESIANA, CŒRULEA, and KIMBALLIANA,
with LILY BULBS from the Shan States.

Together with

One Hundred Lots of ESTABLISHED PLANTS from the Collection of De Barri Crawshay, Esq., in consequence of alterations being made to his greenhouses.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, February 5, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

THE

"MONTROSE"

COLLECTION OF ORCHIDS

JOHN COWAN & Co.

(LIMITED),

Have just purchased from His Grace the Duke of Montrose the entire COLLECTION of ORCHIDS formed by the late DOWAGER DUCHESS OF MONTROSE, at SEFTON LODGE, NEWMARKET. The Company have had the Collection removed to their Premises at Garston, and it will be offered for Sale, by Private Treaty, as follows.

The Collection is now on view, and will be on Sale from Tuesday, the 29th inst. Descriptive and Priced Catalogues are being prepared and, so as to give an equal chance to all purchasers, copies will be posted to all the Company's patrons, and anyone who may send their name and address for that purpose, on Saturday the 26th inst., and no prices will be quoted or Catalogues shown to anyone before that date.

The Collection was removed from Newmarket to Garston, with very great care. *The Railway trucks* in which it was packed *were well heated* and the London & North Western Railway Company kindly conveyed them part of the distance over their system *by special train*, so that not a moment might be lost in getting the Collection to its destination.

This Collection has long been well known, and it will be in the recollection of most lovers of Orchids, that one purchase made by the late Duchess for her Collection, which consisted of *One Thousand Orchids for One Thousand Guineas* gave rise to a law suit between herself and the firm from whom she made the purchase. This Lot, together with many other important purchases made by the late Duchess, are included in the Collection.

It is needless to say that the Collection is a very large and fine one; the plants are in fine health and condition, and the various sections are well represented. There are large numbers of fine specimens suitable for Exhibition and other purposes included, as well as numerous rare and fine varieties, and the Company can with the utmost confidence recommend the Collection to their patrons.

The Company have just received immense and splendid importations of LÆLIA PURPURATA, in the very finest condition, and in splendid masses, also LÆLIA ANCEPS MORADA, L. ALBIDA, CATTLEYA INTERMEDIA, C. GUTTATA LEOPOLDII, C. TRIANÆ, &c., &c., and they expect shortly to receive a large importation of DENDROBIUMS and other ORCHIDS from the East Indies. Descriptive and Priced Lists will be sent post free on application to the Company.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

WANTED, to RENT.—2000 feet of GLASS, for Cucumbers and Tomatos; no Stock; London, N. —NASH, 5, Littler's Cottages, Tottenham.

WANTED to RENT, at once, PRIVATE GARDENS or MARKET NURSERY, with good Glass and Dwelling-house attached preferred.—McLEAN, Haywood Park, Stafford.

FOR SALE, Cheap, a Small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation house, &c., heated by hot water; shed and stable. Price, £35.—Apply to W. H., Park Row Nursery, Greenwich.

FLORIST and SEED BUSINESS for DISPOSAL.—Within twenty miles of London; near station; in main thoroughfare. For particulars, apply to—E. B., 41, Wellington Street, Strand, W.C.

CATTLEYA TRIANÆ.

WONDERFUL IMPORTATION JUST TO HAND, IN PERFECT CONDITION.

INSPECTION CORDIALLY INVITED.

HUGH LOW & CO, CLAPTON NURSERY, N.E.

GREAT SALE OF BURMESE DENDROBES!

THURSDAY, FEBRUARY 7.

D. BRYMERIANUM
D. CHRYSOTOXUM SUPERBUM
D. NOBILE
D. CRASSINODE BARBERIANUM
D. DEVONIANUM
D. THYRSIFLORUM

And a Magnificent Lot of

D. WARDIANUM GIGANTEUM LOWII.

MR. J. C. STEVENS will offer the above at his Great Rooms, 38, King Street, Covent Garden, W.C., on FEBRUARY 7, by order of Messrs. HUGH LOW & Co., Upper Clapton, E. *FURTHER PARTICULARS NEXT WEEK.*

SALES BY AUCTION.

Wednesday Next.

SPECIAL SALE of ROSES, PLANTS, and BULBS

Nineteen Cases of Araucaria excelsa in exceptionally fine condition, just imported direct, sold as received.

An Importation of Liliums from Japan, comprising LILIUM AURATUM, L. A. PLATYPHYLLUM, L. A. MELPOMENE, L. KRÆTZERI, L. TIGRINUM. Also LILIUM SPECIOSUM ALBUM, L. CANDIDUM, and a Collection of rare Home-grown LILIES.

A Collection of Stove and Greenhouse Plants, including well-grown PALMS in sorts, AZALEAS FERNS, &c.

1000 Choice named Standard, Dwarf, and Climbing ROSES, from first growers, including many of the newest and most popular sorts.

Surplus Stock of a Nursery, comprising a fine COLLECTION of LAURELS, RHODODENDRONS, AZALEAS, YEWS, PÆONIES, Golden BOX, IVIES, LILACS, ABIES, CUPRESSUS, CONIFERS, HYDRANGEAS, &c. All well grown and in fine condition for present planting.

200 Well-grown Pyramid and Dwarf-trained Fruit TREES, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, also CURRANTS, GOOSEBERRIES, &c.

A Collection of Carnations, Pinks, Picotees, &c., HOLLYHOCKS, GLADIOLI to name, CYPRIPEDIUM SPECTABILE, AMARYLLIS, BEGONIAS from Ghent, FREESIAS, 15,000 LILY OF THE VALLEY Crowns and Clumps, 1000 SPIRÆA JAPONICA and PALMATA, DIELYTRA SPECTABILE, IRIS, ANEMONES, 3000 South African TUBEROSES, ARUMS, HYACINTHUS CANDICANS, &c.

Also a Great Clearance of Dutch Bulbs, several thousand unsold lots from Sales during the season, comprising HYACINTHS, TULIPS, NARCISSUS, CROCUSES, LILIUMS, &c., in large quantities, without reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 30, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

ORCHIDS

Of every description, from **1s.** each; samples, post-free, **1s. 3d.** RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

The Leeds Orchid Co.,

ROUNDHAY, LEEDS.

ENORMOUS SALE — WITHOUT RESERVE,

BY ORDER OF

Fred. HORSMAN & CO., COLCHESTER.

OVER 1000 GRAND MASSES OF LÆLIA PURPURATA

FROM A NEW DISTRICT.

Among them will be found huge masses with upwards of 200 well-leaved bulbs, measuring from the tip of the leaf to the base of bulb 34 inches. Also grand masses of

The rare **DENDROBIUM ALBUM (AQUEUM),**

CATTLEYA LEOPOLDII,
CATTLEYA HARRISONIÆ,
CATTLEYA AMETHYSTINA,
ONCIDIUM CRISPUM, &c., &c.

CASES of LÆLIA HARPOPHYLLA, LÆLIA PURPURATA, CATTLEYA HARRISONIÆ VIOLACEA, LÆLIA DORMANIANA, CATTLEYA LEOPOLDII, MILTONIA CUNEATA MAJUS, &c., Will be Sold without the Slightest Reserve.

FOR FURTHER PARTICULARS SEE CATALOGUE.

The whole Consignment is offered WITHOUT RESERVE, at

PROTHEROE & MORRIS'S SALE ROOMS

67 & 68, CHEAPSIDE, LONDON, E.C., on FRIDAY, FEB. 1, 1895.

(PLEASE NOTE DATE.)

EXHIBITION.

WOLVERHAMPTON FLORAL FETE.

JULY 9, 10, and 11, 1895, in the PUBLIC PARK.
For SCHEDULES, &c., apply to—
W. A. GREEN, Jun., Horticultural Secretary.

Whittinghame Lodge, New Barnet, N.

TO LET, Gardener's COTTAGE, Large well-stocked GARDEN. Three Vineries (100, 90, and 80 feet respectively). Potting houses, Bothy, Stable, &c. The Vines and Fruit Trees are in their prime. Rent £70.
Apply to Mr. CATFORD.

A FIRST-CLASS FREEHOLD NURSERY and FRUIT FARM for SALE, 15 miles from Covent Garden. There is a capital range of Vineries, Tomato-houses, &c., of Modern construction. Also a well-built Villa, Stabling, Coach-houses, and all the requirements for carrying on an extensive and lucrative business. Would suit a Gentleman with capital. *Owner retiring.*—OWNER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SOUTHPORT. — TO BE SOLD, a Valuable, Old-established NURSERY, FLORIST, and FRUIT BUSINESS; the Shop situated in the very best part of Lord Street. The Nurseries are a mile from town, and contain 5,747 square yards of land. Leasehold, 99 years from 1893. There is a good Modern Dwelling-house attached, containing two entertaining, seven bedrooms, &c. There are several Glass-houses, which are all of modern construction, and built of best materials. The Nursery can be had with or without the shop. A considerable portion of the money can be left, if necessary, on mortgage. This is a splendid opportunity, as health is the sole cause of disposal. For further particulars apply to—
A. CAMPBELL, Nurseryman, Southport.

TO NURSERYMEN and OTHERS.—TWO TOMATO-HOUSES, 100 feet long by 14 feet wide; one 50 feet by 14 feet; one Rose House, 35 feet by 16 feet, with Heating Apparatus complete. These splendid houses cost over £500 not three years ago, and are being sold cheap, as the company having got notice to quit is giving up business. Also a large quantity of RHUBARB and SEAKALE ready for forcing. Large beds of ASPARAGUS, that may be lifted in April. Nearest Railway Station, Shireoaks.
Apply to the SHIREOAKS MARKET GARDEN CO., LTD., Netherthorpe, near Worksop.

BEGONIAS.—Prize-winners; same strain as those supplied last year:—Scarlet, 10s. per 100; Yellow, Pink, White, 12s. 6d. per 100; mixed, 11s. per 100. GLADIOLUS, true French Hybrids, mixed, 12s. 6d. per 100; do., named, 4s. per dozen.—J. D. HAMON, Jamaica Row, Birmingham.

BUTE ROSES, 12 "A 1" H.P.s, 7s.; CARNATIONS, 12 lovely border, 5s. 6d.; PANSIES, my famous vars., 3s., 4s. 6d., and 6s. 6d. per dozen; POPPIES, 12 Hardy Oriental vars., 4s.; PANSY SEED, and my grand New DOUBLE POPPY, "Empress," 1s. and 2s. 6d. per packet. All named, and carriage paid. New CATALOGUE ready now, free. ALEX. LISTER, Florist, Rothesay.

Seed Potatos.

H. & F. SHARPE'S Special Priced List of SEED POTATOS, has been posted to their Customers, but a further copy will be sent to those who have not received it, if applied for. It comprises all the best kinds in cultivation, and at prices very advantageous.
SEED-GROWING ESTABLISHMENT, WISBECH.

Prize Cob Filberts and other Fruit Trees

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

Ivy. — Ivy. — Ivy.

MESSRS. B. S. WILLIAMS AND SON have a fine stock of Extra Strong IRISH IVY in 9-inch pots, with numerous shoots 7 to 9 feet; fine for covering walls, &c.; 30s. to 42s. per dozen.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

SPECIAL OFFER of GERANIUMS.—Autumn Struck, in 2½-inch pots, fine stuff for 48's. West Brighton Gem and Vesuvius, at 14s. per 100, or £6 per 1000. CALCEOLARIA, Golden Gem, fine plants, 3s. 6d. per 100, or 30s. per 1000. LOBELIA, Emperor William, true, 2s. per 100, free stuff, with cuttings on. Terms, cash; 6d. charged for each box, the actual cost.
J. HILL AND SON, Nurserymen, Lower Edmonton.

VINES.—VINES.

Splendid Canes, short jointed, well ripened, clean, well-grown.

BLACK HAMBURGH
MUSCATS
ALICANTE
LADY DOWNE'S
} AND ALL THE BEST VARIETIES.

Large Stock, affording good selection.
Moderate Prices.

VINES.—VINES.

DICKSONS NURSERIES, CHESTER.
(LIMITED)

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

BARR'S SEEDS.—UNEQUALLED.
VEGETABLE SEEDS, the best sorts only. Much valuable information in CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c, for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Pæonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

SHRUBS and CONIFERÆ. — Ampelopsis Veitchii, in. pots, 2 ft., 30s. per 100; Arbor-vitæ, common, 2 to 3 ft., 18s.; Azalea ponticum, 2 ft., 4s. per doz.; Azara microphylla, 2 ft., 4s.; Berberis Jamiesonii, 2 ft., 20s. per 100; B. Darwinii, 1½ ft., 10s.; Cotoneaster microphylla, 2 ft., 10s.; C. Simonsii, 3½ ft., 10s.; Escallonia macrantha, pots, 2 to 2½ ft., 32s.; Griselinia littoralis, bushy, 6s. per doz.; Pampas Grass, 2 ft., 4s.; Hypericum calycinum, 12s. per 100; Hollies, Green, 2 to 3 ft., fine, 6s. per doz.; Jasmine, white and nudiflorum, 4s. p. doz.; Laurel, common, 2 ft., 10s. p. 100; Colchic, 2 to 2½ ft., 14s.; Portugal, 1 to 1½ ft., 20s.; 2 to 2½ ft., 28s. Lilac, white and purple, 4s. per doz.; Laurustinus, 2 to 2½ ft., 6s.; Olearia Haastii, 2½ ft., 4s.; Weigela rosea, 4s. doz.; Yucca gloriosa, 10 to 12 in., 25s. 100; Yew, English, 1½ to 2 ft., 24s.
GARLIES MITCHELL, Nurseryman, Stranraer.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 20s. per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1s. each. Seedling Ferns, 6s. per 100. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

HIGH QUALITY.—FRUITING GRAPE VINES, very extra.
Fruiting Standard-trained PEACHES and NECTARINES.
" Horizontal-trained PEARS, 5 to 7 tiers.
" Cordon APPLES and PEARS, 5 to 7 feet.
Fruiting Standard CHERRIES, DAMSONS, VICTORIA PLUMS, and MEDLARS.
PEACHES and NECTARINES, Cut-backs and Maidens, for Training.
BRUSSELS PLUM STOCKS, for Budding.
ASPARAGUS, for Forcing.
ROSES: Broad, well-ripened Bushes.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

SEAKALE.

Extra strong, for Forcing, from 12s. 6d. to 21s. per 100.
Strong Planting, from 5s. to 10s. 6d. per 100.
LILY WHITE—Forcing, 18s. to 25s. per 100.
" Planting, 8s. to 12s. 6d. per 100.
Special prices per thousand.
SPLENDID QUALITY THROUGHOUT.

DICKSONS NURSERIES, CHESTER.
(LIMITED)

CHRYSANTHEMUMS.

NORMAN DAVIS
has much pleasure in announcing that his
CATALOGUE OF CHRYSANTHEMUMS
IS NOW READY, and can be had free by post.
This Catalogue is issued simply as a Guide, such as a Catalogue should be, and will be found comprehensive and useful. You are welcome to a copy, even if not a purchaser.

NORMAN DAVIS,
CHRYSANTHEMUM NURSERIES,
Lilford Road, Camberwell, London, S.E.

FORTIETH YEAR.

W. THOMPSON,
SEEDSMAN, Tavern Street, IPSWICH,
Begs to announce that his
CATALOGUE of NEW, CHOICE, and RARE FLOWER SEEDS for the present Season
is now ready, and may be had on prepaid application.

The ROYAL GARDENERS' ORPHAN FUND
(Supported by Voluntary Contributions).

THE ANNUAL GENERAL MEETING of the SUBSCRIBERS to this FUND will be held at the CANNON STREET HOTEL on FRIDAY, FEBRUARY 8 next, for the purpose of receiving the Report of the Committee, and the Accounts for the past year; to appoint Officers for the ensuing year, and to ELECT SIX CHILDREN to the Benefits of the Fund; also to amend Rule IV. as follows:—After the word re-election in the eleventh line to insert "provided they have attended three meetings in the course of a year."
The Chair will be taken at 2 o'Clock. The Poll will close at 4 o'Clock, after which no votes will be received.
By Order, A. F. BARRON, Hon. Sec.
Chiswick, January, 1895.
N.B.—The Voting Papers have all been issued. Any subscriber not having received one is requested to communicate with the Hon. Secretary.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TO be Sold, a fine well-grown NORFOLK ISLAND PINE, 10 feet high. Too large for Owner's Conservatory; also three large CAMELLIAS. — Address, GARDENER, Hurst Lodge, Blackheath Park, S.E.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

To the Seed Trade.

DRIFFIELD'S "ACHILLES" TURNIP.—This remarkable variety has given absolute proof of its disease-resisting power on Farms infested with "Finger-and-Toe." Supplied only in Sealed Bags under the Grower's Trade Mark. Crop Reports and Photos on application. Wholesale Agents: HURST, London; DIXON, Hull; or from
T. N. DRIFFIELD, Brafferton Seed Farms, York.

LILIUM AURATUM, grand stuff, only 4s., 6s., and 7s. 6d. per doz. Extra large, 1s. to 1s. 6d. each. All other Lilies at lowest rates. Special prices to large buyers. Palms, Seedling Latanias, and Coryphas, 10s. per 100.
F. ROSS AND CO., Merstham.

MYATT'S PROLIFIC POTATOS for Sale.—True. Price for 2-ton lots, 100s. per ton.
G. F. YOUNG, Swineshead Abbey, Boston.

MANETTI and GRIFFERAIE STOCKS, 18s. per 1000; well disbudded sample 100, 2s. 3d.
HENRY ROCK, Kemberton, Shifnal.

DWARF ROSES.—Cheap, to clear. Good strong Stuff, of the best varieties; our selection. 20s. per 100. Cash with order.
W. BALCHIN & SONS, Hassocks Nursery, Sussex.

MYATT'S ASH-LEAF POTATOS. A few tons, Selected Seed.
WILLIAM DENMAN, 7, Catherine Street, Covent Garden.

Turner's Crimson Rambler Rose.

CHARLES TURNER can supply extra strong Plants from the Ground, 8 to 10 feet high.

Peaches and Nectarines.

CHARLES TURNER can supply extra strong Dwarf-trained Trees of the best varieties of above.
The Royal Nurseries, Slough.

TECOMA SMITHI (finest Seed Novelty of the Season).—ELECTROS for CATALOGUES, and Seeds, and all particulars, may be had of the London Wholesale Seedsmen.

CHRYSANTHEMUMS. — Strong Cuttings now ready of the best new and older varieties, from 1s. 6d. per dozen, 10s. per 100. Strong plants ready in February from 2s. 6d. per dozen, 16s. per 100. Catalogue 1d. stamp.
W. ETHERINGTON, Chrysanthemum Grower, Swanscombe, Kent.

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THE
Gardeners' Chronicle.
SATURDAY, JANUARY 26, 1895.

LONDON TREES AND THEIR TREATMENT.

THE advantage of possessing a few trees in our streets is sadly marred when these are improperly pruned, as pruned they must be at intervals if they are not to interfere with the vehicular traffic, the necessary light for the houses, or the due circulation of air. Some exaggeration is indulged in about the health-giving properties of trees, for when we consider that deciduous trees can only absorb carbonic acid and give out oxygen gases from the air during their period of leaf-growth, say for six months in the year, our comparatively few town-trees must be but poor sanitary agencies. There should be very good grounds indeed for their retention, either as pruned or unpruned trees, when they interfere with the much more important benefits derived from the free exposure of our dwellings to sunshine and consequently to an ever-moving body of air; these being more efficient as sanitary agencies than trees, however well selected as regards the species planted. Everyone, we think, will agree with us, that a line of trees, say of the Oriental Plane, planted on each side of a street of 60 feet in width between the houses, with a space from tree to tree in the lines of ten yards will in the course of ten or fifteen years have become so large in the crown, as to rob the dwellings on either hand of their not too excessive amount of light, and impede the free circulation of air around the houses and the evaporation of moisture from the street surface and front gardens. We are led to make these remarks by having had two flagrant cases of mutilation of street trees in Fulham brought under our notice recently. The roads are those known as Barclay and Auriol, the former at Walham Green, the latter at West Kensington, and the trees are Oriental Planes, which, as is well known, attain to very large dimensions in this country. These trees must have begun some few years ago to darken the lower rooms of the houses, the majority of which are of two and three stories in height, and have rooms in the basements.

Those persons who were employed by the Vestry to carry out the work could have possessed but a scintilla of the principles on which tree-pruning is based, for the whole of the branches have been most severely cut back, and the trees will long remain in evidence of the incompetence of the workmen or their employer, we do not know which. The proper method of pruning in this case would have been to cut back the longer branches to a well-placed lateral

hoot, which should not have been shortened or touched in any way. By doing this to every leading branch the heads would have been greatly reduced in diameter, whilst their natural contour would not have been spoiled. Moreover, all branches of such a size as to render the use of the pruning-saw a necessity, should be pared over—both the wood and bark—so that the healing-over processes may be carried on without hindrance, and no rough surface left to form a lodgment for water. The cuts, whether of knife or saw, should be so given that the exposed surface is not directed upwards, but slanting-wise, or facing directly downwards; and the larger surfaces should be painted of a slate-colour.

Where the roots of very vigorous street trees are accessible without incurring the cost of displacing any of the pavement, as is sometimes the case in the suburbs of towns, some amount of root-pruning might be practised, taking great care not to cut the tap or chief anchoring roots in carrying out this work.

Where large-growing trees are planted thickly, say, at 30 or fewer feet apart, rather than prune severely at intervals of five or six years, it would be advisable to remove each alternate tree, and be content with a curtailment of the length of the stronger branches, removing interacing ones, and the thin spray from the interior of the crown. This last-mentioned kind of treatment of the crown is the one now pretty generally adopted by the gardeners of the London County Council, and examples of it may be seen at Eelbrook Common in the parish of Fulham, and elsewhere. Hitherto the vestries of London, having practically no knowledge of the subject, have left the very important matter of street planting to the parochial surveyor, and he, through lack of knowledge on his part, has not always selected the right species of trees Barclay Road is a capital example of the evil of planting a forest tree of large natural dimensions in a narrow thoroughfare.

The following list of trees fit for planting in towns will show that we have in reality a good deal of choice in the matter of contour, colour of foliage and twigs, habit of growth, height to which the trees will grow, and degree of density of the leafage:—Robinia (Acacia) inermis, Bessoniana and pseudo-Acacia and its varieties; Acer saccharinum, A. pennsylvaticum (striatum), Pavias in variety, Ailanthus glandulosa, where space can be afforded; Amelanchier Botryapium, Betulus alba and other Birches, Catalpa syringæfolia, Ulmus montana, U. glabra, Gleditschia triacanthos, Juglans nigra, J. cinerea, Liquidambar styraciflua, Liriodendron tulipifera, Quercus Cerris, Q. C. fulhamensis, Ornus europæus, Paulownia imperialis, Sorbus (Pyrus) Aucuparia, P. domestica, Morus nigra (Mulberry), Platanus orientalis and its varieties, acerifolia, cuneata, and laciniata, Populus alba (Abele), P. fastigiata (Lombardy), P. nigra, Salix alba, S. babylonica, S. viminalis, Sophora japonica, Tilia americana alba, T. parvifolia, and Ginkgo biloba.

Some distinction should always be made between suburban streets and roads with but comparatively little vehicular traffic, which are usually wider than those found in the more densely inhabited parts, and the latter. For the former, Sorbus, Morus, red, white, and crimson-flowered Thorns, Salix, Abele Poplar, Catalpa, and Amelanchier being of an average lower stature when full grown, might have the preference. Whilst the other species to which notice is drawn would be admirable for embellishing the roads and streets that admit of trees being planted without obstructing the air, light or the traffic.

NEW OR NOTEWORTHY PLANTS.

POLYPODIUM (GONIOPTERIS) NIGRESCENTIUM, *Jenm. n. sp.**

NATIVE of Jamaica, among the lower hills, in St. Mary parish. Intermediate between crenatum and obliteratum in its general characters. Its characteristic features are the relatively strong rootstock, small densely-grouped fronds, repand and crinkled, very slightly cut pinnæ, and copious sori. As a rule, the terminal segment is shortened, which gives the fronds an oblong quadratiform aspect that is very characteristic. As in all the allied species, in the very early stage of the sori, a rudimentary trace, often of hardly more substance than a film, of an involucre can be detected with a good lens. It would be more natural to leave these species possessing reniform sori in Aspidium, the presence or apparent absence of an involucre, especially in dried specimens, being very misleading. I have a frond of the truest of true P. crenatum, Sw., gathered in Jamaica, which, instead of being nude, has involucres as ample in their degree as a woman's skirts. *G. S. Jenman, Demerara, June*, 1894.

STRAWBERRIES.

FROM a commercial point of view, the culture of Strawberries is nearly as important as that of Asparagus. The experience of forty successful years is available as testimony to the economic importance of this crop in the neighbourhood of large towns. The Strawberry is, of all fruits growing in our climate, that which bears transit least well. There is, then, for this reason, a considerable advantage gained by growing crops near at hand in grounds whence the fruit can be rapidly transported without incurring great heat or risk of bruising. In the environs of Paris the cultivation of Strawberries for market is carried on, especially in valleys, on the slopes of fully-exposed hills, and, preferably, on the cleared sides whence woods have been removed. The quantity of rain which falls annually is ordinarily amply sufficient for the necessities of the fruit, which never receives artificial watering. The plantations usually last three years, and give two full crops preceded by one half one. Planting is done in April or in September, according to weather and circumstances, and the plantation is destroyed after the third crop. The qualities which a strain of Strawberries should possess before it is adopted by growers are numerous. First of all, earliness is needful, as this ensures a high sale price at the beginning of the season; robustness of growth, which ensures abundant production; colour, which renders the sale of the fruit easier; power of enduring transport, which enables the crop to be sent to market absolutely fresh. About half-a-dozen varieties share the favour of the growers in the environs of Paris, and can be recommended for cultivation in the open ground. These are:—

1st. Marguerite, much esteemed for its earliness and the fine size of the fruits, which are rather pale and wanting in quality, but nevertheless sell very well, since they usually arrive first in the markets.

2nd. Princesse Royale, an old French strain still much appreciated by growers round Paris. It is very early, productive, and well-coloured. The flesh is firm and tough, hence its name in the markets of *fraise à noyau*.

3rd. Docteur Morère, early, large, very productive, of excellent quality. It is a little pale in colour, and apt to be hollow-centered. Notwithstanding, it is a strain much to be recommended.

4th. Vicomtesse Héricart de Thury, by abbreviation, Ricart, is very early, of fine colour and delicious flavour. It is the fruit *par excellence* for wholesale cultivation; it has but one fault, the fruit is rather small—and in the market, appearance ranks before quality.

5th. Jucunda; this is the most productive, ranking, and vigorous of all. It is not ready very early, but bears well and long, and is very fine and well coloured.

6th. Sir Joseph Paxton is beginning to spread in the environs of Paris. It is a splendid conical fruit, large, well shaped, and of good colour. It is very late, but that is of no consequence.

7th. Belle de Cours. This, in every respect, is one of the finest and best Strawberries. It is early, very productive, the fruits long, and of a fine deep glossy colour, yielding at once quantity and quality.

In a somewhat extensive cultivation of Strawberries for the sale of the fruits, it is better not to be limited to one variety only, but to divide the ground between two or three varieties of varying earliness. Thus the grower is ensured not only against special inclemencies injurious particularly to one variety of Strawberries, and affecting the others but little, but also the amount of harvest labour is distributed, and the grower profits by the generally higher prices at the beginning and end of the season. *H. de Vilmorin, in an Address on "Les Legumes de Grande Culture" at Troyes.*

ORCHID NOTES AND GLEANINGS.

A NEW CYPRIPEDIUM.

(*Cypripedium Loochristianum* ×, *Ch. De B.*)

THIS new hybrid was raised by M. Ch. Vuylsteke by crossing C. Hookeræ ♂, with C. Harrisianum ♀. The flower is large, very fine and firm, and very glossy in all its parts. The dorsal sepal is broad, in shape like that of Harrisianum; the ground colour is green, almost entirely concealed by the many blackish-purple stripes and veins of the centre; the purple veins are conspicuous upon the wide rose-white border; at the base and top the green is very clearly defined. The inferior sepal is pale green, much veined with dark green. The petals are broadly spatulate, pointed at the tip, and waved, as are those of Hookeræ; they are bipartite in colouring, being half dark-purple sharply bounded by a darker central line, and half an undecided green, striped and speckled with crimson; the spreading portion is purplish-rose, bordered with a fine band of clear and ciliate green. The lip is chiefly purple tinged with green, especially at the tip of the lip; the staminode is greenish, tinged with purplish-rose. The dorsal surface of the entire flower is dull green, veined with purple; the dorsal sepal is bordered with rose and margined with white. C. Loochristianum ×, which may, perhaps, be classed among the best Cypripediums, is vigorous in growth; the foliage is fine; the peduncle luxuriant, 11¾ inches (30 c.) long; various reds, and exceedingly hairy. It has obtained Certificates of Merit at Ghent and Brussels. *Ch. De B.*

CALANTHES AT STANMORE HALL.

In these well-kept gardens an unusually fine collection of Calanthes is to be seen in flower at the present time. The plants number about 100, and they are growing chiefly in 6 and 7-inch pots. Several varieties are grown, and those of C. vestita are now past their best, whilst the plants of C. Veitchii are still fresh-looking and good, and make a grand show, each potful having produced from four to six spikes, several of which measure 5 feet and upwards, and the number of flowers from forty-five to sixty-four. Some of the pseudo-bulbs possess three spikes each. To my own knowledge, these plants have been blooming since the first week in November. *E. Beckett.*

* *Polypodium* (*Goniopteris*) *nigrescentium*, Jenm., n. sp.—Rootstock strong, stout, decumbent or oblique, shortly repent, dark, scurfy, clothed with a few minute dark-brown scales; stipites more or less freely tufted, erect, 3 to 7 inches long, slightly channelled, puberulous, with a few minute dark-brown scales at the base; fronds erect, pinnate, subcoriaceous, dark-green, glossy, pellucid, glabrous, the rachis brown-puberulous, 3 to 5 inches long, 2 to 4 inches in breadth, composed of three to seven spreading, sessile, oblong-lanceolate acuminate pinnæ and a similar terminal one, which are 1½ to 3 inches long, ⅓ to ½ inch wide, the upper ones truncate, the lower rounded or sub-cuneate, and not reduced, repand, the margins slightly lobed or serrulate-crenate; veins four to five to a side, the opposite ones connecting at an angle with an intermediary that runs to the sinus, and very pellucid at the top; sori copious, occupying all but the exterior veins, and covering most of the surface.

DISEASES OF THE GRAPE-VINE.—II.

The disease known as "black-rot" stands at the head of the four fungus diseases of the Vine most dreaded in the United States, on account of the wholesale destruction occasioned during those years most favourable for their development. Black-rot was first observed in Europe ten years ago; and although it has not spread to any great extent, nevertheless, there is undoubted evidence of its occurrence in Britain, and unless kept thoroughly in check, it will doubtless become better known to us.

Fig. 13.—Grapes suffering from "black rot."
(From a Photograph.)

The fungus causing this disease is known as Laestadia Bidwellii, and is one of the kinds having several different forms of fruit, which, before the entire life-history of the fungus was known, were supposed to be distinct kinds, and consequently received different names, to the number of eighteen at least.

All the forms, with one exception, belong to the category destined for the rapid extension of the fungus, developing very quickly, and producing numerous reproductive bodies, which are dispersed by wind and rain, and thus form new centres of disease. Towards the end of the season the most perfect form of the fungus is produced on the diseased Grapes, which fall to the ground, and harbour the parasite until the following season, when the spores find their way on to the leaves of the Vine, and the mischief commences afresh. The disease first appears on the leaves and young shoots under the form of blackish or reddish-brown spots, often greyish in the centre, and studded with numerous minute black points. About three or four weeks later the disease appears on the fruit, which at first turns brown and then black, finally becoming dry and leathery, but usually remains attached for a long time.

Owing to the serious nature of this disease in the United States, numerous experiments have been made with various fungicides, but the usual remedy, Bordeaux Mixture, has proved one of the most efficacious. In this country it is probable that a solution of copper-sulphate made by dissolving 1 lb. of the salt in 25 gallons of water, would arrest the disease, if applied on the first indication of its appearance. After all is said, cleanliness is of primary importance in preventing disease, and the speedy removal and destruction by burning of all mouldy or suspicious-looking leaves and shoots, should be sufficient to keep any disease in check, having in view the limited number of Vines grown in any one establishment in this country. That such simple precautions are not always exercised is too evident, judging from the samples of diseased Grapes received for examination from time to time, and from places where such palpable negligence would be least expected.

In cases where Vines have suffered from a fungoid disease during the past season, it would be advisable to syringe the plants at once with a solution of the mixture given above, for the purpose of destroying spores that may be present, and awaiting the development of leaves and shoots. Our illustration (fig. 13) is taken from a photograph of a bunch of Grapes grown in a well-known garden in the south of England. *G. Massee.*

(To be continued.)

BEETROOT IN RUSSIA.

The Beetroot crops in Kieff, Russia, during the past year are reported as being not altogether favourable. The rains of May and June, followed by the burning heat of July, proved equally disastrous, and the result from the planter's point of view was far from satisfactory, the tubers being small and more resembling Carrots than Beetroot, while the percentage of sugar was lower than in 1893. The size of the tubers means everything to the planter, seeing that it costs him much more to lift the same weight of small tubers than it does large ones. With a normal harvest, two labourers can load a cart of 1 ton in the same time that it takes four in such a season as that of 1894; and if it is kept in mind that the four men required have to be paid 8*s.* for what the two formerly did for 2*s.*, it is easy to see that the planter has reason to consider last year's crop unsatisfactory. On the other hand, the factories prefer small tubers with a large percentage of sugar to large tubers with a medium percentage. The general custom now is for factories to fix a certain price for a given percentage of sugar, and to add or deduct from that price as the percentage is above or under that fixed upon. The average percentage of sugar in the Beet is 14½ per cent., a great advance during the last ten years, when the yield was about 12½ per cent., and a satisfactory sign that the selection of seed is receiving attention—in fact, most factories in their contracts specify the particular seed to be sown, and in many cases supply it to planters; and improved machinery is also being introduced.

THE SEED TRADE.

A Seedsman's Qualifications.—When Loudon left the remark on record, "that the manipulation of seeds and their disposal was a most simple kind of work, and that the seed department was easily managed," he, worthy man, could have possessed but a very inadequate idea of the multiplicity and detail necessary for the thorough working of a large establishment as conducted at the present day, yet there still remains a glimmer of truth in his statement when it is applied to the small provincial seed distributor who adds the occupation to his other businesses at a certain season of the year only. This, however, is not the man with whom we are concerned, and whom one could expect to have a great deal of knowledge, so we pass him by, as he does not belong to our subject.

"What a delightful business yours must be!" is a common saying from outside sources, and there is no doubt the profession is looked upon by those who do not know a great deal about its inner workings, as an occupation in which the operator spends his whole existence amongst the daintiest of Nature's children. Granted that he enjoys many pleasures during the summer season, his labours, in sympathy with those affecting other trades, experience periods of doubts and difficulties, and his endeavours to battle against circumstances beyond control, hinder his mind from resting peacefully on the bed of Roses some people imagine.

The capable seed-merchant of to-day must be not only a man of sound practical experience, gained by life-long study, but a man of such technical qualifications and commercial grip as will enable him to pit his ability against the keen competition that surrounds him, and is becoming more apparent in every direction, and renders the carrying out of important transactions, upon ethical principles, a greater difficulty each season [!]. He must be both intelligent

and observant, for he will often find after exercising the utmost precaution to provide against contingencies, that his efforts have proved futile, through an unpropitious season that has ruined his crops, or a failure from some other cause. In a large establishment, it is of the greatest moment for the leading man to be always on the spot, in order that his judgment may prevail in guiding important transactions to a safe end; in these days of rapid communication with all parts of the world, business involving thousands of pounds often requires attention at a moment's notice, and the house that has a reputation to lose, cannot afford to throw these chances away for the want of enterprise and immediate action. *He must be a man who looks ahead*, that is to say, in 1894 he must have uppermost in his mind his requirements from the harvest of 1896. He must forecast the seasons, as it were, by making provisional contracts in advance, and to such an extent does this system prevail, that we know of one firm that conducts operations on these lines to the extent of £100,000 annually. Then, again, he must be up to every movement in the market, for no other commodity fluctuates so much as some classes of seeds; take Clover as an example, a seed that largely changes hands at all seasons on Mark Lane and other centres in Great Britain, Europe, and America. With a keen eye he must be able to detect without much reflection the impurities existing in a sample when put before him on market, to know without hesitation that the Clover contains Dodder, the Lucerne Melilotus, or the Meadow Fescue, Ryegrass. Smartness on these points is sufficient to stamp him an intelligent merchant in the opinion of all with whom he has dealings.

He must keep a watchful eye upon his trials for growth and purity of stock. Those crops which he places out with farmers must be sent into localities with a soil upon which they are likely to thrive, and on this account it becomes necessary for him to have some knowledge of vegetable physiology, and to be critically observant of causes and effects connected with the chemistry of plants. All novelties, both vegetable and floral, must be proved in actual comparison, trusting with little faith to the glowing and specious descriptions that herald many an old variety under a new name. All should be grown to maturity, and pronounced under actual observation, to be acquisitions before sanctioning their distribution to his customers. He must also have a methodical system of growing and selecting seeds, of roguing crops, and the cultivation by the most perfect means likely to ensure a healthy development; he must be able to distinguish a Swede from a Turnip by its bulb or flower, one Pea from another by its habits and appearance, or by its pod and seed; and one flower from another by its shape or colour. He should be constantly conducting experiments in hybridising and cross-breeding in the hope of being able to produce something that will on one or more points beat the best already grown, or that will startle his competitors, bring him into greater prominence, and cause him to take high rank in the most advanced class of experts. If he has a foreign connection—and what large house has not, he must be thoroughly acquainted with the climates and seasons affecting different parts of the world, to be in a position to advise customers seeking information what to grow and how to grow it. If the foundation of his established is built upon these principles, an increased volume of business will ensue, for his customers will place every confidence in him, and he is bound to succeed. *Seedsman.*

SOME VEGETABLE PRODUCTS OF PORTUGAL.

THE condition of the general cultivation of the soil in Portugal, and the lack of modern methods, are well illustrated in a recent report to the Foreign Office, dated from Lisbon on October 31 last. Treating of the natural advantages of the country, the writer says:—"Nature has done so much to enrich the kingdom of Portugal that it is a matter for surprise that its inhabitants should at any time find a difficulty in turning her benefits to a substantial profit. On the one hand, we find a soil of such extreme fertility that a dry stick planted in it will blossom like Aaron's rod, with a purely temperate climate, and practical immunity from pernicious night frosts; on the other, the position of the capital, standing at the gates of East and West, close to the entrance of one of the finest rivers in the world, which, though its sands may not be of gold, as tradition asserts, has in former days borne on its surface—and why should it not do so again?—the wealth of both the Indies."

After referring to what is described as a "mercilessly crushing customs tariff," the writer proceeds to say that "the cultivation of the soil is hampered by many deficiencies both scientific and material. The neglect of adequate measures to combat the droughts of summer, the fondness for antiquated methods and instruments, the absence of capital, and the consequent enfeeblement of the spirit of enterprise, all go to hinder every effort of agriculture. Nothing, for example, can be more disappointing than a visit to the orchards in the neighbourhood of Cintra. The numberless standard Peach trees are seen to be laden with mature fruit of large size and most promising appearance. On examination, however, the Peaches are found to be of the consistency of cricket-balls, and quite uneatable while raw. That the neglect to improve this, the wild Peach tree, by grafting a cultivated stock upon it, and in addition by pruning the trees and by plucking off the superabundant fruit, is no less exemplified in the treatment of other fruits, may be derived from the circumstance that a certain large fruit-preserving establishment in Lisbon, working in connection with a well-known London firm, is forced to draw all its choice material from Spain."

The following items of exports of vegetable products are interesting. Thus, there was a large falling off in the exportation of Pine-apples, Figs, Oranges, Apples, and Grapes, but this decrease was rather more than balanced by a gain on Lemons, and especially Almonds. Onions and Garlic showed a considerable increase, while Tomatos fell off 50 per cent. Corks gained £13,000 over previous year's figures; while toothpicks, the trade in which is described as a flourishing and satisfactory little industry, gained £600. The woods used in the manufacture of these necessary little articles are chiefly Willow, and secondly Orange. Manufactured tobacco rose to almost six times the value of that exported during the previous year, owing to the large export to the West Coast of Africa.

NOTICES OF BOOKS.

CONSPECTUS FLORÆ AFRICÆ.*

UNDER this title M. Durand, Assistant in the Botanic Garden, Brussels, in conjunction with M. Hans Schinz, the Director of the Botanic Garden, Zurich, has issued the first volume of an enumeration of all African plants. The work is planned to occupy six thick octavo volumes, of which the fifth is the first published. The other volumes will, we hope, appear in due season; in the meantime, the order of the publication is not material. The present volume is an important one for horticulturists, as it contains all the monocotyledons and the Conifers. Among the former are, of course, the Orchids, of which seventy-four genera are catalogued. Under the head of each species the following particulars are given:—The name of the original describer, reference to the work wherein it was described, the date of publication, indications of the most important literature relating to the plant, the figures published in various journals, the principal varieties, the synonyms, the localities, and the names of those who have collected the plant, with the numbers attached to their specimen.

The arrangement followed is that of Bentham & Hooker's *Genera Plantarum*, or rather of M. Durand's Index to that publication. Thus we are spared the alarming weight of synonymy, and the innumerable changes which some modern botanists have inflicted upon us in their attempt to impose in the case of nomenclature, which must to a large extent be arbitrary, the same practices as are necessary in the case of science, which must be progressive.

As the whole Continent of Africa and the adjacent islands are included in the review, it is obvious that MM. Durand's & Schinz's enumeration will be of very great value for purposes of botanical geography. In addition to the Orchids, an enumeration is given of all the Liliaceæ, Iridaceæ, Amaryllidaceæ, and other orders of interest to cultivators. The Commelinaceæ and Cyperaceæ are arranged according to the monographs of Mr. C. B. Clarke, the Juncaceæ according to the revision of M. Buchenau, the Restiaceæ according to that of Dr. Masters in De Candolle's monographs. As to the grasses, the compilers have, so far as possible, followed the indications of M. Ed. Hackel. The Encephalartos Acantha (not Acanthus as given in *Index Kewensis*), described in these columns in 1878, p. 810, was subsequently referred by Mr. W. T. Thiselton Dyer to Encephalartos Friderici Gulielmi of Lehmann (Nov. et minus cognit stirpium pugillus sextus, 1834), a fact which has been overlooked by the compilers of this volume, as also by the Editors of the *Index Kewensis*.

This is, it will be seen, essentially a book of reference intended to facilitate the researches of students, and from the careful manner in which it has been compiled, it will be so great a boon to them, that they will experience a sensation of gratitude to MM. Durand & Schinz every time they use the volume. The book may be had at the Botanic Garden, Brussels; or through Messrs. Williams & Norgate.

* *Conspectus Floræ Africæ, ou Énumération des Plantes d'Afrique*, par M. Durand . . . et Hans Schinz . . . Vol. v. Monocotyledoneæ et Gymnospermeæ, 8vo. pp. 977. Bruxelles, Jardin Botanique de l'État.

NORTH AMERICAN SPECIES OF CACTUS, ANHALONIUM, AND LOPHOPHORA.

Under the auspices of the Division of Botany of the United States Department of Agriculture for Washington, has been published a preliminary revision of the North American species of Cactus, Anhalonium, and Lophophora, by President John M. Coulter.

In the autumn of 1890 the late Dr. George Vasey, then Botanist of the Department of Agriculture, arranged with the author to prepare a revision of North American Cactaceæ. Owing to the peculiar difficulty of preserving material, the family was poorly represented, even in the leading herbaria. To secure a large amount of additional material in the way of specimens and field notes, the author was authorised to visit the region of the Mexican boundary during the summer of 1891. Preliminary to this exploration, it was necessary to examine the Engelmann collection of Cactaceæ in the possession of the Missouri Botanical Garden at St. Louis. This collection, supplemented by the continual additions made at the garden, is by far the largest collection of skeleton plants and living specimens in America.

In March, 1891, the author visited this collection, and made such notes as seemed necessary for use in the field; and in June, accompanied by Messrs. W. H. Evans and G. C. Nealley, he began field-work in the neighbourhood of El Paso, Texas. After ten days of exploration it became necessary to leave the field work in charge of the assistants, who continued to work westward during July and a part of August, to Southern California, along the Southern Pacific Railway. As a result a large number of complete plants were secured, but very few of them were in flower, and the field-notes indicated little besides collecting stations. In the autumn of 1892 critical study of the material and other collections was begun by Dr. Elmon M. Fisher and Mr. Edwin B. Uline, who have ever since rendered constant and most important assistance in the examination of material and bibliography.

In the spring of 1893 these two gentlemen spent

several weeks at the Missouri Botanical Garden in the critical study of its rich material.

Dr. W. Trelease, the director of the garden, had hastened the arrangement of the Engelmann material, and had mounted in convenient form the large mass of notes left by Dr. Engelmann. These notes contained not only critical remarks upon known species, but also the diagnoses of many unpublished species which had come into his hands, notably those collected by Mr. William Gabb in 1867 in lower California.

names. The earlier descriptions were not only meagre, but were based upon what are now regarded as very insufficient characters, and in the absence of types it is not only unsafe but impossible to venture an opinion concerning their identity. With such knowledge as the author possessed being brought together, it is hoped that the study of this very interesting and much-neglected group of plants will be stimulated, and that more critical exploration of the south-western territory and adjacent Mexico will make a more satisfactory presentation possible.

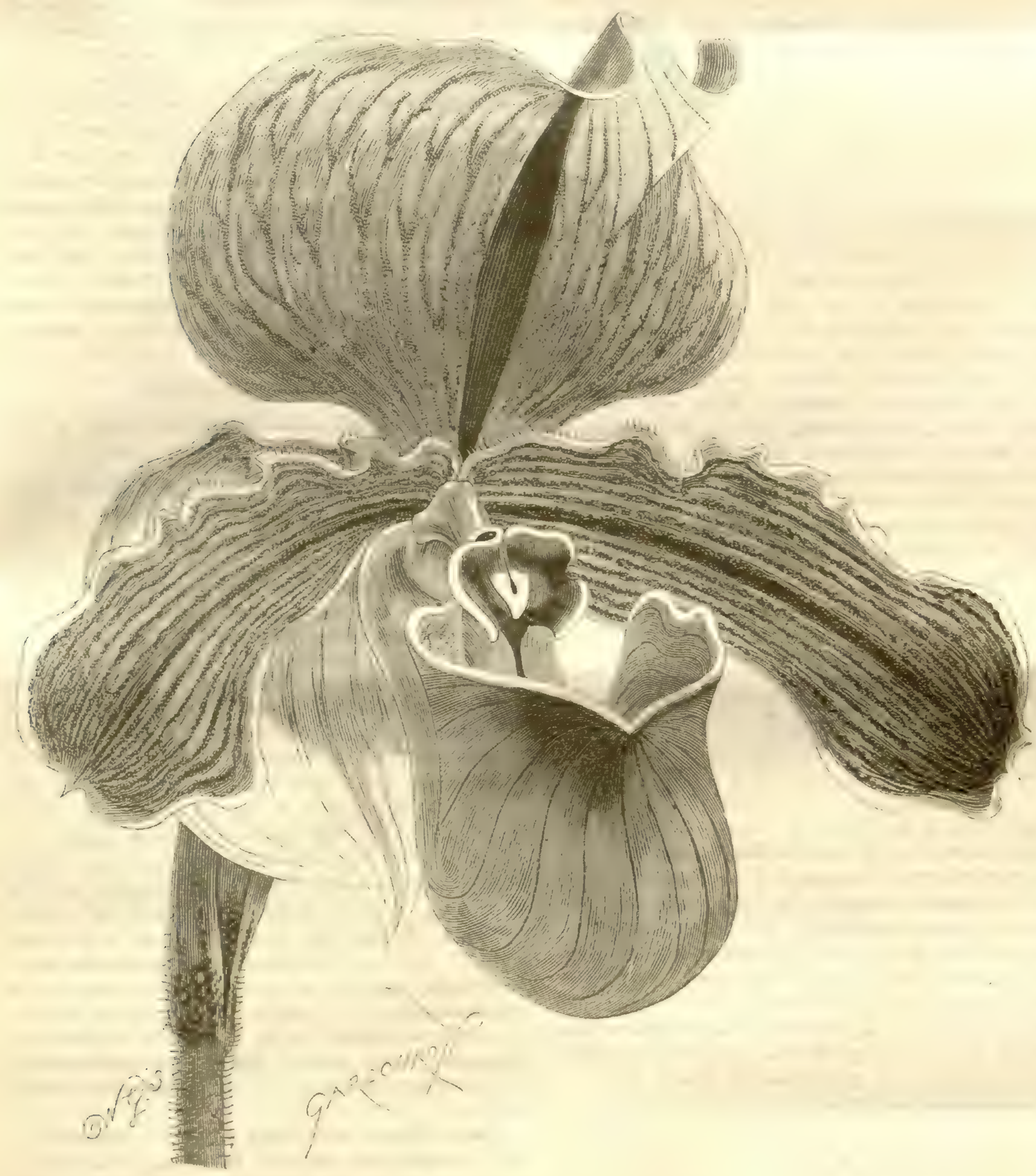


Fig. 14.—Cypripedium Madame Jules Hye.

(Shown before the last Meeting of the Royal Horticultural Society by M. Jules Hye-Leysen, Coupure, Ghent, and described in our last issue, p. 82; also in *Gardeners' Chronicle* for February 17, 1894, p. 198.)

The difficulties which beset the critical study of this group cannot easily be exaggerated. Such scanty material as has been collected, has been for the most part very incomplete, consisting of plant-stems without flower or fruit, flower or fruit without stems, and bunches of spines without either. The species occur also in the most inaccessible regions, and their culmination is found in the still little-known regions of Mexico.

On account of their singular forms and often brilliant flowers, these plants have long been extensively cultivated, especially in Europe. These cultivated forms have formed the basis of original descriptions in almost all the European publications, but in very rare cases have any types been preserved. As a result, the bibliography of Cactaceæ is appalling, and it is questionable whether satisfactory conclusions can be reached in the case of hundreds of published

INDIA.

FIELD AND GARDEN CROPS.

Mr. Duthie, the Director of the Botanical Department, Northern India, has issued the third part of his work on this subject. It consists of a botanical description of the various plants cultivated in North-west India for agricultural purposes, with indications of their uses, chemical composition, and method of cultivation. Numerous lithographic illustrations add to the value of the work. As Mr. Duthie has not only summarised the information obtained from other books, but has added the results of his own long and careful observation, the book will be very valuable for purposes of reference. It is printed at the Thomason Civil Engineering College Press, Roorkee.

THE RECENT THAMES FLOODS.

It is usual to pen a few remarks of noteworthy gardening establishments, either when some rare or meritorious specimens are flowering, or the gardens themselves are in the hey-day of their beauty. This is a very natural proceeding, and one that is capable of affording much that is both interesting and instructive to a very large number of persons interested in or following gardening as a business. In the present instance, however, this was not possible, owing to the disastrous floods which have lately been experienced in the valley of the Thames. A river-side garden, when the river itself is at its normal height, and in all the glory of a summer's sun, is a very charming possession; but when the waters are troubled, and the river is swollen much above its usual limits in many river-side gardens, matters are greatly altered.

"River Home" was, during the recent floods, unfortunately one of these, and to an extent which few people not being eye-witnesses would credit. It is the residence of O. O'Hagan, Esq., and is a picturesque and beautiful garden, possessing an extensive frontage to the Thames, and favoured in the matter of scenery, which at this point is of a pleasing character. The gardens are gay with blossom from early in the year till late in autumn; and at all times, under ordinary circumstances, their condition reflects the greatest credit in their management by Mr. C. Last. But to cope with water several feet deep in the greenhouses and plant-stoves, was an entirely new experience to the gardener at Hampton on that memorable Sunday, November 18. The Gardens of River Home on that day resembled an extensive lake, the flooded land extending far beyond the dwellings on the opposite shore. No such flood has visited these parts within living memory, and it was only exceeded, it is said, by the floods of 1742. In such an emergency, and with the water rapidly rising, it was difficult to know what to do for the best; valuable cattle, choice poultry, and other birds were taken without delay to safer quarters. In the frame ground adjoining the kitchen garden, all the portable frames and lights, many of which had already given notice to quit, had to be immediately lashed to any fixed objects that were handy.

One of the large span-roofed Peach-houses, which is about 100 feet long and 20 feet wide, presented a curious scene. During the autumn this structure harboured the chief portion of the collection of Chrysanthemums, these being arranged on each side of a wide wooden trellis, which constitutes the path. This trellis, with its occupants, was uplifted by the rising waters, and the house, running toward the river, had a great depth of water at the end nearest the river. At this end the stage was raised to nearly the top of the doors, as one by one the plants toppled over into the muddy water. With such a flood of very cold water overwhelming them for days together, it is very probable that the Peach trees will suffer this season. Many of them are only some three years planted, and had made good progress. The soil is now saturated and cold, and will so remain till warmed by the sun, and herein lies the burden of the mischief.

The next item to come under notice was the plant-stove, the high-water mark at the shallow end of the house was exactly 4 feet above the floor, that is, the whole of the pot-plants on the stages were standing in about 2 feet of water. So it was also with Stephanotis, Clerodendrons, and the like, some of which were planted out. In some instances the foliage has become yellow, in others shrivelled, or the leaves have fallen. Some fine examples of Areca lutescens, the pots 4 feet under water, have not shown any signs of harm so far. Pandanus Veitchii tells a different tale, brown spots and patches developing to the very heart of the plants. Nor was the saturation the only evil, for the thick mud sediment which covered everything made the picture more pitiable. Adjoining the plant-stove is the Banana-house, a very handsome structure with thick plate-glass sides, specially designed and erected for the growth of these plants, which are special

favourites with Mr. O'Hagan. In the culture and fruiting of these plants, Mr. Last has proved himself an adept, so much so, that his employer, encouraged by past achievements, erected the present handsome house. Prior to the flood I had a glimpse of the plants. Some of the earliest plants had fine clusters of fully-developed fruits, the most forward bunch having 230 fruits. The next forwardest was just assuming the pendent stage, and was perhaps even larger; and the remaining eight plants were all developing their fruit-clusters rapidly. Here again the water was 4 feet deep, and here again the result of the chill drenching was quickly evident, and the damage irretrievable. The large handsome leaves turned yellow, drooped, and the clusters of fruits speedily showed signs of decay. The variety here grown is M. Cavendishi, and the experiment has proved so successful, that their loss is all the more regretable. This is especially so, as the ripening of their fruits was so nearly accomplished. The Vine-borders also received their quota of water, but being on the outside, to some extent would get more rapid drainage.

The Melon and Cucumber-houses are on somewhat higher ground, and were not flooded to the same extent as the other houses. The occupants, however, have suffered from the extinguishing of boiler fires, and from dampness and cold. Some well-grown white Cyclamen persicum were noticeable here.

In the kitchen garden a greater depth of water prevailed, and high up on the fruit and other trees clusters of grass and leaves had become fixed among the twigs at from 8 to 10 feet high. River sand and stones were being taken from the vegetable quarters. In other places the gravel paths were turned into ravines; hedges were overturned, and fences carried away; while here and there were quantities of Nuphar lutea which had been brought down stream with the flood.

At the extreme end of the grounds, and near the river, is the magnificent boat-house, a building unique in design and workmanship. Near by is the electric-lighting engine and plant used for the lighting of the mansion and the charging of the electric pleasure-launches. Here the water had risen between 4 feet and 5 feet, and considerable damage was done to the machinery. To rid the paths of the slime, it became necessary when the water subsided to clean them with water-hose and besom. For the remainder, it is entirely a question of working and waiting. *E. Jenkins.*

GARDENING IN NORTHERN RUSSIA.

(*Continued from p. 68*)

The Holy Islands.—On August 9, we started with several hundred pilgrims in one of the monastery steamers to the holy islands of Solovetsk and Anzersk, in the Gulf of Onega, about eighteen hours' journey from Archangel. Here we stayed three days in the guest-house of the monastery, and were driven by the hospitable monks to every part of the two islands. Considering that they are north of the 65th parallel, we were much struck by the abundant vegetation, the Fir-woods, with miniature forests at their feet, of Equisetum sylvaticum, Club-mosses, Cornus suecica and Linnæa borealis, recalling much of Norway or the north of Scotland. The soil is very poor, being merely granitic sand, and though the monks have better roads than we saw in most of Russia, the ground is as undrained as is the rest of this vast plain. Raspberry and Currant bushes filled the quadrangle of the monastery, and, as I have mentioned, the monks' cells contained many well-grown plants like those in the private houses of Archangel: several clearings in the forest are now somewhat swampy hay-fields on the margins of the lakes, and most of the detached cells or hermitages had gardens. Potatos, Currants, Raspberries, Onions, Parsley, and Mountain Ash, were the chief crops, and but little pains seemed as a rule to be expended upon them. The boys in the monastery school were eating Whortleberries, and we were urged to try Maroshka jam in our tea!

At the Lighthouse Church of Mount Sekerna, ten versts from the monastery, and nearly 300 feet above sea-level, the chief eminence on the main island, the monk in charge, who had previously been a sailor, had, however, taken unusual care of his garden, which formed a narrow strip extending in several boarded-up terraces from the top to the bottom of the hill. He had a few small frames, and boasted that he had already that season pickled two hundred Cucumbers: his Raspberry-canes were well kept, he had a fair crop of Strawberries, calling the larger of two sorts "Victorias," and his soil was evidently well manured and tended. He told me that all the water had to be carried from some little distance.

Up the Dwina.—Returning to Archangel, we started up the Dwina in a river-steamer. Stopping every twelve hours to reload with wood-fuel, I got half-an-hour on shore each time to botanise and look around, but saw little that could be called a garden till our arrival on the 19th at Ustyug, nearly 400 miles from Archangel, where the Dwina or "double" river originates in the confluence of the Yug and the Suchona. Here it was necessary for us to change into a still smaller steamer, for in the Suchona we frequently had less than 2 feet of water. We had passed many very home-like meadows with numerous hay-ricks and cows, mottled black, red, and white, and some patches of Flax now in ripe fruit, of Hemp, and of Oats; and here we had come, on a Sunday, to a town so fallen from its ancient prosperity as to seem now nothing but large churches, a dozen or more close together, and obviously beyond any possble requirement of the existing population. There is a public garden here, much like that at Archangel, the fashionable promenade on Sunday afternoon. Birches still predominated among its trees; but there were also a good many Aspens, some small-leaved Lindens, some Gueldres-rose bushes, and a shrubby Spiræa. It is noticeable both here and further north, that a large proportion of the pasture consists of Lady's-mantle (Alchemilla vulgaris), and Cock's-foot (Dactylis).

As we left Ustyng, we passed various villages where Sunflowers were in full bloom, and Hops were trained over a few poles in many small gardens. We had seen a few Hops at Archangel, where excellent beer is brewed now, as in Tradescant's time, so that presumably somewhere in its suburbs they are cultivated more extensively. We are not concerned here with the many miles of horizontally-stratified red sandstone cliffs by which we passed, or with the wild plants, the Grass of Parnassus in the meadows, Calla palustris and Lysimachia Nummularia in the swamps, or Stone-crop, Sedum acre, on the sandy shore. Beyond the occurrence of Hazel, there is little change in the forest trees, nor did we see anything more in the way of gardens before our arrival at Totma on August 22. Here the most noticeable plant was certainly the Henbane, a profusion of its scorpioid cymes, over 2 feet in length, straggling over a bank near the river.

The fine weather with which we had hitherto been favoured, failed us as we completed our river-journey at Vologda, where we had little leisure before taking the train for Moscow. In the fruit-market I noticed inferior Apples and Pears, besides Tomatos, Plums, Grapes, and the cones of the Stone-pine; and the trees of the public garden seemed to be exclusively the small-leaved Lime. The chief crops of the neighbourhood were Flax and Oats.

Moscow.—In Moscow, the short time at our disposal and the heavy rains prevented my even visiting the Botanical Gardens, where I had been anxious to see some of the species of Ferula and Rheum which they have in cultivation, but I was informed by a resident that they were not particularly good. The so-called Alexander Garden under the walls of the Kremlin is merely a boulevard of Sycamore, Wych-elm, and Lime-trees; but the first really attractive flower-garden we had seen in Russia was that of the Tretiakoff Picture Gallery, gay with Petunias, Phlox, and Nicotiana affinis and N. Tabacum. The street-boys eat Sunflower-fruits incessantly, and Locust-beans are also for sale in the market, whilst Boletus edulis formed one of the dishes on our hotel buffet. Moscow seems well supplied with vegetables. The market visible from the windows of our hotel was heaped every morning with Cabbages and Cauliflowers; spring Onions are habitually served as an accompaniment to Caviare, and they have in the restaurants the sensible practice of dishing up small portions of several vegetables, small Carrots, Peas, or French Beans, for instance, in addition to Potatos.

Travelling by night to Smolensk, between that place and Minsk, on August 29, we noticed several additional plants in cultivation. Poppies (small heads of which we had seen in the Moscow market), Sunflowers, Broad Beans, and Beet, were growing in many places, and at Borisoff we came upon the first of a series of very pretty and well-kept station-gardens, bright with Portulaca, Carnations, Tiger-Lilies, and Dahlias. At Minsk we saw our first nursery garden and Apple orchards, and the station garden, with a central fountain, African Marigolds, Tropæolum, Everlastings, and Phloxes, far surpassed that at Borisoff. The farming, also, was markedly improved as we entered Poland; but we reached Warsaw by night, and before morning we had crossed the German frontier. *G. S. Boulger*, 18, *Ladbroke Grove, W.*

FORCING PLANTS, FRUITS, AND VEGETABLES.

THE season of forcing is upon us; indeed, most gardeners in charge of the leading private gardens have begun forcing a month or six weeks ago. When I was a young gardener in such establishments, the details of early forcing were vividly impressed upon my memory, and I should be glad to impress upon young gardeners and students of to-day the lessons I learned many years ago. My recent experience amongst young gardeners and students has led me to the belief that many of them have not sufficient knowledge of this important branch of their profession. A large number of them, when questioned upon the subject, gave the temperatures, to start with, far too high. Even some writers in the gardening press make the mistake of advising too high temperatures. Thus, I read that "starting Vines on December 1, begin with a temperature of 50° to 60°, with 10° rise by fire-heat in the day, and 15° when bright and sunny." Such advice seems dangerous to the inexperienced. Suppose a young beginner, anxious to get on, says:—"I will try the higher figures, 60°, on December 1, and 70° by day in sunless weather, 75° if the sun should appear." Such temperatures would be very dangerous to start Vines, Peaches, and other things.

Vines.—Vines will stand a higher temperature than Peaches will, but even Vines must be started gradually, as early forcing, even if managed by the best cultural skill, will cause the growths to push out considerably in advance of any growth at the roots; indeed, if there is no heat applied to the roots, they do not push out the new rootlets until the branches have developed considerably. The development of the buds is due to the sap stored up in the Vines. A little consideration will bring the cultivator to the conclusion that too high a temperature in mid-winter is the cause of weakly growth. For pot Vines, where the roots can be placed in a plunging material of 80° or so, the temperature may be higher to begin with, but it should not be higher than 50° for the first two weeks, gradually raising it to 55° before the end of the month from the time of starting them. When some growth has been made, add 5° more as a minimum, and by the time the Vines are in flower, a minimum of 65° may be reached, to be increased to about 70° when the Vines are in flower, and dropping to 65° again when it is seen that the flowering period is over. The above temperatures refer to a condition of things that gives the cultivator a control over the roots. In the case of ordinary vineries, with the roots running outside as well as inside, much more

caution is needed, and the temperatures may in cold weather begin with 45° to 50° as a minimum, increasing them as it is seen that the buds are breaking regularly over the Vines. One unfortunate result of too rapid forcing is, that the Vines break irregularly, especially upon the lengths of a yard or more of young wood.

In the forcing of other plants, the same principles apply, and the atmospheric conditions must also be taken into account. A good old-fashioned plan was to build a hotbed in the vinery, and the heat from this not only gave a genial, moist atmosphere, but plants, bulbs, Roses, and flowering shrubs of various kinds placed over the fermenting manure, started more strongly than they will do without this artificial aid, and the evaporation from the manure is sufficient to maintain the requisite degree of moisture without sprinkling any water about—at least, in the early stages.

Strawberries.—The forcing of Strawberries is an important part of the gardener's work, but not much can be done in this unless a good foundation has been laid the previous season by growing sturdy, clean, well-grown plants, the pots being packed full with roots. But how are the plants kept preparatory to being forced? In many cases they are out-of-doors, or at the best, in cold frames, with the soil in the pots frozen hard. Is it reasonable to take these plants and place them at once in a temperature of 55° to 60°? Certainly not! Let them have, to begin with, 45° to 50° according to the weather, for it is possible that an artificial temperature of 45° may be obtained in winter without the use of the heating apparatus, and at other times it may be necessary to have the hot-water pipes quite warm to get it up to this temperature, and here it is that the disastrous effects of recommending high temperatures is felt; better allow a fall of 5° or more than over-heat the pipes to get up a certain temperature. It is wasting fuel to do mischief.

Beans.—The forcing of dwarf Kidney Beans is an important branch of vegetable culture under glass. In the case of these Legumes, it is improper to start them with a low temperature. The seed is sown in the pots wherein the plants are to remain until they reach the stage when the pots are fully developed, or they may be sown thickly in boxes to be planted out in the pots. In either way there is no need for a low temperature to begin with, nor is it necessary in the case of any plants intended to be forced from seed, the seed should not be started in less warmth than 60°.

Flowers.—The forcing of Roses, plants and flowers, can best be accomplished by adhering to the rules laid down for forcing fruits. I have not found any better treatment for Roses intended to be forced early than to get the wood well ripened by the end of the summer. Keep the plants comparatively dry at the roots previous to forcing them. Prune them in good time, and when the time comes to force them, the flower-pots may be placed over the vinery hot-bed, such as I have described. Careful observation must, of course, be taken to prevent excessive heat of the manure injuring the roots—it should not exceed 80°. If the heat has not subsided enough, stand the pots containing the Roses on the beds; do not plunge them in the manure. It is quite possible that even if the temperature is not so high as to kill the roots, it may be too high to give an equal balance between the roots and branches. The moisture thrown off by the fermenting material is better for the plants than moisture obtained by the water evaporated from the paths of the house, it is also more steady, throwing off a fairly uniform degree of moisture night and day. Roses and other shrubs start strongly and evenly over these fermenting beds, and as soon as the plants develop their leaves they become interesting, for a Rose-leaf beaded round with tiny drops of moisture is very beautiful, and the expanding Rose-buds are delightful in January; but the plants must not develop too rapidly, as this causes the leaves to become very flimsy in texture. A night temperature of 55° is sufficient all through the growth of the Rose, and the nearer the plants can be placed to the roof-glass the better. Roses should not be planted out. They must be grown in flower-pots all the year round, and should be repotted once a year; and the success or failure of the early-forced Roses will depend to a certain extent upon how they are re-potted, and the time when the operation is performed. The soil should be a rich decayed fibrous loam for Roses, with a fourth part decayed manure, as much leaf-mould, and some coarse sand. Tea-scented Roses make the best growths when a little brown fibrous peat is added to the compost. Roses may be re-potted in August or September, in order that the roots may have run well into the new compost before they are pruned; and I would add that, before pruning the plants, the compost should be allowed to become very dry to prevent the cut portions from bleeding, or they may be dressed with styptic if forcing has to take place soon after pruning. Lilacs force well with Roses. The variety Charles X. is the best. Deutzias are charming shrubs to force, and should be treated in the same manner. Masses of beautiful blooms of distinct colours are found in the Azalea mollis, and the soft delicate green leaves of these shrubs when forced are quite charming, if the flowers are not too thickly placed as to entirely cover them. Nearly all the large nurserymen and florists prepare these shrubs for forcing, but gardeners and amateurs can prepare their own; and it is quite certain that unless the shrubs have received the right treatment they cannot be expected to flower well. The flower-buds must be formed the previous year. All deciduous shrubs are better grown in the open garden in a sheltered warm position, to be watered in dry weather, and the leaves kept clean by frequent syringings. They must be potted-up in good soil as soon as they can be moved in the previous autumn. Bulbs, Lily of the Valley, and other plants of this character are easily forced, but they should all be plunged out in the open garden in cocoa-fibre refuse or some similar material to make some growth first, and it is better to place them in a greenhouse for a week or so after removing them from the plunging material. They will do admirably in a temperature of 50° to begin with, and they should not suffer from lack of moisture at the roots.

J. Douglas.

TREES AND SHRUBS.

KETELEERIA FORTUNEI.

Of this singular and very interesting tree we have spoken on many occasions (see *Gardeners' Chronicle*, April 3, 1886, p. 429). We may now note that Messrs. Rovelli, of Pallanza, Italy, were fortunate enough to obtain seed from the fine specimen in their nursery last year. The cones are 10 to 12 cent. long; the scales are of chestnut-brown colour. At one time there was a doubt as to the validity of the genus, but it is now generally recognised as distinct from Abies.

SEED POTATOS.

A mild winter commonly presents many obstacles to the due keeping in a restful condition of seed-Potatos. Those large growers who still preserve their seed stocks in clamps or pits invariably find that but a couple of months' immurings in such places is sufficient to promote premature growth, and they have no other course but to open them, and rub off the shoots, and place them back into the clamp, to be speedily driven to make growth. What wonder is it if seed-tubers so treated give in return not more than one-half the produce that seed will give which has been properly and sensibly stored. Could large growers of Potatos but see their way clearly, they would erect in sheltered, dry positions, clay or concrete sheds, with span-roofs, thickly thatched, through which no frost would penetrate, or where but very little covering in severe weather would suffice to keep the tubers safe. In such sheds and on open shelves might be laid many tons of seed-tubers, which would be perfectly preserved, and in the spring be in the most admirable condition for planting. There would always be the great advantage incidental to a shed of this sort, that the atmosphere would always be dry; by opening doors at either end of it, it could often be changed, and by having ample air with an even low temperature, the tubers would be kept in a condition of rest, thus preserving to the full all their progenitive properties Such sheds standing for many years would soon cover their first cost in the greater Potato crops resulting. They have also the great advantage that the tubers in them can be turned or picked over in all weathers.

In a lesser way, especially where proper Potato stores are not to be had, there is no better method of winter-storing seed tubers than in shallow boxes. Happily there is no room for patents in the supplying of these. They may be made by anyone, and from the roughest materials, and when filled with tubers in the autumn have the particular advantage of enabling these to be placed in any advantageous position and in very close compass. Having to winter a quantity of seed tubers of many sorts, ranging from half pecks to pecks, I made numerous seed-tuber boxes from stout cheap material. Egg-boxes from the grocer's were purchased cheaply, and with some stouter boardings from the timber-yard I found that for material and labour a box 13 inches by 15 inches inside measurement, very strong, and capable of enduring fully six years with ordinary care; cost sixpence, or a penny per year. Each box will enable a peck of tubers to be thinly disposed. The ends rise 2 inches above the sides, and being of stouter wood, enables a stout strip to be let in and nailed securely across for use as a longitudinal handle, so that the tubers may be carried to the ground, and the boxes are as useful for planting as ordinary baskets. Because strong, these boxes will stand ten or twelve deep, one on the other, and as many pecks of tubers will thus occupy a floor area of some 13 inches square only. With ample floor room, hundreds of pecks could be thus stored. Because of the lower sides, there is ample circulation o air over the tubers, and light can reach them also. Under ordinary conditions of culture it is always best, where practicable, to purchase seed tubers early in the winter, and store them n one's own way. In such case it is possible to store them so as to fully preserve their vigour unimpaired. This is particularly needful in the case of tubers purposed to be planted in trials. The sets should be in all such cases selected, not only equally, but be kept in an equable condition of winter rest and spring growth. It is an undoubted advantage at planting time to have seed tubers sprouted, but still only moderately so. That will, however, be always their condition if kept in an airy store, and thinly in shallow boxes or on shelves. The practice of thinning out eyes is not very commonly adopted, because giving much trouble, but it always repays the comparatively small amount of labour involved in the work. All tubers will throw stems too freely, and disbudding is with them, as with trees, good practice. I have often in the past performed labour of this description from proper boxes, when growth has started, sitting by the fire on late winter evenings.

A.

THE HERBACEOUS BORDER.

SEEDLING DELPHINIUMS.

Where seedling Delphiniums were planted out in nursery lines in the spring of last year, they ought to be transferred to the places where they will bloom, well manuring the sites. As Delphiniums differ much in stature and in the colour of their flowers, some being very brilliant and of good form, the arrangement of the plants should not be of a haphazard character, if nice effects are looked for. That is a reason for not carrying out the planting in the borders and beds before the heights and colours are fully ascertained. *J. L.*

THE BULB GARDEN.

A FEW corms of the early-flowering Gladiolus may be planted in a warm border at this season, and in pots, plunging the latter in fine coal-ashes out-of-doors. They may be planted in April in beds or borders, having first duly hardened them off. A good soil is required by Gladiolus, whether potted or otherwise. All corms planted at this season outside, should not be put at a lesser depth than 6 inches, and, if a handful of sand be placed under each, it will preserve the required porosity of the soil. If planted in clumps, with a large dibber, the hole should contain below and above the corms, some good soil in a dryish condition. I find it desirable to protect these corms with a mulching of some kind. By thus planting early with reasonable care and proper selection of varieties, the flowering period of the Gladiolus may be considerably extended. *J. L.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

THE MANAGEMENT OF IMPORTED ORCHIDS.—To amateurs and others who may now be commencing to interest themselves in the cultivation of these plants, a few hints on the management of imported Orchids will be of much value. Scarcely a week passes in which consignments of Orchids do not reach this country, and owing to the immense numbers which arrive in excellent condition, greater facilities exist (especially as regards their cost) for obtaining these plants than in former years, and they are thus brought within reach of all who may have an ordinary greenhouse or stove in which to cultivate them. To be successful in establishing imported Orchids, the purchaser should remember that owing to the severe ordeal through which the plants have passed from the time they were collected till they have reached him, they are more or less wasted and shrivelled, any attempts to make them suddenly plump, or to hurry them into growth, will generally end in failure or total loss of the plants. Immediately on arrival, and till such time as they can be properly attended to, they should be placed in comfortable quarters. One of the greatest mistakes is to lay them under the Orchid-house stages for any length of time before potting them, as in such places, through careless damping down and drip from the plants above them, many plants are lost. One of the principal points in reviving the dormant life in the plants is to place them (no matter from what part of the world they may come) in a moderately cool and dry atmosphere, and afford little or no water for a few days. If the plants are subjected to a temperature that will excite growth before proper reaction sets in, many will lose their foliage before any new roots appear. Each plant should be carefully sponged all over, to cleanse it from dirt and insects, cutting away decayed leaves, bulbs, and dead roots, laying it on a wooden stage where it can be conveniently shaded from all sunshine until its other requirements can be attended to. With regard to epiphital Orchids, such as Angræcums, Aërides, Vandas, Saccolabiums, and Phalænopsis, which do not possess pseudobulbs, these should, within a week or ten days of their arrival, be suspended head downwards in a shady part of the house, and slightly syringed at least once a day, more frequently if much fire-heat is necessary, or the weather is bright and sunny; and this kind of treatment should be continued until the leaves having absorbed sufficient moisture become plump, and the stems begin to emit roots. After this has occurred, the plants may be potted in the ordinary manner, or put into baskets, which should in all cases be small in proportion to the size of the plant; and gradually inured to greater warmth. But little water will be required till the plants have become thoroughly established, just enough being afforded as will keep the compost in a moist state. During this period any exposure to strong sunshine will sometimes cause the loss of the leaves, and their retention being necessary to the well-being of the plants, careful shading should be carried out, but not necessarily shading other plants. Orchid collectors ofttimes experience difficulty in gathering plants at the right season, and they are frequently so near the flowering period that when they are received by the cultivator, the spikes quickly appear; especially is this the case with the genera above mentioned, but these flower-spikes should always be cut off, nothing tending so much to debilitate the plants as early flowering. The majority of species of Cypripedium may, with safety, be potted in well-drained peat and sphagnum moss soon after their arrival, and such species as C. Stonei, C. Lowii, C. philippinense, C. exul, C. lævigatum, C. Parishii, C. Rothschildianum, C. Lindleyanum, C. Sanderianum, C. caudatum, and others of that section should be placed in the smallest pots possible, keeping the base of the foliage on a level with the rim of the pot, filling up with rough crocks only, other substances being added when root-action has begun. One primary object of the cultivator with those species of Cypripedium should be to prevent water from getting into the growths or lodging in the axils of the leaves, they being extremely liable to turn black and decay from this cause. Cattleyas and Lælias of the purpurata and elegans type, should be placed in pots just large enough to hold them for one season, the pots being nearly filled with drainage materials, making the plants quite firm by tying the pseudobulbs to neat sticks, which is a very important point in obtaining a good roothold. The crocks in which the plants are placed should be very sparingly watered at first, and as soon as the young growths and roots are fairly started, peat and sphagnum-moss in equal parts, may be packed firmly around them in the ordinary manner. It is advisable to intermix large crocks with the compost, so as to prevent rapid decay, and to improve the drainage. Newly-imported Dendrobiums may be treated in a like manner. Lælias of the anceps type require similar management till the roots show signs of pushing out, when it will be safe to pot them. In order to induce root-activity, the atmosphere surrounding the plants should be kept moist, and it is good practice to pour water amongst the crocks two or three times a week, but no water should be allowed to touch the pseudobulbs or rhizomes for fear of rotting them.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

FIGS.—The pot trees which were started in November to afford ripe fruit at the beginning of the month of May, being in full activity, with fresh roots forming at the surface of the soil should have pieces of turfy loam placed firmly round the rim of the pot, and a sprinkling of old mortar broken up finely, which will form a more enduring dressing, and induce a more sturdy growth than manure. All trees that are forced early should have their pots at the commencement of the forcing filled with roots, and then, the drainage being good, there is little danger of their receiving too much water at the root. Many trees fail to crop well through keeping the roots in a not sufficiently moist state. Keep the atmosphere of the Fig-house moist, syringe the trees twice a day, and take advantage of sunshine to let the temperature rise to 80°, affording a small amount of ventilation when the warmth reaches 70°, and closing the house early in the afternoon. The night temperature should range about 60°, but may fall 5° on very cold nights. The weakest shoots should be removed, the others stopped at the fifth or sixth joint.

PLANTED-OUT FIG TREES are generally cultivated in borders of small dimensions, so as to have the roots under complete control, and the same precautions must be taken as with those in pots to thoroughly moistening the soil, and in doing this, making use of diluted manure-water at 85°. Trees which began to be forced at the New Year will now be on the move, and the temperature, both day and night, should be slightly increased as growth advances. The trees should be top-dressed in the manner advised for those in pots, which will have the effect of keeping the trees in a more fruitful state than would be the case were the roots disturbed, or the borders extended.

CHERRY-HOUSE.—Nothing is gained by attempting to force Cherries too soon, and beyond watering the soil when it is approaching a dry state, and ventilating, there will be little else needed for a week or two to come. With a view to starting the trees soon, it would be as well when the buds show signs of casting their scales, to syringe the trees on bright days, and not to let the night temperature fall below 40°. The trees should be fumigated with tobacco to kill any insects which may harbour among the fruit spurs.

STRAWBERRIES.—As fast as the plants set their flowers they should be placed on the upper shelves in the forcing-house, so that they will receive some amount of ventilation from the adjacent ventilators, and every ray of sunlight. The plants at this stage may be afforded a growing temperature, and be freely syringed early in the day to enable the entire plant to get dry before nightfall, or mildew may manifest itself. Every ill-formed fruit and small flower-bud ought to be removed, and support afforded the trusses with Birch twigs.

HINTS ON CURRENT OPERATIONS. — The pruning of late Vines and Peach trees should now be brought to an end, and the houses cleaned. Renew, extend, or topdress the different borders as may appear necessary, and let cleanliness prevail throughout the various houses.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

WINTER-FLOWERING CARNATIONS. — These plants should be occasionally fumigated to keep green-fly in check, and on bright days syringed, and the floor kept moist, otherwise red-spider will soon increase in numbers. The first batch of cuttings may now be put in, using loam, leaf-mould, plenty of sand, and a little Cocoa-nut-fibre refuse, making use of large 60-pots. Press the soil firmly, insert eight or ten cuttings in a pot, and plunge them under hand-lights in the stove or propagating-house, close to the glass. When the lights become very moist, they should be rubbed dry with a cloth, to prevent damp destroying the cuttings. If the cuttings are afforded sufficient water when first put in, to thoroughly moisten the soil, no more will need to be applied before the cuttings are rooted. When struck, the light be must taken off, and in a few days afterwards the rooted cuttings may be put on a shelf close to the glass in the warm greenhouse, where they may stay for a week or longer before potting them singly into small pots. The cuttings should be rather thin as opposed to succulent rank growth, and taken when from 2 to 3 inches long. The following are some of the best varieties, viz., Empress of Germany, Sir Henry Calcraft, a very large crimson flower and a good grower; Madame Leopold de Rothschild, pink, and one of the best for winter-flowering; Irma, Lucifer, Winter Cheer, La Neige, Mrs. Llewellyn, Madame E. Bergman, Andalusia, Loveliness, Alfred de Rothschild, Uriah Pike, Mrs. Moore, Miss Joliffe Improved, Baronne de Rothschild, and President Carnot. The last two are very fine varieties, but they make but few shoots fit for cuttings, and it is good practice to place some or all of the stock of these plants in a warm forcing-house, cutting their flower-spikes off, and using the syringe on the plants twice daily, to induce more numerous shoots to form that will furnish cuttings.

BORDER CARNATIONS.—Any of these if required for flowering indoors, should now be potted (if not already done), using as a potting soil equal parts of turfy loam, good peat, and leaf soil, a small portion of dry cow-manure, and wood ashes, which should be all well mixed together. Three plants may be put into a 24-sized pot, potting them rather firmly. If the plants are infested with green-fly, lightly syringe them, and afterwards dust them with tobacco powder, which should be syringed off them in about five hours, or it will cause disfigurement If the potting soil be moist when used, no water will be needed for three or four days.

INDIAN AZALEAS that have finished flowering should have any seed-pods that may have formed picked off them, repotting such plants as may need larger pots, using the best sandy peat for the purpose, and clean pots but one size larger than those they came out of. Water them before potting, should they be dry, and after allowing them to drain thoroughly, the potting may be proceeded with, enough water being afforded a day or two later to penetrate the whole of the new soil. Stand the plants in the early Fig-house, or in any other one which has a night temperature of 55°, with a 10° rise by day; syringe them twice daily. If thrips appear, fumigate the house two or three times with tobacco-paper.

WORK IN GENERAL IN THE HOUSES.—Let the climbing plants in the conservatory be pruned, cleaned, and secured in their places: Poinsettias, Azaleas, &c., removed when past their best, refilling the place with others. Fuchsias, Plumbago capensis, and Bougainvilleas, trained on the walls may now be pruned, giving an eye to the proper furnishing of the space to be covered. The shoots of

the first and last may be pretty severely spurred-in after providing for the covering of such bare places; the second less so. Bouvardias going out of bloom should be gradually dried off and placed in a pit or frame, from which frost is excluded, or in some out of the way part of the greenhouse. Poinsettias may be cut back to within about 1 foot of the soil, and laid on their sides underneath the stage in the stove. Euphorbia Jacquiniæflora may be served in the same manner when out of bloom, after being very gradually dryed off.

CYCLAMEN.—These plants now nicely in flower should be watered twice a week with weak liquid manure, or a teaspoonful of Clay's Fertiliser sprinkled over the surface will be helpful. Be careful when watering not to wet the flower-buds, or they will be apt to damp-off. Put a label or peg to the best varieties, so that when they have finished flowering they may be picked out from the rest, and saved for another year. Any particularly fine variety that may be used for seed should be placed on a shelf close to the glass in a warm greenhouse, where it should be fertilised with pollen by means of a camel's-hair pencil. Remove all the flowers except about eight or ten of the best shape. The seedlings should be looked over occasionally for aphides, which, if not destroyed, soon cripple the young leaves.

THE KITCHEN GARDEN

By John Lambert, *Gardener, Powis Castle, Welshpool.*

RADISHES. — A warm-situated and sheltered border is found in nearly every garden, and this is the best place to sow the first Radishes. The ground, if dug and manured in the autumn, will soon be fit for sowing after the snow has disappeared. If dug and manured at the present time, spent Mushroom-bed manure will be the best manure for this purpose. As soon as the soil is sufficiently dry that a rake can be used, the seed may be sown, doing this rather liberally broadcast this time, covering it with soil to the thickness of half-an-inch. This covering may consist of sifted potting-bench refuse, or other dryish porous soil. A good plan of producing Radishes outside is to make a light framework of the size of the intended beds, or it may cover two beds. By using long strips of wood 4 inches by 1 inch, with a cross-piece or two let in according to size, covered by half-inch meshed galvanized wire netting all birds will be kept away, and it is a saving in the long run, as it dispenses with the use of fruit-netting. Radishes sown at this season need protection from all frost, and this is best afforded by means of long stable litter, clean straw, or bast mats. Here, the wire netting becomes very useful, and is a great saving of time and labour, as the covering material is kept clear of the plants, and enables it to be readily removed in mild weather. The Radishes sown at this date should be ready for drawing in March. A sowing may be made from this time onwards at intervals of three weeks at the furthest, if a succession has to be kept up. Most gardeners have their favourite varieties, and I prefer the Turnip-rooted to all other; Extra Early forcing scarlet Turnip and white ditto; the French Breakfast in red, white, and parti-coloured, and Wood's Early Frame, which is a long sort, are all good early Radishes. For the later crop, white and red Turnip varieties are still the best. Up till the end of March it will be best to depend on those sown in hotbeds; in gardens in which suitable pits and frames and manure are obtainable, it will be well to sow a fresh bed, if but a small one, every two weeks, in order to keep up a regular succession. Do not mix the varieties, but sow the seeds of each separately.

CAULIFLOWERS.—Look well to these plants in open weather, under frames and hand-glasses. Cauliflowers have been improved so greatly of late years that plants from seed sown in heat in the spring come into use so early, that the old plan of keeping Cauliflower plants through the winter is dying out; but I still like to have strong plants under hand-lights, &c. Let these be looked over at short intervals for decaying leaves and slugs, the last being very active on the disappearance of frost. On all fine days afford air on the warm or sunny side, closing the glasses upon the appearance of frost. Make a sowing inside of Extra Early Forcing, Early London, and Walcheren to follow these.

RHUBARB.—Apples for the kitchen being scarce, keep up a good supply of Rhubarb, to assist in making the Apples last out. Those are fortunate who have a good supply of the early forcing varieties at hand. Not being so blessed, I find the old late varieties force much more satisfactorily in the ground where grown by the old plan of covering it with warm stable litter, strong stout sticks now being produced for use in plenty by this means. The late varieties do not force so well when taken up very early.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

SHRUBBY CALCEOLARIAS.—Plants which are being wintered in cold frames will need, if they have been covered up for some time from frost, abundance of air gradually afforded them in mild weather, the lights being at length removed by day. Any plant growing strongly may be pinched-back to about four leaves from the bottom; and cuttings may be taken of any varieties of which the stock is small for the needs of the garden, the tops that are taken off making excellent cuttings. Strike them in a mixture of sandy loam and leaf-soil, having a layer of sea or other kind of clean sand on the top, and dibble the cuttings at about 4 inches apart over the bed if space can be spared, they will then not require to be transplanted before they are placed in the flower-beds; water the cuttings, and shade from sunshine. Afford abundance of water to autumn-struck plants when the soil approaches dryness. Good varieties of Calceolarias are amplexicaulis, Golden Gem, aurea floribunda, Crimson Gem, and Sparkler.

DAHLIAS.—Carefully examine old tubers that have been stored away for the winter in soil, and if the latter is become damp, place them where frost does not enter on a wooden shelf or floor, or in boxes, without any soil being put amongst them. Excepting varieties which need to be increased by cuttings, there is no occasion to start Dahlias before the month of March. Tubers that show signs of decay, and those from which cuttings are to be taken to increase the stock, should be placed at once in a temperature of about 60°, keeping them dry till they have made a start, when cuttings may be pulled off with a heel when 3 or 4 inches long, and struck singly in small pots in a gentle hot-bed. Seeds should also be sown. There is nothing more satisfactory for an autumn display than beds of the beautiful show varieties; and the blooms stand the rains and damp nights better than any other flowers that we have, and are very useful with their long flower-stalks for decorative purposes, as also those of the Cactus and single-flowered classes.

CANNA TUBERS should be examined, and those of which the stock is scarce placed in heat. The cuttings may be treated in the same way as Dahlias. Canna seeds should be sown in sandy loam at once, in strong heat, covering them with about half-an-inch of the soil.

TUBEROUS BEGONIAS which it is wished to increase by propagation should be placed in heat, and when they have made a little growth the cuttings may be taken in the same way as the Dahlia. Do not afford much water until they have made a fair amount of growth. Seed of any species of Begonia may be sown at once in pans of fine rich sandy loam and leaf-soil; watering the soil well with warm water before sowing. Do not cover the seeds with soil, but shade with glass and a sheet of tissue-paper until the seedlings are seen. The general collection of tubers should be kept at rest for another month.

HOLLYHOCKS.—Plants that have been wintered in pits or houses, and are required for the production of cuttings, should be given a shift into larger pots, if they are growing strongly. Cuttings taken off with a heel, when they are a few inches long, may be placed singly in small pots. Seeds of a good strain of Hollyhock may be sown at once in a warm-house; they soon make strong plants for putting in the beds.

GENERAL HINTS.—During mild weather trees and shrubs may be planted, and at other times leaf-heaps may be removed to the store-ground, and other accumulations removed to a place for rotting or charring, as may seem desirable. A good space should be found in a hidden situation if possible near the flower garden and pleasure grounds, where refuse of all kinds and prunings can be burnt as they are collected, the ashes from which being sifted of stones, &c., when, owing to frost, the men cannot engage in other sorts of labour. These ashes and charred soil will be good materials for top-dressing beds and borders. An effort should now be made to get all the Dahlia, Hollyhock, and other flower-stakes looked over, pointed afresh, and tied up in bundles, in sizes in readiness for use; wooden pegs for layering, and labels, not forgetting those cheap ones described by Mr. Fletcher in *Gardeners' Chronicle*, March 3, 1894.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

NEWLY-PLANTED TREES. — Trees which were autumn-planted may now be pruned, shortening the last season's shoots back to a strong bud at the base, and taking care to cut leading shoots to a good outside bud, so as to provide for the proper extension of the tree. If the main branches on pyramids or bushes have been left closer than is desirable, those likely to crowd the centre should be entirely removed. Apples of an upright habit of growth, such as Northern Greening, may have the outside branches bent down carefully, and fastened to stakes driven into the ground, till such time as they become set, and they will then remain in position without such assistance. Standard trees should be cut hard back to a series of good buds, instead of the shoots being left of full length after the planting, as is often the case; trees that are so left to chance, as it were, rarely making a satisfactory start for years, but breaking weakly and irregularly. From the shoots which will result from this pruning four or five good shoots should be selected, to form the main branches, the remainder being rubbed off whilst young.

FOR FORMING CORDONS, maiden trees will probably have been planted; and if the cordons are to be horizontally trained, cut back the plants to about one-third of their length (reckoning from the union of scion to stock), selecting two suitable shoots if for double cordons; for single, one only is required. All growths below the shoots should be cut off. For edgings of garden paths, these cordons are both ornamental and useful, and if inarched to each other when they overlap, a continuous chain of fruiting stems is formed. For either vertical or diagonal cordons, shorten the shoots to one-half their length, and select the strongest of the topmost ones as leader, pinching all the others to three leaves. When the leader has made 1 foot of growth, the point may be pinched out, which, if done early enough in the season, will cause it soon to break into fresh growth. From this again select the leading shoot, pinching all others to three leaves as before. It is good practice to train a few maiden trees annually to fill up any vacancies that may occur on walls, &c., or to replace those that are getting old or worn out. The so-called horizontal training of the branches is generally preferred for the Pear and Apple tree when these are planted against brick walls and wooden palings. The maiden tree should be shortened to about 1 foot from the graft, and the strongest and best-placed growths resulting from this amputation of the stem should be taken first; the two lower ones, which should be as nearly opposite to each other as possible, will form the lowest pair of branches, the central one being retained as the future leader, and when this has attained the length of 1 foot if growing vigorously, the point should be pinched out. Side shoots will again be produced the same summer, from which two should be selected as before to form the second tier of branches at the distance of 1 foot from those first laid in, the strongest shoot near the top being trained-in as the leader, removing all others. Where summer-stopping of the leader is not performed, the leader may be left to mature its growth unchecked, and winter-pruning resorted to. For fan-trained trees shorten to about the same length, selecting three well-placed shoots to form the foundation of the tree, cutting off all remaining growths. Pinch all lateral growths to one leaf, and proceed as before, excepting that the shoots at their point of origin may be closer together.

STRAWBERRIES. —Where Strawberrry planting is to be done at a later date, the ground should now be prepared, if it is not already done, digging it deeply; if trenched or bastard trenched, so much the better, working in plenty of rich, well-rotted manure, which should be well mixed with the staple, leaving the top-spit as rough as possible.

DELAYED JOBS should be proceeded with as soon as the land is dry enough, but better still to delay for a week or two longer than trample on the land when it is in a wet condition.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	JAN. 28	Hardy Perennials, Roses, Lilies, Iris, &c., at Protheroe & Morris' Rooms.
TUESDAY,	JAN. 29	Tuberoses, Gladioli, Begonias, &c., at Protheroe and Morris' Rooms.
WEDNESDAY,	JAN. 30	Japanese and other Lilies, 800 Roses, Gladioli, Tuberoses, &c., at Protheroe & Morris' Rooms.
FRIDAY,	FEB. 1	Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°.6.

The Temperate-house at Kew.

OUR readers have already learnt, first from rumour, and afterwards officially, that the Government had decided to complete the Temperate-house at Kew. The following is the official notification, which appeared in the *Kew Bulletin*, in November last:—

"The great Temperate-house, or Winter Garden, was commenced in 1860, from designs by DECIMUS BURTON. In 1861 the octagons (50 feet diameter) were finished. In 1862 the centre block (212 by 137 feet, and 60 feet high), was completed. The original design included two wings (each 112 by 62 feet). These, however, were never erected, though the raised terrace was prepared for them. [An illustration, showing what the structure, when complete, would be like, appeared in the *Gardeners' Chronicle*, January 2, 1892.]

"The Treasury has now sanctioned the erection of the southern wing, and the proposed works are being already taken in hand. It is proposed to maintain in this a warm greenhouse temperature, so as to allow the adequate cultivation of many plants of economic importance and large succulent plants of which the existing accommodation does not permit the satisfactory development."

Everyone who knows and understands Kew, be he botanist or gardener, or intelligent visitor, will agree that this decision was a wise one, and that money spent for the purpose proposed would be well spent. The Temperate-house as it stands is one of the handsomest structures at Kew, and its contents are worthy of it. That it should have remained unfinished for a period of thirty years is, to say the least, unworthy of a great and wealthy nation. The larger forms of vegetation from purely tropical and temperate regions are accommodated in the Palm-house and that part of the Temperate-house already built. If anyone interested desires to see the Durian, Coffee, Cocoa, Oil, Wine, and Sugar Palms, Bananas, Bamboos, or similar plants of importance, he can see worthy representatives of them in the Palm-house; as he can in the Temperate-house of the Date, Papaw, Kauri Pine, Australian Gums, &c. But the plants from sub-tropical climates have at present very inadequate accommodation; whilst for the larger forms there is practically none. Now, it so happens, that at the present time many of the plants which are receiving most attention on account of their economic or commercial value are those for which an intermediate-house of ample size is essential. Of such we may mention the Cinchonas, Indian Tea, the best varieties of the Orange tribe, the subtropical species of Eucalyptus, and the large fibre-yielding Agaves. The representatives of these at Kew are mere pigmies, starved in small pots, and cramped for space.

It was hoped that those who hold the nation's purse-strings had grasped all this, and had determined to make haste to make proper provision at Kew for an important section of commercial plants. Here at last, we thought, we have a Government who can look after science and art, which in their way, and in the long run, are even more important to the future welfare of the Empire than warships. We have been informed, however, that the matter has once more been practically shelved. The promise made was mere pie-crust, or something worse. It is to be hoped that when Parliament re-assembles someone who knows Kew and its needs will insist on the completion of this long-delayed work as one of national importance wholly independent of party politics.

The National Chrysanthemum Society.

THE National Chrysanthemum Society's *Year Book* for 1895 has just been issued. It has been edited by Mr. C. HARMAN PAYNE, and may be had of E. W. ALLEN, 4, Ave Maria Lane. We can now only briefly indicate the general nature of its contents. First comes a note on the doings of the President, and an account of his garden, of which illustrations have appeared in our columns. Mr. ARTHUR WORTLEY follows with an interesting paper, entitled "Recollections of Bygone Days." Mr. WORTLEY starts with the foundation of the Stoke Newington Chrysanthemum Society, about the year 1846. This was the direct precursor of the present Society, and the members may well be proud of the progress that has been made since Mr. CANNELL, in 1883, proposed that the old Society should be rejuvenated as the National Chrysanthemum Society. No similar association has such a successful career to chronicle. Mr. SPAULDING, of Orange, New Jersey, contributes a list of synonyms which will be useful. Mr. LORVICK discourses on the Chrysanthemum in Australia, where the flowering season extends from the end of March to the beginning of May. Mr. JAMES H. VEITCH contributes a paper on the Chrysanthemum in Japan. Mr. BRISCOE IRONSIDES deals with the Chrysanthemum in Italy; Mr. EDWIN BECKETT gives a descriptive list of the new incurved exhibition varieties introduced since 1890; Mr. PIERCY treats of early-flowering Chrysanthemums; Mr. SHORSMITH instructs amateur growers how to grow "incurves" for exhibition; Mr. MICHAEL BARKER descants upon American methods and varieties; Mr. E. MOLYNEUX on progress in Japanese varieties; whilst Mr. JONES criticises the novelties for 1895. Mr. LAIRD tells of the Edinburgh Chrysanthemum shows. Sandwiched in between these articles are various details relating to the proceedings of the Society, the prizes awarded, and the literature of the subject. As an historical document, and an illustration of the hobby of the day, the treatise will not only be read with great interest, but it should find a permanent place on the shelves of our horticultural libraries.

RICHARDIA ÆTHIOPICA.—Our view (fig. 15, p. 109), is taken from a photograph of a part of the rich and interesting garden of Mr. ARDERNE, of Cape Town. The Richardia—commonly called Arum Lily—is a marsh plant by nature, demanding abundance of moisture in the growing season, but if kept tolerably dry in the resting period, it will bear so considerable a degree of cold as to be capable of culture in the open air in our south-western counties, as was illustrated in a recent view from a Cornish garden (Trelissick).

NATIONAL CHRYSANTHEMUM SOCIETY.—A largely-attended meeting of the committee took place at ANDERTON'S Hotel, Fleet Street, on the 21st inst., Mr. R. BALLANTINE presiding. The most important matter discussed was certain amendments to the rules, it being found necessary to divide some of them, in order to reduce their bulk; and additions were necessary in the case of the introduction of new provisions. After some discussion, the rules were agreed to for recommendation to the annual general meeting for adoption. It was agreed that the sum of £10 be voted towards the Dahlia and Gladiolus prizes at the September exhibition, in addition to £20 for prizes for early Chrysanthemums. The judges were, on the recommendation of the Schedule Sub-committee, appointed for the various exhibitions in 1895, the consideration of the revised schedules being deferred. Seven new members were elected.

SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.—A very pleasant gathering, in commemoration of the sixth anniversary of this Society, was held on Saturday, the 12th inst., at 4, Old Compton Street, on which occasion most of the members now in England were present, including Messrs. GEO. NICHOLSON (Kew), HARMAN PAYNE, F. W. SANDERS, G. SCHNEIDER, J. GACHELIN, &c. The duties of the Chairman were fulfilled by Mr. JAS. H. LAING, F.R.H.S., who expressed the high estimation which he entertained towards the Institution and its officers. The chairman reminded the audience that in science there are no qualifications according to nationalities, and that in that respect, at any rate, the French, Belgian, Swiss, and English may peaceably work together for their mutual benefit and instruction. The object of the Society is the furtherance of the welfare during their stay in England, of the young men either of French nationality or language, and also the consolidation of the excellent relations already existing between the French horticulturists and their English brethren. The institution holds monthly meetings at which horticultural subjects are discussed, and eventually published in a bulletin issued annually. Although comparatively young, the Society possesses a library of gardening works in English as well as in French, and it affords its members opportunities of making good use of their spare time.

HORTICULTURAL CLUB.—The annual monthly dinner and *conversazione* took place on Tuesday, the 15th inst., and there was a good attendance of members. The chair was occupied by Mr. HARRY J. VEITCH, and there were present the Rev. W. Wilks, Rev. J. H. Pemberton, Messrs. H. J. Pearson, C. E. Shea, Selfe Leonard, Cockett, Mawley, C. E. Pearson, Munro, Webber, &c. The subject for discussion was "Rules for Judging," which was opened by the Secretary, and a long and very interesting discussion followed, in which nearly all those present took part.

Royal Horticultural Society of Ireland.—The annual meeting of the Royal Horticultural Society of Ireland was held on the 17th inst., in the Central Hall, Westmoreland Street, Dublin. In the unavoidable absence of Viscount Powerscourt, the chair was taken by Mr. William Findlater. The report presented by the Secretary (Mr. G. M. Ross), showed that the number of subscribing members to be 298, and the receipts from the exhibitions held during the year had increased by 18 per cent. Expression of regret was included that Mr. W. P. North, who had been long and honourably connected with the Society as Secretary, had felt compelled to resign the post through ill-health. A discussion then arose upon the average attendance at the shows of the Society, and miscellaneous suggestions were advanced in order to make them more attractive to the populace. Votes of thanks were passed in a very liberal manner to all who had in any way helped the Society during the year.

Shirley and District Gardeners' and Amateurs' Association—The monthly meeting of the above body was held at the Parish Room, Shirley, Southampton, on the 21st inst., Mr. B. Ladhams, F.R.H.S., presiding over a good attendance of the members. The lecture was supplied by the Hants County Council, the subject, "Hardy Fruit Culture," with special reference to diseases, being well handled by their lecturer, Mr. C. W. Herbert Greaves, F.R.H.S. Suitable soils, manuring, planting, root pruning, stocks, fungoid diseases, and destructive insects, were all referred to in turn. A discussion followed, especially with reference to the lecturer's remark, that canker is caused by the canker fungus, "Nectria ditissima." A hearty vote of thanks was accorded to the lecturer on the proposition of Mr. E. Molyneux. Some excellent Orchids were exhibited by Mr. W. Peel, gardener to Miss Todd, Shirley.

Brighton and Sussex Horticultural Society and Mutual Improvement Association.—At the annual meeting of this Society, held on the 17th inst., the report stated that three very successful exhibitions had been held during the year, and that financially there had been a gain during the year of £70. The balance in hand at the commencement of the year was £91 19*s.*, and at the close £162 0*s.* 10*d.* It was stated that the amount received in subscriptions during the year was a little below the amount in 1893. It was resolved that ladies be admitted to the privilege of membership, and much regret was expressed that Mr. Mark Longhurst could not continue the Secretaryship. Mr. J. S. Johnson was appointed Hon. Secretary, Mr. R. Miller as Assistant-Secretary and Collector, to whom in future all communications should be addressed; and any information may be obtained at the office of the Society, 56, Queen's Road, Brighton.

The People's Palace Horticultural Society, Mile End.—On the evening of the 19th inst., Colonel T. Halford Thompson, the Managing Director of the Jadoo Company, Teignmouth, Devon, gave an address to a large gathering of members on the merits of Jadoo fibre as a potting material for plants, having as illustratfons some three dozen growing plants, large and small, the bulk of them in clear-glass pots to show the free-rooting action made in the fibre. The chair was taken by Mr. Richard Dean. In dilating upon the virtues of this material, the lecturer contended that it contained all the elements required to develop a vigorous plant life; that it was light in bulk, clean, and being of a spongy nature it required less water than soil; that it gave robustness to growth, and size and colour to blossoms. As to its cost, it was contended that it was cheaper than good loam. Examples of Richardia æthiopica, Cinerarias, and Primulas, of strong growth and finely bloomed; Coleus, Cyclamen persicum, Cyperis, Polygala, zonal Pelargoniums, Narcissi, Ferns, Asparagus plumosus, Dracænas, Ophiopogon, &c., grown in the fibre, were passed round, and Colonel Thompson stated that no plant, out of the many he had tried, had failed to grow well in the fibre. The lecturer then laid down rules for potting plants in the fibre, and also for re-potting plants in it which had previously been in ordinary soil. At the close of a very interesting address, a number of questions were put to Colonel Thompson. Mr. Peter Veitch, of Messrs. R. Veitch & Son, Exeter, then detailed certain experiments he had made with the fibre, and heartily commended its use for potting purposes. The audience gathered about the plants, and appeared to be greatly interested in the examples of plant culture upon the table.

Edinburgh School of Rural Economy.—We have received the programme of the lectures to be delivered under the auspices of the Scottish Horticultural Association at the Royal Botanic Garden, Edinburgh, by Dr. Smith. The principal phenomena of plant life and their bearing on horticultural practice will be dealt with in lectures on successive Thursdays in January, February, and March, ending March 1. On March 14 and 21, Mr. James Grieve will lecture on hardy florist flowers; and on March 28 and April 4. American plants will be treated of by Mr. Hugh Fraser.

Fig. 15.—Richardias in the garden of Mr. Arderne, Cape Town. (see p 108)

AN EXCELLENT SPRAY OF PHALÆNOPSIS APHRODITE.—There was shown before the last meeting of the Royal Horticultural Society at Westminster, an excellent spray of Phalænopsis Aphrodite, but from some delay in the letter that should have accompanied the exhibit, it was not known by whom the spray was sent; we now hear that it was sent by Mr. G. W. EDEN, gardener to the Right Hon. the Earl of STRADBROKE, Henham Gardens, near Lowestoft, to whose exceptional success in the culture of Phalænopsis we have previously had occasion to refer. The spike in question bore fourteen fully-expanded flowers of good substance and fresh appearance.

ESSEX COUNTY COUNCIL. — The technical Instruction Committee is doing excellent service. Not only are lectures given at various centres, but at Chelmsford there is a well-equipped laboratory where the students are trained as well as taught in a manner which may well make those of us who were "lectured to" only rather envy the coming generation. The pupils are made to unravel the principles of vegetable anatomy and physiology for themselves, under the supervision of Mr. HOUSTON, and the work executed by the pupils is, as we can testify, fully equal to that done in advanced laboratories of the Universities. It is impossible to doubt but that the horticulture and agriculture of the future will be most beneficially influenced by this instruction. Under the head of *Biology Notes* is issued monthly a series of hints and suggestions for home study, as well as for practical work in the garden and the field.

EFFECT OF SNOW-STORMS AT POWERSCOURT.—The recent snow-storms have had a disastrous effect in the woods and pleasure grounds at Powerscourt. Splendid specimens of rare trees have, we learn, been utterly destroyed, one beautiful tree of Torrega myristica has been snapped off at 1 foot from the ground by the weight of snow. Thujas, Cupressus, and others are quite disfigured through loss of tops or side branches. Pinus insignis, of which there are some grand specimens on this estate, have suffered terribly. The Scotch Fir appears to have suffered most; many of them are stripped bare of branches, and resemble telegraph poles. Among shrubs the Arbutus have fared so badly that it has been necessary to prune them close to the ground. These shrubs ranged from 10 to 25 feet high. Evergreen Oaks also are fearfully mangled. Two fine old trees of Q ilex will have to be polled over. A fine plant of Q glabra is quite broken up; in fact, with a few exceptions, all the trees and shrubs are more or less spoiled. Imagine the altered appearance in the pleasure grounds when all prunings are cleared away. The fall of snow on the 11th and 12th inst. will long be remembered as very exceptional for these parts. Mr. CROMBIE, who furnishes the sad news, considers the fall of 10 inches during the night of the 12th did the mischief. The total fall for these two dates was about 26 inches. Of course, there was considerable drifting. The hardest frost registered for the year up to date being 10° on the night of the 9th.

A YEAR'S TRADE, 1894.—Ten years since—in 1885—we were in somewhat the same despondent mood as to-day—January, 1895. But trade took a turn, and we were never again going to be despondent. Many things improved with us, kept on improving until in the years 1889 90 we had reached the crest of that wave of prosperity; but the decline began, continuing until to-day, when, as we sincerely trust, there is to begin another ascent towards doing very well with our enormous capital of gold, and skilled workmen. Several agencies have been at work in causing and accentuating the falling off in trade—in a great reduction of profits—the Baring crash, war in South America, and the McKinlay Tariff in the North, the Melin Tariff in France, bank failures in Australia, political "tension" in Europe, the great coal strike at home, and other matters with which the reader is pretty well versed. The import and export trade of the country last year showed a gross value of £624,699,957 as against £622,783,043 in the preceding year. The imports for last year were in excess of those for 1893 by £3,817 540; whilst the exports showed a decrease of £1 900,626 compared with 1893. The figures recorded above show an enormous amount of activity, even under the conditions which contributed to curtailment, and though the great decrease in the value of food imports are often remarkable, the volume of these is also to be noted; hence the present cheapness of the 4-pound loaf, and of other things, upon which, to a great extent, depend the comfort and happiness of the toiling millions. It is worthy of note, that the value of live stock for food imported last year was in excess of that for 1893 by £2 747,092—this in the face of the imports of chilled meat from all round the globe. And here it is only right to give a summary-table of the year's imports of fruits, roots, and vegetables, as follows:—

IMPORTS.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	3,459,984	4,967,569	+1,507,585
Cherries ... ... ,,	346,148	310,785	—35,363
Plums ... ... ,,	777,142	777,411	+269
Pears ... ... ,,	915,212	1,309,114	+393,902
Grapes ... ... ,,	978,505	832,992	—145,513
Unenumerated ... ,,	1,079,794	1,300,273	+220,479
Onions ... ... ,,	4,671,809	5,288,512	+616,703
Potatos ... ... cwt.	2,828,125	2,703,803	—124,322
Vegetables, unenumerated ... ... value	£ 1,076,749	£ 1,090,355	£ +13,606

As the figures are given in our monthly 'Stock-taking," they excite much interest. Half-a-dozen lines from the enormous totals of other food-supplies for the twelvemonths will certainly enhance this feeling, and prove as well as figures can prove how great is the room for many thousands of allotment-farmers at getting quick and profitable returns from all the great centres of industry. The items we have selected in illustration are as follows:—

Bacon ... ... cwt.	3,716,603
Rabbits ... ... ,,	108,476
Butter ... ... ,,	2,576,053
Cheese ... ... ,,	2,263,287
Eggs ... ... gt. 10's	11,876,963
Poultry and Game ... ... value	£480,890

The passage of money from hand to hand, by cheque, may be used to illustrate the truth of the statement that the business done in the year that is gone was an active one. Thus the Bankers' Clearing House returns inform us that in London, in spite of all-round decline in the price of very many commodities, the total drawings last year fell off only £140 000 000 upon a total of some 6,337 millions sterling, or a decrease of a little over 2 per cent. Considering that prices have diminished nearly 10 per cent. within the year, this small reduction in the bulk of cheques speaks well for the volume of transactions. We do not care to add more to this. We have been, and are suffering because of the short-sightedness of others who, whether in America or in Europe, are surely learning their lesson. At home the condition of agriculture and market-gardening is drawing serious attention to the necessity for light railways and for canals—these in turn, when constructed or set about, will enlarge the demand for allotments; and so out of evil good must come, and the prospect all round be brightened.

POTATO PLANTING.—Mr. M. J. MORIARTY has published a leaflet on this subject, from which we extract the following:—"Potatos ought only to be got out in dry weather, and should be thoroughly dry before storing. The Potatos used for seed should not be let sprout, and for that reason should be turned occasionally; cut the sets some days before planting, and have them spread out on a dry cool floor; let there be some slacked lime shaken over them, just as much as will stick. Great care should be taken that the cut Potatos will not get frost-bitten. It is necessary the sets should be cut strong, leaving a good portion of the Potato for the eye to live on. The eyes on the top of the Potato should be alone used. If you use the other portion of the Potato for seed, you will always have gaps in your stalks, at least in the early Potatos. Do not be tempted to use small tubers as seed, because it is the law of nature that like will produce like. If your land is limestone, get your seed from brown stone land, or let them be peat grown, and *vice versâ*. It always pays to use imported seed. Before earthing up your Potatos for the second time, when the surface has been made quite fine by means of the furrow plough, scuffler and crusher, shake the following mixture over the fine surface in the furrow: 1½ cwt. of nitrate of soda, and 2½ cwt. of bone compound, which, if mixed well together, will be ample for a statute acre, the soil is then put up with the drill-plough. The kinds of Potato I would recommend to be used would be the Puritan for very early table use, which is certainly a month earlier than the well-known Flounder, which I would recommend for the main early crop. The Puritan should be planted close, 6 or 8 inches between the sets. My experience is that the Champion and Bruce are the best late kinds; the Champion does not keep well, and the Bruce is only in its prime when the Champion began to fail." A copy of Mr. MORIARTY'S leaflet will be sent free on receipt of a stamped and directed envelope. Address, Mr. MORIARTY, Agricultural Expert, Mallow, Ireland.

WORLD'S FAIR AT AMSTERDAM.—At the World's Fair at Amsterdam this year there will be a permanent horticultural exhibition. Four special shows will take place:—(*a*), One of Roses, at the end of June and beginning of July, the date is not settled yet; and (*b*), at the same time, one for early fruits. The second special show will be in the end of July. There will be chiefly—Pelargoniums, Fuchsias, Resedas, Heliotrope, Coleus, Begonias (Rex variety), &c. In the middle of September there will be a special show of tuberous Begonias and room plants. The last show will take place the second half of October, and will consist of fruits and vegetables. An international Chrysanthemum exhibition at the same place in November is under consideration. Mr. P. R. GALESLOOT, nurseryman, at Amsterdam, will give all information wanted.

MR. C. Y. MICHIE.—We are entitled to feel much satisfaction in announcing that our old correspondent, Mr. C. Y. MICHIE, to whose contributions on Forestry our readers owe so much, has been the recipient of a well-merited "tribute of true friendship." Mr. MICHIE has been forester on the Seafield estates for nearly thirty years. During that period he has done much to diffuse a knowledge of the principles and practice of his art, so that his good work extends far beyond the limits of Banffshire. Foresters trained by him are widely scattered, but unanimous in their feeling of respect for their old teacher. His neighbours esteem him both for his ready help and his efforts to do good. In him the temperance cause has a powerful advocate; and whenever there is a chance of helping the young, the struggling, or the needy, MICHIE is to the fore. Some of this we knew before, the rest is told in the proceedings of the presentation as recorded in the *Banffshire Journal*. The presentation consisted of a handsome writing-table and a purse of sovereigns, which was made on the 9th inst., at Cullen, by Provost GREGOR, in company with many friends. In the course of his reply, Mr. MICHIE remarked that the Seafield family are the largest proprietors of woodland and the largest planters in the kingdom. JOHN CHARLES, seventh Earl of Seafield, planted in his time no fewer than sixty million trees, and the woodlands cover 70,000 acres. It became necessary to have a man competent to do his part in regard to forestry, and it would have looked extraordinary if Mr. MICHIE had not been competent for the forestry department. Mr. ROBERT M'RAE has been foreman for many years, and in that department the man is as good as his master."

ROYAL BOTANIC SOCIETY OF MANCHESTER.—The council of the above society have resolved to

hold a great exhibition of Lilies in the gardens at Old Trafford, to open on the first Monday in August (Bank Holiday). This being the first special exhibition devoted to the Lily, it is expected that a very great interest will be excited. It is respectfully requested that all interested in so important a floricultural exhibition will communicate without delay with Mr. BRUCE FINDLAY, Royal Botanic Gardens, Manchester.

ANNUAL MEETING OF THE WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—A meeting was held on Thursday, the 17th inst., at the Mechanics' Institute, Mr. RAE in the chair. The annual report was read by Mr. W. DISLEY, secretary, which included "the thanks of the members to the essayists who had contributed papers during the

FIG. 16.—CYPRIPEDIUM MRS. F. HARDY: WHITE, WITH DARK PURPLE BLOTCHES.

(Shown by Messrs. F. Sander & Co. before the last Meeting of the Royal Horticultural Society, and described in our last issue, on p. 81.)

year." The autumn session opened with an exhibition of plants, flowers, fruits, and vegetables, which proved highly instructive and entertaining. The proceeds of the show were devoted to the Woolton Convalescent Institution, Mr. W. H. TATE, J.P., Treasurer of the Institution, acknowledged the warmest thanks of the Council for the gift of £10. The library has received an addition of 11 volumes, bringing the total up to 78 volumes. The treasurer, Mr. R. G. WATERMAN, submitted his financial statement as follows:—Total income from all sources, £48 13*s* 11*d*. Expenditure—prizes (in kind) and expenses of exhibition, £32 8*s*. 5*d*.; donation to convalescent institution, £10; books and printing, £3 16*s*. 4*d*., leaving a balance in treasurer's hands of £2 9*s*. 2*d*. The open essays had been submitted to Mr. BAILLIE (Messrs. DICKSONS), Chester, and Mr. BARNES, Eaton Hall, who made the following awards:—1, "Soils and their Treatment," Mr. R. G. WATERMAN; 2, "Exhibition Roses and their Culture," Mr. R. G. WATERMAN; 3, "A Plea for the Iris," Mr. H. CORLETT. Mr. WATERMAN received the first prize of 1½ guineas; Mr. CORLETT the second prize, half-a-guinea. Six competitions were sent in essays. The officers for the ensuing year were elected as follows:—Treasurer, Mr. R. G. WATERMAN, re-elected; Secretary, Mr. G. H. WEBSTER, Woolton; Librarian, Mr. D. MCKELVIE, Druid's Cross. A vote of thanks to the officers for their past services concluded the business.

CAUSES OF FAILURE IN LILIUM AURATUM.—A writer in *Garden and Forest* for the 9th inst., in his remarks on the cultivation of various species of Lilies, alludes to the oft-experienced circumstance of a L. auratum bulb flowering but once after being planted. This, he says, is as much owing to the manner of planting as to anything; if the bulb is perfectly free from rot, the soil well dug and enriched to a good depth beneath it, and nothing but sand and loam is allowed to come in contact with it, a good root-growth at its base is ordinarily assured. When this is the case, the plant will not bloom the second year, but will produce much larger flowers, and the bulb itself will increase in size. I have seen bulbs which produced good stalks and flowers whose root-growth beneath the bulb was almost nothing. Above the bulb was a dense growth of roots from the surface of the ground to the bulb, and these sustained the stalk and flowers. The bulb, however, degenerated instead of improving, and would not bloom the second year. Not only should the soil be enriched below the bulbs, but the surface should also be well fertilised, in order to feed the many roots along the stem above the bulbs. It is surprising what an enormous root-growth one of these healthy bulbs will make if properly set and attended to with extra care.

ALPINE PLANTS.—A correspondent who has been passing some time in Switzerland lately, tells us that he found a considerable quantity of Polygala chamæbuxus in full bloom amid the snow and ice, near the upper limit of the Spruce Firs (6,000 to 7,000 ft., perhaps). Wild Strawberries were also in bud.

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL ASSOCIATION.—The members of this Association held their first meeting for the year in the Christian Institute, Aberdeen, on Wednesday evening, 16th inst., Mr. MONRO, Polmuir Nurseries, in the chair. After the usual preliminary business had been gone through, the chairman introduced Dr. G. G. MACDONALD, who delivered a long and interesting lecture on "The Anatomy and Physiology of the Honey-bee, and its Relation to Horticulture." At the close of the lecture, the chairman said it was a matter of wonder that so few gardeners interested themselves in and increased their incomes by bee-keeping. Several questions bearing on the lecture were then put to, and satisfactorily answered by, the lecturer, after which cordial votes of thanks were awarded Dr. MACDONALD.

MR. COLVILE BROWNE.—This gentleman having severed his connection with the Horticultural College at Swanley, states that his address for the present is 2, Plantation Cottages, Hextable, Swanley, Kent.

TORQUAY DISTRICT GARDENERS' ASSOCIATION.—On the 18th inst., a paper was read before this Society on "How to Keep a Conservatory Gay all the Year round," by Mr. HODGES.

THE WILD LETTUCE.—Lactuca scariola is a rare plant in Britain, or at any rate, not abundant enough to be a nuisance to the farmer. It is so much otherwise in some parts of the United States that Dr. ARTHUR the Botanist of the Purdue University Station (Indiana), has issued a bulletin dealing with the history and appearance of the weed. Extermination is pronounced impracticable, but subjugation by timely mowing and uprooting, so that the seed cannot be ripened, can be done, and it is considered that this should be enforced on dilatory farmers by legal compulsion. The plant has a curious habit of twisting its stem-leaves into a vertical position, with the margins directed north and south. The garden Lettuce, according to Professor ARTHUR, manifests a similar polarity in a less well-marked extent. The explanation given is that the construction of the leaf necessitates an equal amount of light upon the two surfaces.

SUICIDE OF A NURSERYMAN.—On the 18th inst., Mr. DAVID ROBERTSON, nurseryman, of Helensburgh, N.B., committed suicide in his own house. Ill-health is supposed to have been the cause. Mr. ROBERTSON was a frequent exhibitor of Roses in Scotland.

ARUM MACULATUM.—Mr. WORTHINGTON SMITH asks if it has been noticed that the spathes of this plant at the time of flowering are so turned that the open portion faces the dark side of the hedge, whilst the convex back of the spathe faces the light?

LINNEAN SOCIETY.—On the occasion of the meeting held on Thursday, January 17, Mr. C. B. CLARKE, F.R.S., President, in the chair, Surgeon-Capt. J. H. WALSH and Messrs. S. DUNN, J. P. HILL D. HOOPER V. O'RELL, W. B. STONHAM, and J. WILSHIRE were elected Fellows. A paper was then read by Mr. I. H BURKILL on "Variations in the Number of Stamens and Carpels." Of Stellaria media about 5700 flowers were examined, showing that, towards the end of the life of the plant, the number of stamens becomes

reduced. Ranunculus Ficaria (nearly 800 flowers) showed that towards the end of the flowering period, both stamens and carpels become reduced in number without their proportions being changed. Smaller numbers were examined of Caltha palustris, Ranunculus arvensis, R. bulbosus, Thalictrum flavum, Bocconia cordata, Prunus Padus, P. lauro-cerasus, Cratægus Oxycantha, Rosa carima, Quercus Ilex, and Sagittaria montevidensis, all of which showed, either in carpels or in stamens, a reduction in number towards the end of the flowering period. Of other influences besides age which affect the number of parts, temperature might be one, but nothing could be safely assumed. Of a kindred nature was a paper by Mr. A. G. TANSLEY and Miss E. DALE, on "Variation in the Floral Symmetry of Potentilla tormentilla, Necker." This paper, of which Mr. TANSLEY gave an abstract, was mainly a record of variation tending to alter the normal tetramerous actinomorphic symmetry of this flower. From his observations, it appeared that independent variations of the epicalyx is considerable, but is probably mainly due to a tendency of its segments to revert to a primitively double condition. The residual independent variation is small, and roughly equal to that of the calyx and corolla. The number of stamens is more variable, and the carpels extremely so. Correlated variation of all the whorls is frequent, and produces deviating types of symmetry in about 3 per cent. of the flowers examined. The series of groups into which the various deviating types might be said to fall, illustrated the shifting of the centre of variation from the pentamerous type of allied flowers to the tetramerous type of P. Tormentilla. A discussion followed, in which the President, Mr. H. N. RIDLEY, and others, took part, and Mr. TANSLEY replied to the criticisms offered. The meeting then adjourned to February 7.

PUBLICATIONS RECEIVED.—The *Garden Oracle*, published at the *Gardeners' Magazine* office, is an excellent little manual for the desk of the horticulturist, containing full lists of the plants of the year 1894, selections of the best vegetables, chapters on insect pests, &c.—*A Popular Treatise on the Physiology of Plants, for the Use of Gardeners, &c*, by Dr. PAUL SORAUER, translated by F. G. WEISS (LONGMANS & Co.). This will demand further notice at an early date.—*Transactions of the Royal Scottish Arboricultural Society*, contains, among other things, Prof. BALFOUR'S Address on Forestry at the British Association, and an account of the instructive and enjoyable excursion of the Society to Strathspey, Moray, and Banffshire, in August last.—*The Culture of Vegetables and Flowers, &c*, by SUTTON & SONS, Reading, sixth edition. An excellent handbook for the kitchen-garden and for the flower-garden, as evidenced by its repeated issue. It is published by SIMPKIN, MARSHALL & Co.—*A Monograph of the Mycetozoa*, by ARTHUR LISTER (British Museum Natural History, Cromwell Road). A very important treatise, which will be noticed at greater length on another occasion.—*Webster's Practical Forestry* (WILLIAM RIDER & SON), appears in a second edition, a proof of its utility as a popular handbook.—*New York Agricultural Station*, Twelfth Annual Report, 1894. The horticultural portion comprises reports of trials and experiments in hybridising various vegetables and fruits, experiments for the prevention of Pear-scale, black-knot, leaf-blight, Celery disease, &c.

PLANT PORTRAITS.

ALTHÆA FICIFOLIA, tall hardy biennial or perennial, flowers pale straw-coloured. *Garden*, January 12.

ARISTOLOCHIA ARBOREA, *Revue Horticole*, Jan. 16, p. 36.

CHRYSANTHEMUM MADAME CLEMENT SERVAIS. A seedling raised from Japanese seed by M. Fierens, fl. double white, plant dwarf, mid season.

COREOPSIS GRANDIFLORA, *Garden*, January 5.

ECHINOCYSTIS LOBATA, *Revue Horticole*, p. 9, January 1.

HIERACIUM VILLOSUM, *Garden*, Dec. 29.

LATHYRUS PUBESCENS, Hook. and Arnott. A climber; stems angular; leaves unequally pinnate, downy like the stem; pinnæ lanceolate, terminal ones developed as tendrils; flowers pale violet, in dense, stalked racemes. Introduced from Uruguay by M. Ed. André; hardy in the south of France.

PHYLLOCACTUS SOUVENIR DU PRESIDENT CARNOT, *Revue Horticole*, January 1.

PINK, LADY WANTAGE, a white variety of good substance and form. *Illustration Horticole*, t. xxiv., 1894.

STREPTOCARPUS DYERI ×, a cross between S. Dunnii and S. Wendlandi. *Garden and Forest*, January 2.

AMERICAN NOTES.

(*From Our Own Correspondent.*)

THE TARIFF ON IMPORTED PLANTS.

THE question of the tariff has agitated the horticultural community of this country. Certain plants are liable to duty, while others are entered free, according to the chief use to which they are put; at least, that is the idea which underlies the matter. The Tariff bill of 1894 practically reversed the duty on the classes from what it was under the previous Act. There had been many appeals as to the rulings of the Customs House, and under the new Act fresh rulings were necessary. The matter was chaos, and with a view to shedding light on it, the New York Florists' Club appointed a committee to attend to the matter. This body waited on the authorities on the 8th inst., and has drawn up the following letter. It will interest the European trade to know how the matter stands. There seems no doubt but that the suggestions here offered will be accepted:—

"New York, January 8, 1895.

"Hon. Walter H. Bunn, U.S. Appraiser,
Chairman Conference of Customs Appraisers,
New York City.

"Dear Sir,—Agreeably to your request at the hearing courteously given our committee this morning, we beg to transmit herewith copies of the classified lists which cover the bulk of imported plants—marked Class A and Class B—referred to and submitted at that time.

We also respectfully submit the following brief statement of facts in reference thereto.

At a well-attended meeting of the New York Florists' Club on the 10th ult., after a full discussion, the following resolution was unanimously adopted:—

'Resolved: That a committee of three be appointed by the President, with power to simplify, if possible, the classification at the Customs-house of all imported plants, in order that such as are entitled to free entry under the law be thus passed, and such as are dutiable required to pay duty uniformly in all cases.'

That there should be some correct basis of classification of this material, at once uniform and applicable to all cases, is, we believe, generally conceded. Indeed, it is manifest that no greater injustice can occur than to have importers paying duty on one class of material at one time or place, and others at other times or places obtaining similar goods under free entry.

In the preparation and presentment of the following lists, it has not been our intention or object to consider the question as to whether duty upon the items mentioned would benefit or injure parties in the trade or elsewhere, but the simple question of correct classification.

We have also had under careful consideration the various decisions of the Board of United States General Appraisers here during the past four years, and believe the position they have repeatedly held, as stated in these decisions, viz., that the 'chief use' of the material should determine the question of duty (as appears clearly provided in the law) is the correct one, and that this position must be approved by every fair-minded person conversant with the subject. . . . .

Clause 587, free list of the present law, appears to be clear and explicit, that such material as is grown as nursery stock, and chiefly used for outside planting, should be thus classified and entitled to free entry; while Clause 234 1-2 is equally clear that such plants should be dutiable as are chiefly 'used for forcing under glass for cut flowers or decorative purposes,' as mentioned in the Act. With this view, the question of classification is simplified, and the distinction can be readily and easily drawn as to the chief use of the material, as in the lists submitted.

Orchids and Palms are almost invariably used for forcing under glass for decorative purposes, and there can, therefore, be no question as to classification of these. Lily of the Valley pips are universally used for forcing, and must be thus classified, while Lily of the Valley clumps are 'nursery stock always, invariably grown in the open ground, thus permanently planted, hence cannot be classed 'for forcing under glass' any more than an Oak or a Pine, or any other hardy plant or tree of that character.

The difference between the hardy nursery-grown Azaleas—Ghents, Mollis, &c., in 'Class A,' and the Indica species in 'Class B.' of forcing plants, is equally distinct. The former are almost exclusively used for outside permanent planting, and are neither grown nor used for forcing, while the latter are invariably thus used. The difference between these hardy nursery-grown species and the forcing species (the Indicas) is readily determined upon examination. The hardy Azaleas are mainly deciduous, while the Indicas are evergreen, always with foliage, and can be thus classified and readily distinguished in this way.

The mention in clause 234 1-2 of the four families of plants, 'Orchids, Lily of the Valley, Azaleas, Palms,' evidently refers to a class of plants as an illustration; for 'other plants used for forcing' purposes are with equal clearness specified.

This is a conjunctive sentence; not collateral or conditional, but apparently positive and arbitrary in providing that the plants referred to must be used for a distinctly specified purpose—that of 'forcing under glass,' &c., and if not thus used should not come under its provisions.

The term 'other plants' has a much wider significance than the four plant families named, and it would seem, therefore, that the use of the material should determine in all cases the classification, rather than the name.

It is the unanimous opinion of all we have conferred with that both Azaleas and Lily of the Valley should be in both classes, according to the use of the species, &c., as above stated.

While Roses to some extent are grown for forcing, a very large part of the Roses imported have been propagated and grown as nursery stock on the other side, and are not chiefly used for growing under glass for cut flowers or decorative purposes here.

Standard Roses are invariably nursery stock, and the proportionate quantity of the other Roses imported that are used for forcing is so small, there is no question, we believe, but that Roses might all be classed as 'nursery stock;' first, on account of the chief use being for outside planting; and, secondly, that, unlike Azaleas and Lily of the Valley, the difficulty of classifying the comparatively few that might be for forcing would make it next to impossible to enforce any uniform system of collecting duty on these plants.

The aggregate number of Tea and Noisette Roses imported is infinitesimal compared with the quantity of the hardy kinds, such as Hybrid Perpetuals, Manettis, Rugosas, &c., in Class A. Both Teas and Noisettes are hardy south of Washington, and are grown and used in the south and in California as outside plants the same as other nursery material.

In conclusion, we beg to say we have every confidence that it is your desire, as also that of your *confrères*, to arrive at just and equitable conclusions in your interpretation of the law; and as it has been the desire of this Committee, and the organization we have the honour to represent, to take up the subject in a like spirit, we submit these facts

your deliberation, confident that the matter will have due consideration at your hands, and that your conclusions will be acceptable to all.

Respectfully submitted,

Fredk. W. Kelsey, Chairman, 145, Broadway, N.Y.; A. T. De La Mare, 170, Fulton Street, N.Y.; E. A. Asmus, Jun., Short Hills, N.J.—Special Committee New York Florists' Club.

Patrick O'Mara, President, N. Y. Florists' Club, 35, Cortlandt Street, N.Y."

Class A.—The following plants, trees, shrubs, and Vines of all kinds are generally grown and used as nursery stock, principally for planting in the open ground, and are not chiefly "used for forcing under glass for cut flowers or decorative purposes:"

Aconitum autumnale
Althæa
Ampelopsis Veitchii
Andromeda
Anemone fulgens
Anthericum Liliastrum
Aristolochia
Aucuba, green-leaved kinds (other than japonica)
Azaleas: the species known as Amœna, Ghent, Mollis, Nudiflora, and Pontica
Begonias, Tuberous
Black Hamburg Grape Vines, and other fruiting Vines and trees
Calycanthus
Cannas
Cactus
Chrysanthemum
Clematis
Cornus mascula
Cratægus
Cytisus or Laburnum
Daphne Cneorum
Delphinium (Larkspur)
Deutzia
Dielytra spectabilis (Dicentra)
Doronicum
Forsythia
Gaillardia
Hemerocallis
Helleborus niger (Christmas Rose)
Hollyhock
Hydrangea
Iris (all species)
Kalmia latifolia
Lily of the Valley, clumps
Lilacs: except the varieties Charles X., Marie La Graye, and Rubra de Marly, pot-grown
Lychnis
Magnolia
Mahonia
Manetti stock
Multiflora Rose stock
Pæonia
Philadelphus (Mock Orange)
Pinks, hardy
Primula (except the species known as P. sinensis and P obconica)
Ptelea
Pyrethrum
Rhododendron
Roses: Moss, Hybrid Perpetual, Hybrid Remontant, rugosa, &c.; all classes except Tea and Noisette
Snowball (Viburnum)
Spiræas, except Astilbe japonica
Staphylea colchica
Tarragon-plant (Artemisia dracunculus)
Weeping trees
Weigela
Wistaria
Yucca
All deciduous trees: Maple (Acer), Elm (Ulmus), Linden (Tilia), Horse Chestnut (Æsculus), &c.
All Evergreen trees: Spruce (Abies), Arbor-vitæ (Thuya), &c.

Class B.—The following—"Orchids, Lily of the Valley, Palms, and other plants"—are chiefly "used for forcing under glass for cut flowers or decorative purposes," and are not used to any appreciable extent as nursery stock for hardy outside planting:—

Araucaria excelsa
Aucuba japonica
Azalea indica
Camellia
Carnations, monthly (Dianthus caryophyllus)
Cycas
Dracæna canes
Erica
Ferns
Lapageria
Laurus nobilis
Lily of the Valley pips
Marguerite (Chrysanthemum frutescens)
Orchids: all, such as Cypripediums, Cattleyas, Lælias, Odontoglossums, Dendrobiums, Oncidiums, Phalænopsis, Vandas, &c.
Palms: all, such as Kentias, Latanias, Seaforthias, Arecas, Cocos, Phœnix, Chamærops, Raphis, &c.
Primula sinensis and P. obconica
Roses: Tea and Noisette classes
Vallota purpurea
Lilacs: Charles X., Marie La Graye and Rubra de Marly, pot grown
Spiræa japonica (Astilbe japonica)

TOWN MOOR PLANTING, NEWCASTLE-ON-TYNE.

The Town Moor is a favourite resort at all seasons for Novocastrians, because of its extent, and the various amusements indulged in thereon. At one time it was considerably more than 1000 acres, but from that has been taken the Leazes Park, already described, and the Nun's Moor Park, besides the allotment gardens and the recreation grounds, upon which generally the periodical horticultural shows are now held. It belongs to the Freemen of Newcastle, who have certain powers of sale and of let, which they take advantage of as circumstances crop up. The Corporation have also a "finger in the pie," and they detail off certain duties to what is called the "Town Moor Management Committee." The heaviest duties imposed upon them in recent years have been the planting and fencing in a strip of 30 feet round the margin of the Moor. The reader can easily get at the mileage covered when we state that 24½ acres of ground at the above width have been planted within two years. Corporations dealing with rates have to exercise caution in expenditure, and the scheme of planting, when first mooted, was to be carried over for twenty years, at an annual cost of some £400 a year, half to be paid by the Corporation, and half by the Freemen. The force of circumstances broke through this arrangement, because of the clamour in the City to give work to the unemployed. It was proposed by Mr. Joseph Baxter Ellis, the Chairman of the Town Moor Management, to borrow £8000, and proceed with the work, not piecemeal, but right off. The result is much more satisfactory, because strips of plantation, on a twenty years' run from beginning to end, have not the appearance in a great space of this kind, covering a little over 900 acres, that planting right off has even in the rim of the great open space.

But for labour for the unemployed, the scheme would not have been carried out. The land is generally in excellent condition, having a good tilth of quite 18 inches, and there were little difficulties in the way of trenching it—no more, in fact, than in good ordinary pasture land. Several gangs, numbering one hundred or so, were told off, one set to work three days a week, and the other set the remaining three days, for which labour each man received 3*s.* per day, or rather more, for in order to make the Monday, Tuesday, and Wednesday men the same as those who had the Saturday half-holiday, the Wednesday men stopped at twelve o'clock. All these unfortunately were impractical men, quite unaccustomed to handle a spade, and although they were well enough coached by the practical "gangers," their average day's work was the turning over, and that too very imperfectly, some six square yards of ground per day of about eight and a half hours. This practically meant trenching at a cost of 6¼*d.* per square yard, and the trenching only 16 inches deep. The practical man knows that this is really about the value, and in many cases more than the value of the ground itself, and shows what corporations are forced to do now-a-days to satisfy their constituents.

In 1892—93 the cost of the work was about 2½*d.*, upon the report and authority of the Vice-Chairman, Councillor George Harkus (whose courtesy and attention I have to acknowledge), which, although high, was not an unfair price, but what with agitators and non-ability men to work, it rose to 6¼*d.* in 1893—94. It is a lesson to all corporations to adopt working by the piece, in this instance at say 2½*d.* per square yard, thus enabling handy-men to earn something like a fair day's wage, and an inducement to unhandy men to work deftly.

As to the planting itself, it was let out by contract, the Messrs. Robson and the Messrs. Fell, both Hexham firms, having slices of it to do in nearly equal proportions. The principal trees are the Great Maple, commonly called Sycamore, and the Lime. These are larger in size, and are meant to form a sort of double avenue as the visitor or traveller walks or trams from Newcastle to Gosforth. These being the chief trees, they are stayed in triangular fashion with galvanised wire attached to posts driven into the ground, and wrapped round the bole of the tree itself, forming, of course, the apex of the triangle. The wires, instead of being attached to a piece of cloth, as in the ordinary way, are clipped in through half-inch diameter india-rubber tubing. This is a capital idea, which all planters would do well to follow, as it saves abrading the tree bole, permits circulation, and expands as the bole thickens. A meed of praise is due to Mr. Moffatt, the park superintendent, for putting the rubber into use in this way. [A similar plan has long been in use at Kew.] Geo. McLellan & Co., of Newcastle, supplied it, and the cost per tree, we understand, is comparatively trifling. The other trees are planted as nurses about every 5 feet or less, and although they will not bear the same crucial investigation as the trees intended to be permanent, they are a fair sample of mixed deciduous "stuff." The Limes are particularly good, and if they get along, they are bound to tell. The Sycamore evidently does best as an all-round tree in this district, only it is suffering in the neighbourhood of Elswick, where sulphur fumes abound. The Moor suffers most from wind, and the north-east winds of spring are very trying even for people walking about or around it. There are a few Wych Elms left which have been planted towards the lower end, or more properly speaking, in the Recreation Grounds, but no one need expect the strongest of the tree family to grow high. The winds keep them down by brushing along, and leaving their marks along the top. We should have liked to have seen a little of evergreen life introduced in these fresh plantations, particularly along the Gosforth Road. Seven months of bareness is rather too much, and if there were some of the cheaper Rhododendrons, some Aucubas, some Tree Ivies, some Hollies, some Cotoneasters, specially Simonsii, with beautiful berries, there would have been what landscape men call a little more warmth about the group. True, we know that pilferers might attempt to vandalise, but the substantial fence on the one hand, and the open surroundings on the other, are good barriers to destructive work; whilst the Thorns, the Rowans, and Lilacs and Spiræas, and even Service Trees, are open to the same objection, but they are plentifully distributed here, and will form excellent lower-level plants if only the permanent trees will go on and prosper.

Such a mileage of strip necessitates fencing in on both sides, and it is a very costly affair. Nearly the same expense would have fenced in a much wider belting, as both Lord Armstrong and Sir Matthew White Ridley suggested; but if the trees get upwards in a fair way, the nurses will be sufficient for them in the lower levels. This "military" fencing appears strong, and is likely to be durable. It it white Pine, well creosoted, of triangular outline, the sharp side of the triangle facing the exterior, and the tops chamfered down inwards. It is neat, and being about 4½ to 5 feet high, is a sufficient fence against either man or beast.

The Recreation Ground,

although really a portion of the Town Moor, is independently enclosed for purposes of charges when gala days such as exhibitions of any kind are on. It is 35 acres in extent and is in juxtaposition to the town outskirts. A band-stand of imposing appearance greets the eye from the roadside, and there are several ornamental beds and groups of plants surrounding it, separated by broad gravel promenades. There is a little lake, too, within it which brings in a certain amount in good seasons—altogether it is a snug corner division of the Moor, and will be the first to profit by the recent plantations from its lower lying position and its greater adaptability for encouraging tree life. While the expenditure for the year 1893 was £165 14*s.* 10*d.*, its income from such sources as indicated above was £114 13*s.* 4*d.* All this too and open to the public for promenading, and hearing bands play free of charge.

Nuns Moor Recreation-ground.

This is at the extreme end of the Moor, and as there is a great number of workmen's houses building in that direction it is much frequented. The Town Moor Management Committee have furnished this with a considerable variety of trees and shrubs, more particularly towards the crowd of houses; and, although the chemical fumes are distributed here pretty freely, there is a fair amount of success. It is not fully laid out yet, a great portion of the 25 acres which it covers being set apart for runs for boys and girls, and also for quoiting, a game that obtains a big hold of the Northumbrian. Bowling-greens are good here, and largely patronised. The keeping up of this class of turf is an expensive job, although it is only selected turf of the best that can be got, and in some cases is sown-down pasturage. In climates of this kind, and about towns, where the same care is not taken as in the case of private bowling-greens with a guinea entrance-fee, and a guinea subscription, we are of opinion that properly sown-down squares, of 42 yards each way, the standard size for

bowling-greens, with Perennial Rye-grass, is about the most economical and the most effective in the end. Gymnasiums form capital resorts and afford capital exercise for both boys and girls. A few more clumps of trees and shrubs about the open spaces are much needed, keeping off, of course, the football-ground. Footballers in their eager anxiety for the game have no consideration for the conservation of either trees, shrubs, or flowers, and all places of that kind should have a wide berth from any dress grounds. There are shelters and band-stands, and other conveniences ample for the district. In summer the borders are kept gay with flowers at no great cost. There is nothing evidently that suits a town climate better than Carnations, Auriculas, and Irises. They all thrive when other plants sicken off and die. Rhododendrons and Hollies do fairly well, but many of the Evergreens, such as Aucubas, Cotoneasters, Bays, and Laurels, are browned beyond all previous years to such an extent as to look as if they were useless—however, spring will revive them again.

THE ALLOTMENT GARDENS

are a portion of the Moor, but have been leased by a company, one of the most active members of whom is Councillor Beattie. These allotment gardens have hitherto been greedily sought after at a price, and upon the whole have payed the allottees with their vegetables and other things which they have cultivated in times past. The allotment committee have to fence in what they purchase; but notwithstanding all this, they are enabled to let off the ground on such terms as come within a working-man's income. The dulness of trade has damped the ardour of many who were only too anxious to have a pastime of this kind to indulge in after the hours of work, so that in the meantime there is less demand; but the cessation is likely to be only temporary. The system here is to parcel out the holdings in divisions of ten to the imperial acre, which is a manageable size. In other districts another committee is anticipating the Agricultural Holdings Act, by buying ground four miles out of town and letting it, or rather selling it right off in small or large quantities to suit all parties, even to the extent of going beyond the famous "three acres," and some tenants graze a portion of their holdings. The sale price is between £35 and £40, a very reasonable workable figure for good land, and with help on the mortgaging principle, tenants are going along well. This system of allotment, however, is more for those who make allotment-producers pay a day's wage and something over; the other on the Town Moor is pastime, and every encouragement seems to be given to provident people to add to their creature comforts, by sound, good fresh vegetables and fruits in their season. *Viator.*

HOME CORRESPONDENCE.

ADIANTUM CAPILLUS-VENERIS VAR. GRANDE.—Calling at the Lily Nursery, Dersingham, this week, I was again pleased to see the above Fern in quantity, and in fine condition. This dwarf variety, which was described in the *Gardeners' Chronicle*, Jan. 24, 1886, by the late Mr. T. Moore, only requires to be seen to be admired. Being one of the first to recognise its value, I am now at this date much gratified to see it still holds its own as a decorative plant. I might lay claim to being its first discoverer, as I do not think it was particularly marked when in its first stage by the raiser, Mr. T. Jannock. It is well adapted for a cool greenhouse, and in pans or shallow pots it will, under ordinary culture, quickly make a good plant. For immediate effect, three small plants placed in a 6-inch pan soon become useful. I probably like it better than most Adiantums because of its hardiness, and the bold character of its habits. In the winter months, damping of the foliage should be avoided, as owing to its thick growth it thereby gets discoloured. For filling vases, &c., it will be found a very useful plant, not resenting rough usage; it is also good for cutting, the very small fronds being nice for associating with flowers in button-hole bouquets. *Stephen Castle.*

GRAPES, AND WHY THEY SHANK.—Wherever I have known Grapes to shank, the borders in which they were planted were in bad condition. I have examined borders which have been 4 and 5 feet deep, and in some instances where I have lifted Vines, the bottom of the Vine, where the root sprang out, has been nearly 3 feet below the surface of the border. Some of our present planters may look upon this as being very absurd, but it is nevertheless a fact. Again, these deep borders were made, and the planters of them seem to have taken no consideration whatever as to the character of the soil they were using. In some borders I have found the roots of the Vines right under the drainage, and they have again come towards the surface, some distance away from the border. The result of this was, that the roots were without any fibre, except at the extremities, and they had become almost useless. In all cases that I know where Grapes have shanked or were deficient in colour, it has been the fault of the border and not of the atmosphere. I have seen Grapes which were a bad colour and of poor flavour, but did not shank. The reason of this was that the roots were in a clayey soil, which had lost all its fibre and become putty-like through excessive watering and bad drainage. Again, how very rarely we see the constitution of any particular Grape taken into consideration; the roots are allowed to run together in the same border, although some varieties grow stronger than others, and they differ in the amount of water and feeding they require. Three Muscats of Alexandria were treated as above in January, and the worst one died, but the other two each carried five medium-sized bunches of fruit, which ripened off large berries, and not a shanked one in them. *J. Lunn, The Gardens, Melchet Court.*

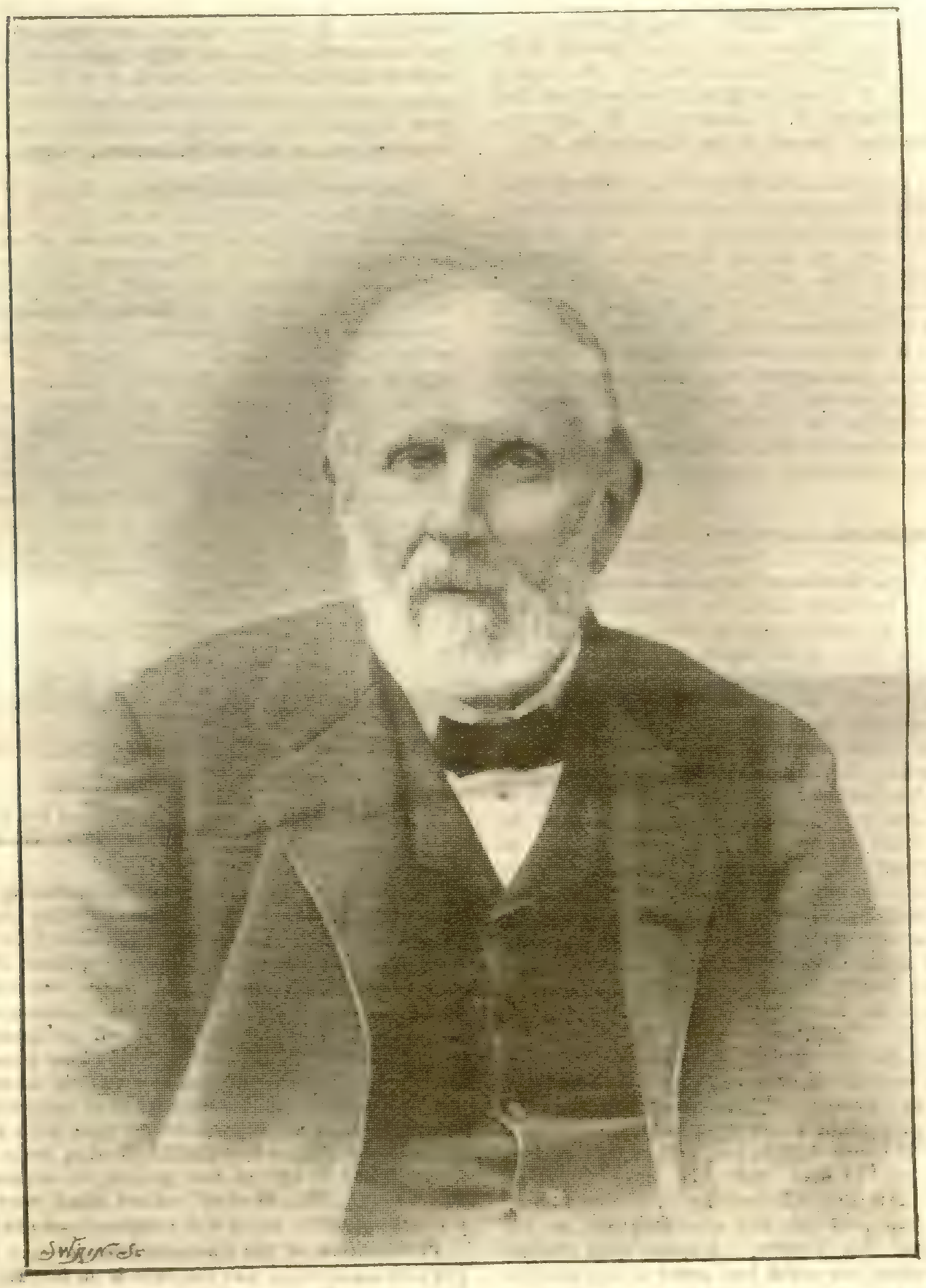
STONECROPS AND SEDUMS.—These species of plants are very suitable for setting on those narrow window-ledges that are not well adapted for pot plants. It is very seldom that they are so used, but they are very pretty, and always more or less showy. With the many hardy species now available, and their pleasing variety, I wonder more persons in towns do not follow up the hint which we often see given by cottagers in the country, with their patches of Sedum acre and Houseleek on the roofs of outhouses. These plants have no more root-hold on the roof than what is afforded by the natural deposits of dirt, yet they are always healthy, and possess a certain kind of beauty. I lately saw two back windows that were made showy by the use of Stonecrops and Sedums. A very little cement had been used to fix a few small pieces of tile, clinker, and sandstone near the edge of the window-ledge; inside of this a little soil had been placed, and other pieces of stone laid about. Several forms of Stonecrops were used, and while some hung over about 12 to 15 inches, the remainder filled the ledge, making the whole one of the most unique window-ledges I had seen. I certainly intend to follow out the same idea, and as the plants need but little attention, and some species afford presentable flowers, there is no reason why others should not cultivate them, especially in town districts, where other kinds of plants are less easy to manage. *A. P.* [To the above, Mesembryanthemums of certain species should be added, for although not quite hardy except close to the sea in southern and western counties, they are plants which are very easily wintered. Perhaps some of our correspondents will kindly furnish a list of the best of these. ED.]

THE DESTRUCTION OF A FINE SPECIMEN OF PINUS EXCELSA.—The gale of December 22 last caused much injury and loss amongst the deciduous and evergreen trees in this district, and I regret to say that a fine tree of Pinus excelsa which stood on the lawn at Orton Hall was blown down. As this tree is perhaps one of the oldest and best specimens in Britain, a few particulars as to its measurement may be acceptable to planters and lovers of coniferous trees. In height, it was 65 feet, and the trunk was 10½ feet in girth at 1 foot, and 9½ feet at 5 feet from the ground. Some of the large roots which were near the surface, measured 1 foot in diameter. The circumference of the spread of the branches, and the tree was feathered to the ground, was 60 yds. From a cross-cut section made through the bole at 3 feet from the root, I counted fifty-six concentric rings, and a section close to the root gave fifty-nine rings, thus showing the tree to be about sixty years old. Cones about 9 inches long were produced abundantly every year. Its dense head and long bluish-green needles, with its symmetrical shape, made the tree a beautiful object, which was well set off by the darker Conifers surrounding it. There were eight large cartloads of the small branches, and a large quantity of wood, which was heavy and abounded with resin. The grain of the timber was coarse, and not unlike that of English-grown Scots Pine. The loss of the tree makes a large gap, and although we have a younger tree above 60 feet high, its foliage is not so elegant and dense, or so blue in colour. *A. Harding, Orton Hall Gardens, Peterborough.*

HILL'S EDEN.—Mr. Hemsley does not seem to be aware of a second edition of this work, dated 1773. I may say that my edition is dated 1773, and it is entitled "the second edition, corrected and enlarged, with the addition of twenty folio plates of new plants, now first raised in the Royal Gardens, Kew." It has evidently been reprinted, as the Daffodil is figured at p. 484, and not 481, in the left-hand top corner of plate 41. The new plates are well engraved, and added as an appendix. Hill says: "They were first raised in Europe in the Royal Gardens at Kew, at various periods since the year 1757, when this work was first published." They are Silphium latifolium (Broad-leaved Heart-seed), Matricaria glastifolia (Crimson Feverfew), Verbesina populifolia (decumbent Stonewort), White-flowered Golden Rod (Solidago alba), Carthamus lævis (Smooth Safflower), Spiræa rubra (Crimson Meadow Sweet), Amaryllis undulata (Wavy Fairwort), Œnothera laciniata (Jagged-tree Primrose), Indigofera decumbens (Prostrate Indigo), Cytisus viscosus (Clammy Goatwort), Lonicera glauca (Glaucous Honeysuckle), Celastrus ovata (Oval Spondell), Genista striata (Streaky Broom), Fritillaria longifolia (Wavy Crown Imperial), Orobus varius (Embroidered Bitteretch), Viola obliqua (Uneven Violet), Rhamnus scandens (Clambering Buckthorn), Viburnum lanceolatum (Lanced Mealwort), Aloe Caroliniana (The Carolina Aloe), Scutellaria pilosa. There is an excellent portrait of Dr. John Hill in this edition, dated 1757. There is no publisher's name; the book was printed for the author in St. James's Street. "J. Hill, M.D., Member of the Imperial Academy." Mr. George Steevens, the Shakesperian critic, had a bitter and sarcastic temper, and amongst others he disliked Dr. Hill, and he remarked in the hearing of Mr. Thos. Smith, who relates the circumstances in *Nollekens and His Times*, "When he was looking at a portrait of Sir John Hill the herbalist, at my father's house, he exclaimed 'He was the handsomest man in England, and the biggest scoundrel in the world.' Somehow or other Hill was not held in high esteem by his contemporaries. His descriptions of plants and their culture in his *Eden*, are often amusing in their absurdity. Describing the Nepenthes, at page 293, he says, "The glands at the ends of the leaves swell with the increasing liquor, and furnish a supply so designed by Providence for the preservation of more than the human species. The quantity produced by a single plant is sufficient to quench the thirst of the most despairing traveller;" and adds, "it is evident that beasts often supply their wants at the same plenteous source." He also leads his readers to believe that seeds procured from Ceylon can be raised as easily as Mustard and Cress in the most rich garden mould, with a little earth from under a wood-pile, some marle and harsh sand. When the young plants appear in this mixture of rich mould, marle and harsh sand, he advises thinning the plants out, leaving only four and five in each pot, &c. He follows the old florists in their absurd compositions in which to pot and plant out their florists' flowers; the greater part of the book seems to be a compilation from Miller of Chelsea and others. Since finishing these short notes I happened to look into the *Life of Erasmus Darwin*, and there I find (at p. 17) this extract from a letter by him, in which he says, "I believe I forgot to tell how Dr. Hill makes his *Herbal*. He has got some wooden plates from some old *Herbal*, and the man that cleans them cuts out one branch or leaf to disguise them. This I have from my friend Mr. G—y, watch-maker, to whom this print-mender told it, profanely adding, 'I make plants now every day that God never dreamt of.'" *J. Douglas.*

DAMAGE TO WOODS BY RECENT STORMS.—Near Leeds is a wood planted on a high and exposed position, and some time ago a certain area was cleared of trees with a view to replanting it, which, at a rough guess, would be about 200 yards across. By cutting down this timber or "fringe of the wood" (which had hitherto been the thickly-planted side

and therefore equal to withstanding severe gales), the wind was let right into the heart of the wood, and carried all before it for fully 100 yards further, that is, the width of the previous clearing. The first two lines of trees were of large dimensions, and consisted principally of Beech; the remainder varied greatly in size. The two first lines contained something like eighty trees, and the rest would amount to several hundreds. I also heard that there were men working in the wood at the time with horses, who had to cut their way out; surely such an occurrence as this ought to teach those who are owners of woods and forests, or those who have them to manage, the necessity of keeping up the "fringe" of their woods, as it is sometimes termed, I might add, that perhaps one of the finest rows of Beeches in the county stands close to this wood, and only one of these suffered by having a limb blown out. *J. S. G.*



The Late WILLIAM THOMSON, of CLOVENFORDS.

(See *Gard. Chron.* for January 19, pp. 76 and 82.)

ON PREPARING POTATOS FOR SEED.—A correspondent on p. 80 wishes to know if there is any advantage in disbudding Potato sets, and is inclined to think that the more stems are allowed to grow, the better will be the crop. The Editor, in a footnote, wisely says to the contrary; but I thought a line on the subject might not be out of place. I may just state that during the last thirty years I have made many experiments in growing Potatos, and therefore can speak on the subject with some egree of authority. In the choice of Potatos for sets, I would, in all cases, advise moderate-sized and good-shaped tubers to be selected. It is a great mistake to choose either very small sets or very large ones; nor do I care, when it can be avoided, to cut large Potatos into a number of sets. If for one moment I turn into the domain of agriculture, we find when it is desirable to produce very fine stock of either horses, cows, or pigs, that the most superior breeds are employed; and surely the very same rules should be applied in the production of high-class vegetables. At the time of lifting the Potato crop in the autumn, the cultivator who wishes to save his own seed should select as many medium-sized good-shaped tubers as will be required for planting the following spring. Soon after Christmas, or any time during the winter, the tubers should be placed in shallow boxes, with the eye ends upwards, and then stored away in a cellar, attic, or similar position, where they will get the light, and frost cannot enter. When seed Potatos are carefully stored away in the autumn or early winter, and prepared as I have just described, the sprouts as they start into growth are thick, stout, and not drawn long, thin, and dwindling. This is too frequently the case with seed that is kept too long in the dark. When these properly-prepared sets are planted, they will be out of the ground quite a week or ten days sooner than when the sprouts are long and attenuated. Moreover, they come up three or four times as strong, and there is no chance of blanks occurring in the rows, for every set is sure to make a plant. For a good many years back I have tried the experiment of carving out with a sharp knife every eye, except the most prominent one or two, situated nearest the crown of the tube. The idea was not exactly original, but I was more than satisfied with the trial. By only allowing one or two of the strongest shoots on each set to be retained, it prevented a large amount of useless foliage; each set produced a fine healthy crop of even-sized Potatos, every one fit for table, while those not disbudded produced the largest quantity of very small and uneven-sized tubers. If it came even to a question of £ *s. d.*, and a fine even crop of saleable Potatos, I should still be in favour of taking off all the sprouts except one or two of the strongest. *Quintin Read.*

"A NEW WINTER" VEGETABLE.—I notice in a recent issue of the *Gardeners' Chronicle*, under the above title, the Silver-leaved Beet is spoken of as being "new," and that the writer has had very different experience to mine. I may mention that the vegetable in question has found great favour with everyone to whom I have recommended it; and some persons who could not enjoy any other kind of green vegetable, can eat and enjoy this one, when cooked in the same way as Spinach, without any water being added; and not only the mid-rib, as recommended, but the entire leaf; and I venture to say whoever is fond of Spinach will like Silver-leaved Beet, there being little to choose between the two, except that the Beet has the preference amongst those who have tried the whole leaf. This vegetable is no other than Beta chilensis alba. *W. S., Foleshill Road, Coventry.*

THE LATE MR. C. COLLINS.—I am very glad to see that the untimely end of poor Collins, which came with awful suddenness, has been noticed by the horticultural press, and that the necessities of the widow are being provided for in a generous and practical manner. My acquaintance with him was very slight and of very short duration, but I believe that if he had been spared he would have distinguished himself in his profession. Unfortunately, he had not the opportunity to make much provision for his wife and family, but it is satisfactory to hear that he had done all he could possibly do in that way. I hope the fund so cordially and bravely started will result in substantial assistance to those he has left. I have forwarded my mite to one of the committee, and trust that many others among your numerous readers will do likewise. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

THE COLOURING OF APPLES.—The colour of Apples has caused me much thought of late, and I would ask, what is the colouring matter in Apples, and where does it come from? I am sceptical about the usual means and agencies attributed being the sole cause. I know, without sunheat [and light] it is impossible to have high-coloured fruit, but when we get an average of that life-giving energy, and more than our average, as we did in the summer of 1893, how was it in some places fruit in that year was less coloured than in ordinary seasons? Someone might think lack of moisture in the soil, but such was not the case here. If colouring matter in certain varieties of Apples is inherent, as one is naturally led to believe, it seems clear to me something more than solar heat is wanted to bring it out. The question then naturally arises—what is it? Our soil here is a good strong loam, resting on sandstone, air-slacked lime and wood-ashes are the manurial substances I have added to the soil in which the trees are planted, still, such Apples as Worcester Pearmain, Cellina, &c., show but little colour. Can any of your scientific contributors inform me and others like situated, what are the most likely ingredients wanted in a soil as above indicated to bring about a better state of things. I do not expect or think it at all likely that our fruit here can ever attain to that perfect appearance as is grown in more favoured parts of the country, still, I believe an improvement may be effected. *J. Easter, Nostell Priory Gardens.*

PLANT NAMES: A PROTEST AND A SUGGESTION.—When a botanist gives a plant a long or an ugly name, we horticulturists call him and his calling a nuisance, or worse; and if our feelings are worked up we go to an index of botanical names, cull some of the worst cases, send it with indignant comments to this, that, or the other paper, and then feel all the better for it. But, when we name a plant ourselves, do we consider the character of the plant, or those who will have to use that name? What difference does the man who asks for simple and appropriate plant names see between, say, Amor-

phophallus campanulatus or Mesembryanthemum geniculiflorum of botanical creation, and Chrysanthemum Gaston Chaudon de Briailes, Rose Susanne-Marie Rodocanachi, or Pelargonium John Loraine Baldwin? If anything, the botanist is the lesser sinner. Then we do not stick to the vernacular, but sometimes go one or several more than the botanist. Anthurium Scherzerianum came to us with a name quite bad enough, though we are getting used to it; but then have we improved matters by naming its varieties Anthurium Scherzerianum Duvivierianum and Anthurium Scherzerianum Rothschildianum? Equally bad is our behaviour in regard to the name of that beautiful Orchid which the botanist called Dendrobium Phalænopsis, and which we were satisfied with till a big importation of the plant arrived, and presumably to sell this big importation a big name was wanted; result, Dendrobium Phalænopsis Schroderianum, the latter a purely garden "tail-piece" which botanists I believe do not accept. Who made the name Rhododendron balsaminæflorum? The names of garden varieties of British Ferns are worse than anything. "Fernists" however, are incorrigible. They are a law unto themselves. I need only quote one of their names to reveal their state: Athyrium filix-fœmina divaricatum superbum percristatum. I am told the "Fernists" consider themselves botanical, which perhaps accounts for their queer ways in regard to names. "Vanity, vanity, all is vanity!" Man likes to write, or to see written, his name wherever it will catch the eye; and so he scribbles it on monuments, church-doors, picture-frames; cuts it out on a seat, or carves it on a tree-trunk. This habit generally starts at school when the boy has a pocket-knife and a wooden desk handy. If botanists and gardeners could only make up their minds not to give complimentary names, the mischief would be to some extent cured. Why should I have to make a fool of myself because someone has named a pretty little plant Tchihatchewia, or expose my ignorance over such a name as Chrysanthemum l'Enfant des Deux Mondes? The perpetration of these names is nothing less than criminal. What a pleasure, on the other hand, are such names as Rosa centifolia, Lilium auratum, Nymphæa alba, Viola alpina, Disa grandiflora! These names fit the plants that bear them. Could we love the Viola, had it borne the name of its Brazilian cousin, Schweiggeria; or the Nymphæa, had it been called Blastemanthus? Do, please, Mr. Botanist, give us simplicity, fitness, poetry also, if you like, in the names of the plants we are to live with. And you, too, Mr. Gardener, think only of the plant when you are naming it, and forget for the moment the name of this or that customer or friend. If the names cannot be got to fit the character of the plant, then, in the name of common-sense, let us number them. Surely Cypripedium No. 309 is as appropriate as C. Psyche, C. Mrs. Jim Smith, or C. Madame Angèle Jollifat. *W.*

GROUND GAME AND TREE-PLANTING. — The article on this subject, p. 73, written by Mr. A. C. Forbes, will be read with considerable interest by those who have to plant trees where rabbits or hares are present even in small numbers. It is surprising what damage one hare, or two or three couples of rabbits will effect in a few nights amongst small newly-planted Larches. During the last fortnight, I have been surprised in two instances. In the first place, I was led to believe that Corsican Pines were proof against rabbits, and hitherto I had never found a tree to be attacked. Now, I have to say, that even this tree is not proof against rabbits, and although they do not destroy this Pine as much as the Austrian species, they commit far greater ravages than is generally thought to be the case. My second experience is, that even after Larches have been planted ten years, and measure 9 inches around the stem at the base, they are not safe. During the early part of the year, I removed the wire netting from a plantation made ten years since, and before it had been away a fortnight, several of the trees were gnawed nearly all the way round. After such experience it seems necessary that the netting should remain as long as the trees. I do not take so desponding a view of the depreciation of wire-netting as Mr. Forbes does. We have many miles of it here in use that is nearly as good now as when put down twelve years since, and it has been refixed since that time. Like Mr. Forbes, I find that rabbits seem able to get into an enclosure rather too easily. I generally use netting 3 feet inwidth, and sink it 4 inches below the ground; rabbits then hop over 2 feet 8 inches of netting above ground quite easily. I have seen them do this without any apparent exertion. I have never seen them jump some which stands 3 feet 6 inches above the ground. As Mr. Forbes points out, holes do occur in the wire, and I fear in many instances not in a fair manner either. *E M.*

PRIMULA SINENSIS—In reference to your note in the last issue of the *Gardeners' Chronicle*, concerning Primula sinensis causing irritation of the skin, I may say that I have felt just the same kind of irritation, but only in my face, which was doubtless due to my having touched the skin after handling the plants. This tingling sensation is in a much milder form as compared with that caused by Primula obconica. I have suffered a great deal from P. obconica. On one occasion, after potting a batch of plants, I could scarcely see, and I had the appearance of one who was suffering badly from erysipelas. I do not feel this irritation at the time of handling the plants, but usually in an hour or two afterwards. I feel the effects of irritation from P. sinensis for about two or three hours, and those caused by P. obconica from twelve to fourteen hours. The reason that I mention P. obconica is, that you may see that I have not confused P. sinensis with P. obconica. *Frederick Bunning, Baroda House, Kensington, W.*

BORDER LABELS.—Mr. Easter, in your last issue, has apparently overlooked my description of a cheap, simple, and absolutely permanent label, with suitable ink, described by me in the *Gardeners' Chronicle*, March 3, 1894, p. 275. It can be made at a low cost by any tinman, and is always easy to read, requiring no numbers or reference-book. So far as my experience goes, it has every desirable quality; the only improvement I can suggest is to have some pointed also at the top, for use with half-hardy plants which require protection in winter. The pointed top draws instant attention to any which have been overlooked, thus preventing accident and loss. *Thos. Fletcher.*

THE GARDENING CHARITIES—The recent correspondence concerning these charities which has appeared in the *Gardeners' Chronicle* serves to show that there is not only room for dissatisfaction, but good cause for it also, at certain methods of election adopted. The first great cause for complaint is found in the forms of canvassing for votes. It may be said that what is fair for one is fair for another; but that is very far from being so, as those familiar with both the methods and influence brought to bear, know full well. It may be said, how is canvassing for votes to be checked? It is but to make a rule to the effect that any canvassing of subscribers by circular or otherwise for votes, or voting-papers, on behalf of any candidate for election, should disqualify such candidate for election; and that would settle the whole business speedily. It would leave subscribers so far free to give their votes, that in most, probably all cases henceforth they would be guided in finding the most meritorious cases by the information furnished by the executive committee on the voting papers. That would check favouritism at once, and place the humbler subscriber in the country on something like an equality with the subscriber in London. The great object of the friends of certain candidates now is to secure certain potent trade influences. Unhappily, it is of little moment how far the case may be meritorious. All depends on the influence behind it. Year after year we see elections on to the orphan fund of this nature. Anyone who studied last year's voting list could but come to the conclusion that some most meritorious cases were left out in the cold because the forces favouring them were so weak. There are two very special reforms needed in connection with the voting. The first is, that no ballot-paper shall be accepted that is not clearly filled in, as well as signed by the subscriber. That would prevent the too common system of sending up signed but non-filled ballot-papers to certain wire-pullers, leaving them to fill them in as they will. The subscriber who is guilty of such an act deserves the completest disqualification. Still further, every subscriber should be compelled to send his paper to the Secretary direct, and to deliver it at his office not later than the morning of the election. If received later to be disqualified. That would at once stop the present method of having batches of voting-papers brought at the last moment, and filling them in just as they may be needed to make this or that candidate's election safe. Then, only one of the appointed scrutineers should be a member of the committee. I have not by me just now a copy of the rules. At least two should be invariably selected from the general body of subscribers, outside the executive. Then these three persons should have all papers handed to them by the secretary. As soon as elected, they should be authorised to lock themselves in a room to which no other person should have access, and they should not be permitted to hold intercourse with anyone outside until the counting was complete. As it is, anyone can stand by whilst the counting is in progress, and the wires that are to be pulled to elevate certain favoured candidates may be operated upon to any extent. I do not know, so far as my experience has gone, of a single case in which any subscriber outside of the committee has been invited to become a scrutineer. It would be a very difficult post for anyone to occupy under existing conditions, and I, for one, would not hold such an office, unless armed with powers to exclude all other persons from the counting-room except the scrutineers, and to refuse acceptance of any papers not filled in prior to the commencement of the counting. I know enough of the temper of country gardeners who have so little confidence at the present moment, to understand that it is distrust of the present method of conducting elections which checks that support to which otherwise the gardening charities are so entitled to receive. *Censor.*

THE NONPAREIL DAFFODIL.—I cited Parkinson's figure as the oldest known to me in an English book, though I was aware of the existence of earlier ones in continental books. I may cite a noteworthy one, eight years earlier than that mentioned by Mr. Wolley Dod. It is in the *Hortus Floridus* of Passeus (otherwise Du Pas), published at Arnhem in 1614, which contains excellently drawn and engraved figures of numerous Narcissi, including the Nonpareil. Pritzel describes an English edition of this work, printed at Utrecht in 1615, and bearing the title *A Gard n of Flowers.* Many of the figures are also reproduced in De Boots' *Florum, Herbarum ac Fructuum Selectiorum Icones*, published at Bruges in 1640. I have not specially searched the old authors, but I dare say there are other even older figures than those cited. *W. Botting Hemsley.* (See p. 114, col. c).

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JANUARY 15—Present: Mr. Michael (in the chair), Rev. W. Wilks, Dr. Bonavia, Rev. G. Henslow, Hon. Sec.

Primula obconica and P. sinensis causing Eczema.—Further observations were made upon this subject brought before the last meeting. The fact that the Chinese Primrose occasionally produces the same effect as P. obconica has been ascertained by Messrs. Sutton of Reading [Messrs. James of Burnham, and others]; but the ill effects appear to be only observed in the case of very few persons who handle the plants. It was the variety known as P. s. alba plena which had the irritant property. As a contrary case, it was observed that with regard to the very poisonous Neilgherry Nettle, none at Kew could touch it except one person, to whom it was innocuous. Mr. Michael added that very similar differences occur when hairy caterpillars are handled.

Fertilisation of the Chrysanthemum.—An interesting communication was received from Mr. H. Briscoe-Ironside of Burgess Hill on this subject. It had been thought by some writers following Darwin a little too implicitly perhaps, that "the anthers of the Chrysanthemum . . . . as of all members of the Compositæ . . . . are proterandrous . . . . and naturally adapted for cross-fertilisation."—(Burbidge). The writer, quoting this passage, observes that from his own observations in Italy, that the Chrysanthemum is quite, if not more, readily self-fertilised than naturally crossed. He finds, too, that the seed resulting from the self-fertilisation of the disk-florets gives very poor results from a horticultural point of view, and he thinks it to be "most probable that this is the seed which is advertised and sold, and which, as we learn, gives such poor results." It has now been generally recognised that the Compositæ depend quite as much to self-fertilisation in nature, as on intercrossing, and although the florets are seemingly adapted to the latter process, the former is quite as likely to take place, many inconspicuously-flowering species, as Wormwood and Groundsel, being in all probability never visited (by insects) at all. With reference to the "inferiority" of the flowers resulting from self-

fertilisation, this is the rule; hence arises the importance of intercrossing for floral improvements; but the difficulties involved in trying to avoid self-fertilisation in the Compositæ are very great, in consequence of the minuteness and proximity to each other of the florets. The writer proceeds to quote the following observation of Mr. Burbidge:—"The Chrysanthemum had, ages ago, become naturally adapted for cross-fertilisation, and to that fact, no doubt, is due its variability in nature and our own gardens." Mr. Ironside thereupon asks:—"Why does history refer conspicuously to the varieties raised by their comparatively few raisers? Surely if cross-fertilisation were natural, the raising of new varieties would seem a common event not worth chronicling?" This question might be asked of all other plants as well. The reply is, that Mr. Burbidge here *refers* to one cause of variability, intercrossing, and omits the commoner one, a change of environment, which may give rise to it as well. With regard to the former, there is always the antagonistic process of self-fertilisation to overcome. This fixes, or tends to fix, characters, while the other tends to alter them. Self-fertilisation, however, is the rule in nature, notwithstanding the numerous contrivances for intercrossing. Mr. Ironside adds the further question:—"Do our English authorities, when describing the seeding or fertilisation of flowers not indigenous to the soil of Great Britain, give their opinions of experiences based on their having seen them in their native state, or otherwise?" Perhaps some author will reply to this question.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending January 19.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 —	0	34	— 23	+ 88	4 —	15	2·5	8	8
1	2 —	0	49	— 23	+ 118	11 +	12	2·3	8	17
2	2 —	0	41	— 22	+ 77	12 +	16	3·2	6	16
3	0 aver	0	32	— 21	+ 52	5 +	15	2·3	12	14
4	1 —	0	38	— 27	+ 74	10 +	12	2·1	11	18
5	1 +	8	21	— 23	+ 63	6 +	13	2·2	20	22
6	3 —	0	43	— 30	+ 97	9 —	13	1·3	6	20
7	3 —	0	39	— 25	+ 67	7 +	14	2·0	3	17
8	0 aver	10	25	— 35	+ 63	10 +	15	3·4	25	29
9	4 —	0	41	— 41	+ 74	2 —	15	2·0	7	16
10	4 —	1	23	— 59	+ 49	2 +	15	3·9	9	20
*	1 +	25	4	— 34	+ 26	6 +	18	3·2	33	28

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending January 19, is furnished from the Meteorological Office:—

"The *weather* continued in a very unsettled condition generally; rain was experienced very frequently and was heavy at times, notably in 'Scotland' on the 16th or 17th, and over 'England' on the 19th.

"The *temperature* slightly exceeded the mean in 'England, S. and the Channel Islands,' and just equalled it in 'England, E. and S.W.;' elsewhere it continued below the mean, the deficit ranging from 4° in 'Ireland,' to 3° in 'Scotland, W. and England, N.W.,' and to 1° in the 'Midland Counties.' The highest of the maxima were registered towards the close of the week, when they varied from 53° in the 'Channel Islands,' and 50° in 'England, S.,' to 43° in 'Scotland, W.,' and 42° in 'Scotland, E.' The lowest of the minima, which were recorded at the commencement of the period, over 'England,' on the 16th or 17th in 'Scotland,' and on irregular dates in 'Ireland,' varied from 16° in 'England, N.E. and E.,' to 21° in the 'Midland Counties, Scotland, W.,' and 'Ireland, N.,' and to 31° in the 'Channel Islands.'

"The *rainfall* was considerably less than the mean in 'Scotland, N. and W.,' and rather so in 'Ireland, N.;' in all other districts there was an excess, that in nearly every case being large.

"The *bright sunshine* exceeded the mean in 'England, S.W. and the Channel Islands,' and just equalled it in 'England, S.;' but was below in all other districts. The percentage of the possible duration ranged from 33 in the 'Channel Islands,' and 25 in 'England, S.W.,' to 6 in 'England, N.E. and Scotland, W.,' and to 3 in 'England, N.W.'"

MARKETS.

COVENT GARDEN, January 24.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	5 0	6 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches ...	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	3 6	4 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	4 0	6 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 6	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, per lb. ...	1 0	1 6
Cauliflowers, per dozen	2 0	3 0
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb.	0 8	0 10
Onions, per bush. ...	2 0	2 6
Potatos, Channel Islands, per lb. ...	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 6
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

POTATOS.

Arrivals have not been as heavy as anticipated during the past week, consequently markets remain firm, with slight advances for best kinds. At the moment tendency is in favour of still higher prices. Best samples, 90*s.* to 110*s.*; ordinary do., 70*s.* to 80*s.* *J. B. Thomas.*

SEEDS.

LONDON: *January* 23.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a cautious but enlarging inquiry for farm seeds now comes to hand from the country. Quotations all round are for the most part unaltered. American Red is cabled firm. Choice home-grown yearling Cow-grass, in the complete absence of new seed, realizes remarkable rates. There is more doing in Tares, quality and price being alike tempting. Canary seed still favours buyers; La Plata samples prove disappointing. The supply of Blue Peas exceeds the demand. Haricot Beans tend upwards. More money is asked for Rape seed. No change in Mustard.

FRUITS AND VEGETABLES.

BOROUGH: *January* 22.—Quotations:—Savoys, 1*s.* 6*d.* to 2*s.* per tally; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Sprouts, 6*d.* to 1*s.* per half-sieve; Greens, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bunches; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 1*s.* 6*d.* to 2*s.* per bag; Parsnips, 10*d.* per score, and 2*s.* per bag; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Celery, 11*s.* to 12*s.* per dozen bundles Onions, English, 3*s.* to 4*s.* per cwt.; do., foreign, 1*s.* 9*d.* to 2*s.* 3*d.* per bag; Apples, English, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.*; and other sorts, 8*s.* to 14*s.* per barrel.

STRATFORD: *January* 22.—The supply to this market during the past week has been excellent, and with a large attendance of buyers, a good trade has been done at the undermentioned prices:—Savoys, 1*s.* to 3*s.* per tally; Collards, 1*s.* to 1*s.* 6*d.* per tally; Bunch Greens, 5*s.* to 7*s.* per tally Cauliflowers, 1*s.* to 2*s.* per dozen; ditto, 5*s.* to 8*s.* 6*d.* per tally; Brussels Sprouts, 6*d.* to 1*s.* per half-sieve; ditto, 1*s.* to 1*s.* 6*d.* per bushel; Celery, 4*d.* to 1*s.* per roll; Turnip-tops, 1*s.* to 1*s.* 3*d.* per bushel; Turnips, 1*s.* 9*d.* to 2*s.* 6*d.* per dozen bunches; ditto, 25*s.* to 50*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* per ton; do., cattle feeding, 16*s.* to 20*s.* per ton; Parsnips, 9*d.* to 10*d.* per score Mangolds, 13*s.* to 17*s.* per ton; Swedes, 12*s.* 6*d.* to 18*s.* per ton; Onions, English, 80*s.* to 100*s.* per ton; do., Dutch, 2*s.* 3*d.* to 2*s.* 9*d.* per bag; do., Valencia, 5*s.* to 7*s.* per case; Apples, English, 2*s.* to 7*s.* per bushel; do, American, 15*s.* to 20*s.* per barrel.

FARRINGDON: *January* 24.—Quotations:—Turnips, 1*s.* 9*d.* per dozen; Carrots, 1*s.* per cwt.; Sprouts, 1*s.* half-bushel; Spinach, 2*s.* per bushel; Seakale, 1*s.* do.; Rhubarb, 1*s.* 6*d.* per dozen; Beetroot, 2*s.* 6*d.* per bag of cwt.; Parsnips, 2*s.* 6*d.* per cwt.; Grapes, good English, 1*s.* 3*d.* per pound; do., Spanish, 14*s.* per barrel; Pine-apples, 1*s.* to 2*s.* each; Apples, Canadian, 14*s.* to 18*s.* per barrel.

POTATOS.

BOROUGH: *January* 22.—Quotations ranged from 60*s.* to 110*s.* per ton.

STRATFORD: *January* 22.—Quotations:—Magnums, Dark-land, 67*s.* to 72*s.*; do., Light-land, 70*s.* to 85*s.*; Light-soil Bruces, 75*s.* to 85*s.*; Main Crop Kidneys, 80*s.* to 90*s.*; Sutton's Abundance, 80*s.* to 95*s*; Scotch Magnums, 75*s.* to 85*s.*; do. Bruces, 75*s.* to 85*s.*; Scotch Main Crop Kidneys, 85*s.* to 95*s.* per ton.

FARRINGDON: *January* 24.—Quotations:—Main Crop, 90*s.* to 100*s.*; Snowdrops, 100*s.* to 110*s.*; Abundance, 80*s.* to 90*s.*; Colossals, 90*s.* to 100*s.*; Bruces, 70*s.* to 80*s.*; Magnums, 70*s.* to 80*s.* per ton.

LONDON AVERAGES: *January* 23.—Main Crop, 90*s.* to 110*s.*; Hebrons, 80*s.* to 100*s.*; Snowdrops, 90*s.* to 110*s.*; Magnums, 70*s.* to 90*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Kidneys, 60*s.* to 75*s.*; Black-lands, 75*s.* to 80*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending January 19, and for the corresponding period in 1894:—1895: Wheat, 20*s.* 8*d.*; Barley, 31*s.* 8*d.*; Oats, 14*s.* 1894: Wheat, 26*s.* 3*d.*; Barley, 29*s.* 2*d.*; Oats, 18*s.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 115*s.*; do., inferior, 45*s.* to 90*s.*; ha best, 6 *s.* to 98*s.*; inferior, 38*s.* to 60*s.*; mixture, 70*s.* to 100*s.* and straw 20*s.* to 36*s.* per load;

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BOOKS: *Maurice Verdonck. Cross and Self-Fertilisation of Plants*, by C. Darwin. (J. Murray, Albemarle Street, London.)

CORRECTION: Apple canker; in the fourth paragraph, third line, the words were accidentally misplaced. *For* spore-capsules *read* host.

EUPHORBIA: *H. R.* Too low a temperature, and probably cold draughts, affording the plants very cold water.

INSECTS: *J. C.* The insects on the roots of Stephanotis are a species of "scale" in the larvæ state; if they were perfect we might be able to give the scientific name. We presume there are no "scales" on the underside of the leaves. Lift the plant and shake off the earth over a newspaper. Wash the roots well in a solution of Gishurst Compound, or some other approved insecticide. This process might be repeated in the course of twenty-four hours. Then replant in clean earth. It is very important that the earth shaken off the roots, and that in which the plant was growing, should be burnt at once. *R. McL.*

LUCULIA GRATISSIMA CUTTINGS: *J. Brown.* The cuttings may be taken after the plant has finished flowering, placing them without delay after making them in sandy soil surfaced with sand under a bell-glass or handlight in a cool house. If persistent callus formation occurs, followed by no roots, take them out, wash them in warm water, then make two cross cuts almost reaching through the callus, and again insert them in fresh soil and pots, and treat as before.

MR. MILNE, of the Levens Gardens, illustrated in our pages in 1874, is leaving that establishment from ill-health. Mr. Ireland, gr., Sedgwick, near Kendal, is anxious to receive contributions towards the relief of a brother in distress.

NAMES OF FRUITS: *G. W.* Yes, Dumelow's Seedling (Wellington), and one of the best late-keeping culinary varieties of Apple we have.—*A. Sim.* Pitmaston Pine-apple.

NAMES OF PLANTS: *J. H. B.* 1, the leaves are probably those of Vaccinium Vitis Idæa; 2, Cacalia ficoides.—*Esher.* 1, Juniperus virginiana var. Schotti; 2, Cupressus thyoides; 3, Juniperus communis; 4, Thuya (Biota) pendula; 5, Juniperus virginiana var. Chamberlaini; 6, Pinus contorta. —*T. W.* 1, Phillyrea latifolia var. lævis; 2, one of the evergreen Oaks; 3, Phillyrea angustifolia; 4, Phillyrea media; 5, Abies Lowiana; 6, perhaps Abies Nordmanniania, but it is impossible to tell from a small scrap.—*Daphne.* Daphne indica, usually grown for forcing. The shoot consists of several united together to constitute a "fasciated" branch. The cause is unknown; some say it is caused by a mite.—*C. H. H.* is thanked for his contribution to the Orphan Fund, 2*s*. 1, Eranthemum aureo-reticulatum; 2, Aralia sp.; 3, Aralia Guilfoylei; 4, probably a Clusia.—*E. H.* Cattleya Loddigesii.—*F. C. C.* Garrya elliptica (Cornaceæ), California.— *Snowdrop.* Solanum marginatum of gardens. — *Cheapside.* Epidendrum ciliare. — *Belgian Correspondent.* Erigeron mucronatum, erroneously called Vittadenia triloba.

NUTS: *Right Hon. Lord K.* The only English work we can call to mind which deals with the cultivation of the Filbert and Cob-nut as practised in Kent, is a book called *Fruit Farming for Profit*, by George Bunyard, and published by Fred. Bunyard, 29, Week Street, Maidstone, 3rd ed., in 1890, price 2*s*. 6*d*. The operation of pruning is well described, and in detail, and the work recommends that the bushes be planted apart 12 feet, which means about 302 bushes to the acre. Currants and Gooseberries are usually planted amongst the bushes, to furnish a return before the nuts come into bearing.

OLD PASTURE LAND: *S. E.* The florists' flowers would scarcely be likely to grow very satisfactorily the first year, unless you could mix large quantities of fertile soil, thoroughly decayed manure, and leaf-mould, with the staple, to a depth of 6 inches. By doing this, the plants will be furnished with nutriment till the roots of the grasses and other plants decay, which cannot take place in less time than a year. Vegetables would do fairly well if rotten manure were dug in, or quicklime alone applied during the digging or ploughing. Moreover, they could be helped by top-dressing during growth.

ORCHID NAMES: *C.* The rules which should regulate the formation of new names were given at length in our number for May 20, 1890. It is discouraging that these rules are not acted up to, even by the committee.

PALM SEEDS: *T. F.* The seeds, or rather fruits, sold as Liliputian Coconuts, are those of the Honey Palm, or Coquito Palm, of Chile. They are yielded by a Palm, Jubæa spectabilis.

PLANTS OBTAINED BY A GARDENER FROM HIS FRIENDS FOR THE OBJECT OF FURNISHING HIS EMPLOYER'S GREENHOUSE, WHICH WAS EMPTY WHEN HE ENTERED THE SERVICE: *J. A.* We think that unless permission is given by his employer, the gardener could not legally remove anything so obtained.

PLATYCERIUM ALCICORNE: *W. S.* The shield or barren frond becomes covered with a new one and dries up, but it remains in its place. The fertile fronds are evergreen.

PTERIS GOING BROWN AT THE TIPS: *J. H.* It may be the effect of cold-drip, or cold draughts of air from doors or ventilators. Some varieties of Pteris and other species of Ferns are very liable to disfigurement in this manner.

SEEDLING POTATOS AND A NEW PEA: *G. P. R.* Apply to Mr. Barron, Superintendent, Royal Horticultural Society's Garden, Chiswick. It is not essential for you to be a Fellow, though there is not much excuse for you now-a-days if you are not.

STRAWBERRIES: *A. K.* The failure of the plants to throw their trusses to the normal height above the leaves is due, probably, to lack of sunshine last season—the embryo flowers and stalks not being sufficiently well-developed when cessation of growth occurred. And the "blindness," or inability to set, is due to the same cause. Your treatment of the plants is correct, and they may do better later in the season.

TEA PLANTATION: *H. G. P.* Advertise in the *Tea Planters' Gazette* or the *Tropical Agriculturist*, Ceylon.

THE COLLINS FUND: Received on behalf of the widow of Charles Collins the sum of 2*s*. 6*d*. from W. L. T., which has been sent to the Treasurer.

TOMATO-HOUSES: *S. S.* Early-house should face the south, and the best form is a lean-to of 15 feet in width, and 10 feet high at the back, with a very low wall, say 1½ to 2 feet at the front. For fruiting in summer and autumn, span-roofed houses answer well enough, if well heated. They should run north to south, or some point decidedly in that direction. The best boiler is an upright tubular, or a Trentham saddle, of one of the larger sizes.

COMMUNICATIONS RECEIVED.—Messrs. Mertens & Co.—H. G. Hobby.—G. W.—C. H. H.—L. M., Erfurt, specimen not received.—A. G. H., Sydney, New South Wales.—W. W.—H. J. C.—J. B. J.—G. Y. M.—A. P.—E. J. H.—L. B., New York.—J. Budde, Utrecht.—F. C. P.—W. G. S.—J. S. Grimstone.—M. D., Dalkeith.—H. J. E.—R. Miller.—J. D. S., Baltimore.—C. N.—C. E. M., Penrith.—Harrison Weir.—F. C.—A. O.—H. H. D'O.—D. T. F.—E. B. H. C.—Canon E.—F. H.—D. H.—Ben Reid & Co.—J. R. P. & Sons.—Vallota.—S. S.—C. H.—W. G.—J. B.—E. M.—H. M.—J. D.—H. D. B.—W. B. H.—G. W.—Q. R.—A. D. W.—J. W.—J. A.—W. J. G.

PHOTOGRAPHS, SPECIMENS, &C., RECEIVED.—W. R. A., Newcastle.

DIED.—On the 18th inst., at St. John's Nursery, Mattock Lane, Ealing, FRANK GEORGE CANNON, age 21, the only son of George and Louisa Cannon.

—— We regret to record the death, on January 18, of Mr. JOHN MORRIS, for nearly thirty years manager of Messrs. Pope & Sons, King's Norton Nurseries, Birmingham, and in his early life closely associated with the old Handsworth Nurseries. He was well known in the Midlands, and greatly respected.

CONIFERÆ.—Abies Douglasii, 1½ to 2 ft., 20*s*. per 100; Canadensis, 10 to 12 in., 4*s*. per doz.; Cedrus deodara, 1½ ft., 6*s*. per doz.; Araucaria imbricata, 3 to 3½ ft., 48*s*. per doz., 4 ft., 60*s*.; Cup. macrocarpa, 3 ft., 6*s*.; Lawsoniana, 3 to 4 ft., fine, 25*s*. per 100, 4 to 5 ft., 30*s*.; Stricta, 2 to 2½ ft., 30*s*., 3 to 4 ft., 40*s*.; Erecta viridis, 3 to 3½ ft., 40*s*.; Picea nobilis, 12 to 18 in., 6*s*. per doz., 2 ft., 12*s*.; Nordmanniana, 3 ft., 18*s*. per doz.; Pinus Cembra, 12 to 18 in. 10*s*. per 100; Retinospora plumosa, 4 to 5 feet, 50*s*. per 100; Aurea, bushy, fine, 32*s*.; Squarrosa, 3 to 4 ft., 12*s*. per doz., 1½ ft. 25*s*. per 100; Thuia Lobbii, 3 ft., 20*s*., 2 ft., 10*s*., 4 to 5 ft., 50*s*., 7 ft., extra, 75*s*.; Thuiopsis dolobrata, 2½ to 3 ft., 18*s*. per doz., 3 to 4 ft., 30*s*.
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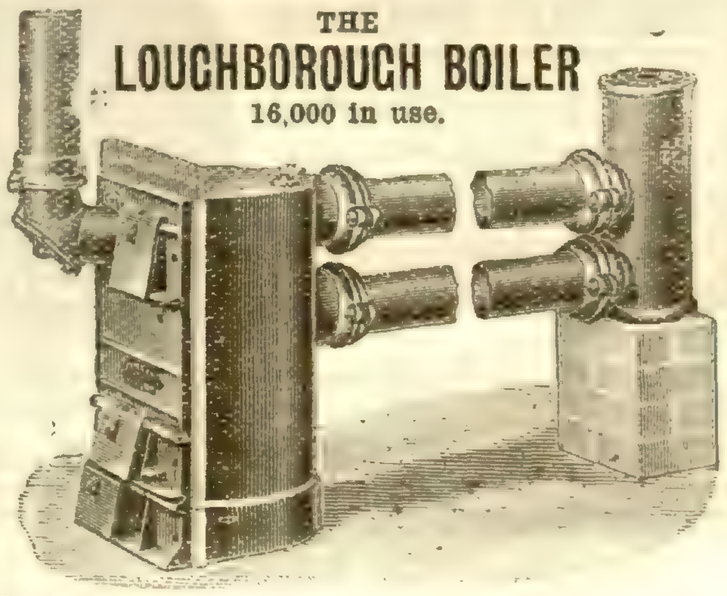

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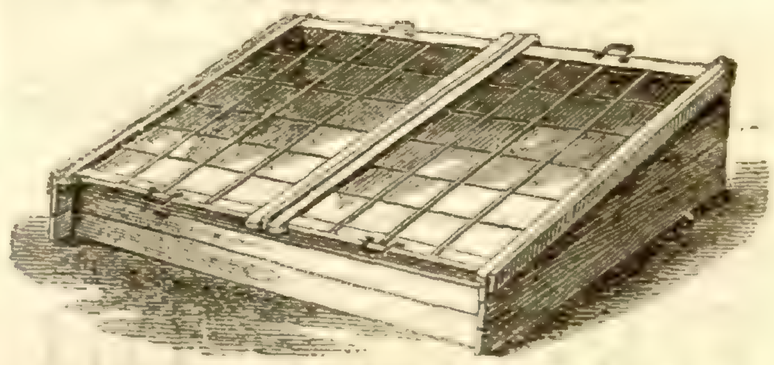

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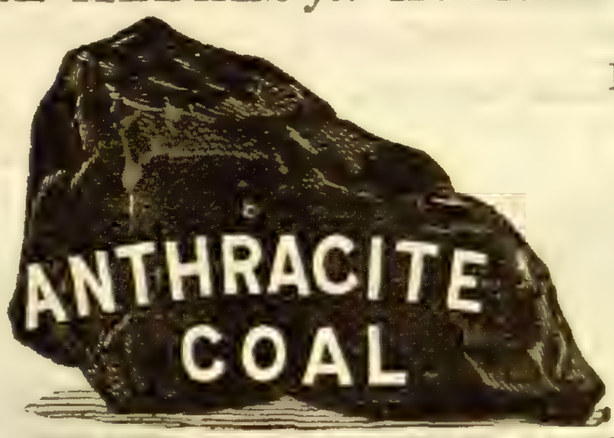

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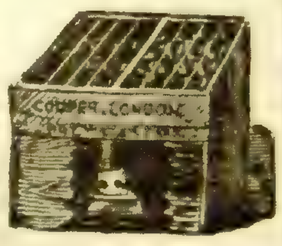

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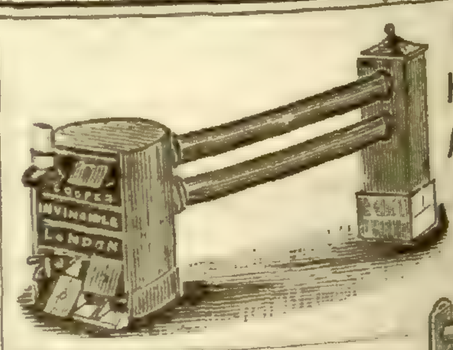

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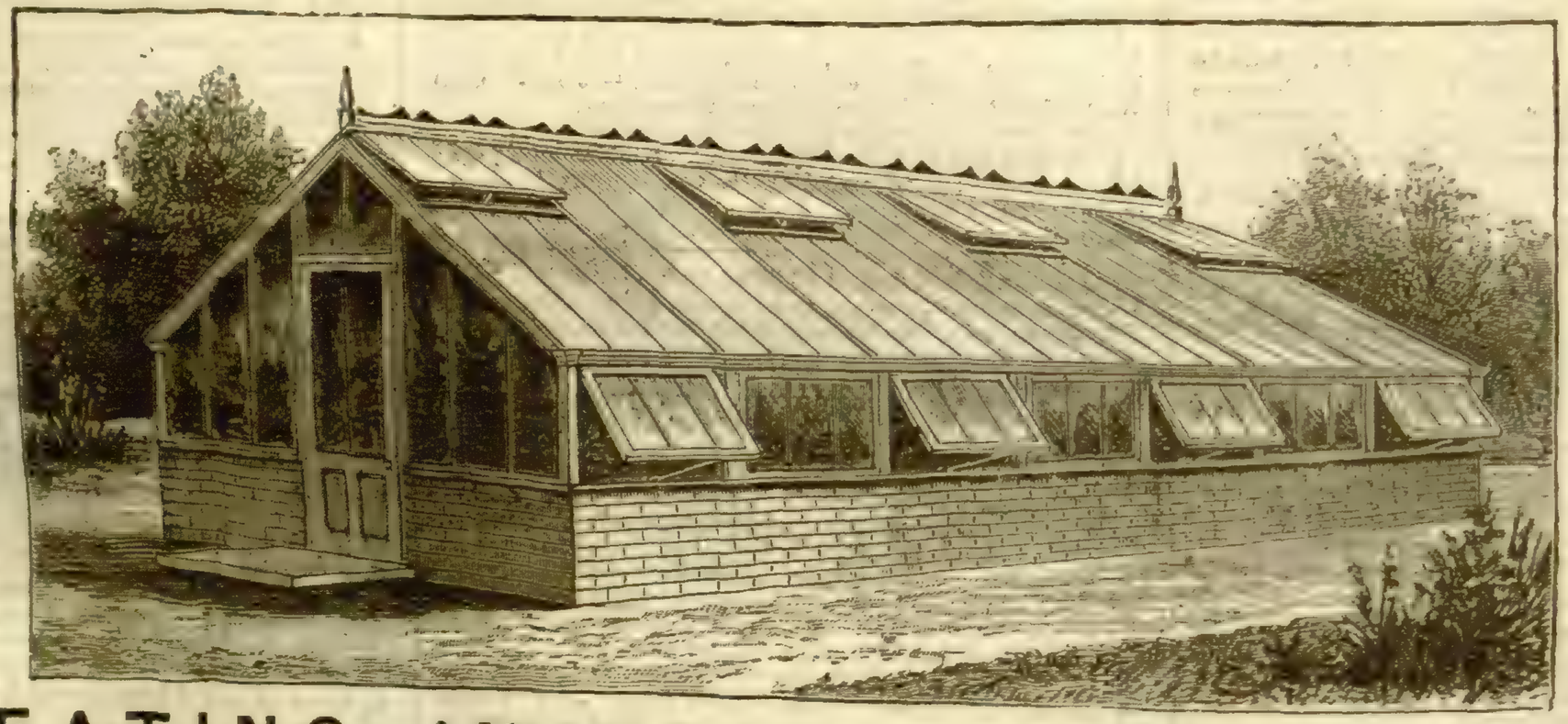

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TRADE—CHRYSANTHEMUMS.—Lady Canning, 3s. 6d. per 100, post free; 1000 on rail, 30s. Lady Lawrence, 2s. 6d. per 100.
FOREMAN, Nightingale Nurseries, Bath.

WANTED, about 2000 COMMON HOLLY, 2 feet to 3 feet, young, clean, straight-grown stuff.
Apply to Mr. BRIANT, Cholderton, near Salisbury.

WANTED, in a few weeks' time, for Cash, LARGE PALMS, DRACÆNAS, FICUS, TREE FERNS, CYCAS, ARAUCARIAS, STANDARD BAYS, or any other large ORNAMENTAL FOLIAGE PLANTS, either tall or bushy, suitable for a Winter Garden. Shall be glad to hear from any Lady or Gentleman having Plants too large for their Conservatory.—State full particulars, and prices free on rail, to—
W. TROUGHTON, Nurseryman, Preston, Lancashire.

Ivy. — Ivy. — Ivy.

B. S. WILLIAMS AND SON have a fine stock of Extra Strong IRISH IVY in 9-inch pots, with numerous shoots 7 to 9 feet; fine for covering walls, &c.; 30s. to 42s. per dozen.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

FORBES' EAST LOTHIAN STOCKS.—Sow now, my world-renowned STOCKS, for Summer and Autumn Display, in six distinct sorts, viz., crimson, purple, scarlet, white, crimson Wallflower-leaved, and white Wallflower-leaved. Each sort, 1s., 2s. 6d., and 5s. per packet. Catalogues free.—JOHN FORBES, Nurseryman, Hawick, Scotland.

LILIUM AURATUM, grand stuff, only 4s., 6s., and 7s. 6d. per doz. Extra large, 1s. to 1s. 6d. each. All other Lilies at lowest rates. Special prices to large buyers. Palms, Seedling Latanias, and Coryphas, 10s. per 100.
F. ROSS AND CO., Merstham.

BOX'S BEAUTIFUL BEGONIAS.—Quality and Quantity. Seed of Singles, 1s., 2s. 6d., and 5s.; of Doubles, 1s, 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers to colour for Bedding, from 20s. per 100. Choice Hybrids for pots, 7s. 6d. to 42s. per doz. Illustrated Price List and Pamphlet Gratis.—JOHN R. BOX, Begonia Grower, Croydon.

Wholesale Vegetable and Agricultural Seeds.

H. AND F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of VEGETABLE and AGRICULTURAL SEEDS of 1894 growth, which will compare very favourably with those of other English growers.
SEED-GROWING ESTABLISHMENT, WISBECH.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Lilium auratum.

MORLE AND CO. have received another importation in splendid condition, fine, large plump bulbs, 25s. per 100; extra large, 35s.; and immense size (bulbs seldom met with), 50s. per 100; 4s., 6s., and 9s. per dozen respectively. Also other good and scarce Lilies in stock.
Address—The Conservatories, Finchley Road, N.W.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

CHARLES E. COOPER, WHOLESALE FLORIST, 33, Russell Street, Covent Garden, and Stand 370, Flower Market, Covent Garden, W.C., is open to receive Consignments of CHOICE CUT FLOWERS, FOLIAGE, &c., for Sale on Commission. For further particulars, apply as above. Bankers, The National Bank, Charing Cross Branch. TELEGRAMS: "LAPAGERIA, LONDON."

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN, 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W

SALES BY AUCTION.

Wednesday Next.

SPECIAL SALE of ROSES, PLANTS, and BULBS

WEATHER PERMITTING.

Fourteen Cases of Araucaria excelsa in exceptionally fine condition, just imported direct, sold as received.

An Importation of Liliums from Japan, comprising LILIUM AURATUM, L. A. PLATYPHYLLUM, L. S. MELPOMENE, L. KRÆTZERI, L. TIGRINUM. Also LILIUM SPECIOSUM ALBUM, L. CANDIDUM, and Home-grown LILIES.

A Collection of Stove and Greenhouse Plants, including well-grown PALMS in sorts, AZALEAS FERNS, &c.

1000 Choice named Standard, Dwarf, and Climbing ROSES, from first growers, including many of the newest and most popular sorts.

Surplus Stock of a Nursery, comprising a fine COLLECTION of LAURELS, RHODODENDRONS, AZALEAS, YEWS, PÆONIES, Golden BOX, IVIES, LILACS, ABIES, CUPRESSUS, CONIFERS, HYDRANGEAS, &c. All well grown and in fine condition for present planting.

200 Well-grown Pyramid and Dwarf-trained Fruit TREES, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, also CURRANTS, GOOSEBERRIES, &c.

A Collection of Carnations, Pinks, Picotees, &c., HOLLYHOCKS, GLADIOLI to name. CYPRIPEDIUM SPECTABILE, AMARYLLIS, BEGONIAS from Ghent, FREESIAS, LILY OF THE VALLEY Clumps. 1000 SPIRÆA JAPONICA and PALMATA, DIELYTRA SPECTABILE, IRIS, ANEMONES, 3000 South African TUBEROSES, ARUMS, HYACINTHUS CANDICANS, &c.

Also a Great Clearance of Dutch Bulbs, several thousand unsold lots from Sales during the season, comprising HYACINTHS, TULIPS, NARCISSUS, CROCUSES, LILIUMS, &c., in large quantities, without reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 6, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

GREAT SALE of BURMESE DENDROBIUMS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 7, at half-past 12 o'Clock precisely, by order of Messrs. Hugh Low & Co., a magnificent Importation of all the leading BURMESE DENDROBIUMS, including D. BRYMERIANUM, D. CRASSINODE BARBERIANUM, D. DEVONIANUM, D. JAMESIANUM, D. NOBILE, D. THYRSIFLORUM, and a truly superb lot of D. WARDIANUM GIGANTEUM LOWII.

On view morning of Sale, and Catalogues had.

Thursday Next.

A COLLECTION of ESTABLISHED ORCHIDS, in FLOWER, Consisting of SPECIAL VARIETIES and SPECIMENS, Also An Importation of Rare LILIUMS, from Japan.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, February 7.

On view morning of Sale, and Catalogues had.

Friday Next, February 8, 1895.

SANDER'S UNRESERVED SALE OF

CATTLEYA TRIANÆ.

The true Ibaque type, which has become nearly extinct. We had to employ a great number of men in collecting, although these mountains have been familiar to us for the past twenty years. We offer the entire lot, and no more are coming,

2000 GRAND PLANTS,

In the soundest, plumpest, most leafy, and perfect condition of any plants that have ever previously been collected. Collected by our own experienced collector over the immense Ibaque Mountain district.

OUR VARIETIES HAVE REALISED IMMENSE SUMS when private collections have been sold. "Leeanum" brought 700 guineas (five plants). Our Ibaque varieties have no equals, and the lot now offered are from the same mountains where we imported Leeanum, Schroderiana, Measuresiana, Hardyana, Ernestii, Courtauldiana, Oweniana, Colemanii, Vanneriana, Russelliana, virginalis, alba, and many others—in fact, all the best.

THE WHOLE TO BE SOLD WITHOUT THE LEAST RESERVE.

Also 1000 IMPORTED PLANTS of SANDER'S TRUE

PACHO ODONTOGLOSSUM CRISPUM,

just to hand from our own mountains, which we have hired for the past eleven years. Plants in splendid order and condition, and

ALL TO BE SOLD WITHOUT the LEAST RESERVE.

O. crispum apiatum, O. c. Veitchianum, O. c. Sanderianum, and all the most magnificent forms of this lovely species are from our importations—of this there can be no doubt—and those now offered are the genuine Sanderian Pacho type; this we guarantee.

AND MANY OTHER MAGNIFICENT ORCHIDS,

full particulars of which will appear in the Catalogue, in which all the plants are carefully described. We shall be glad to forward Catalogues on application.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 8, at half-past 12 o'Clock, by order of Messrs. F. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

Monday Next.

10,000 choice HARDY PERENNIALS, hundreds of CARNATIONS, PICOTEES, and HOLLYHOCKS; a magnificent Collection of IRIS, hundreds of English-grown LILIES, of the very best kinds; GLADIOLUS, CLEMATIS, and other CLIMBERS, in variety; thousands of HARDY BULBS, and 400 named DWARF ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, February 4, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

A CONSIGNMENT RECEIVED DIRECT, and collected by Mr. F. PECHACEK,

Comprising Fourteen Plants,

LÆLIA AUTUMNALIS ALBA.

Very rare.

600 ODONTOGLOSSUM CITROSMUM.
170 ,, INSLEAYI SPLENDENS.
600 LÆLIA MAJALIS.
100 ,, New Species.
300 ONCIDIUM TIGRINUM.
90 EPIDENDRUM NEMORALE.

Also 100 LOTS of CHOICE ESTABLISHED ORCHIDS (weather permitting) from the Collection of De Barri Crawshay, Esq., in consequence of alterations being made to his greenhouses, including Lælia purpurata alba, L. elegans alba, L. anceps Crawshayana, F.C.C., R.H.S.; Odontoglossum triumphans (Rosefield var.), O. crispum Trianæ, O. Uro-Skinneri, O. crispum Sunrise, O. c. Favre Maia, O. Wilkeanum (Rosefield var.), O. c. Miss Florence M. Bovill.

Together with an IMPORTATION, by order of Messrs. Walter Kemsley & Co., including

660 CYPRIPEDIUM PARISHII
170 ,, BELLATULUM
240 VANDA CŒRULEA (large-flowered variety)
,, KIMBALLIANA
,, AMESIANA
80 DENDROBIUM FALCONERI
220 ,, WARDIANUM
D. BRYMERIANUM, D. THYRSIFLORUM, D. PRIMULINUM, &c., and LILY Species from the Shan States.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, NEXT, February 5, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

7000 LILIUM AURATUM, and other Japanese LILIES, received direct, in good condition; 4000 Double and Single BEGONIAS, 200 CARNATIONS ("Mrs. Reynolds Hole") Twelve Boxes ACHIMENES, 1000 SEAKALE, English-grown LILIES, HERBACEOUS PLANTS, GREENHOUSE PLANTS, &c., also 63,000 KENTIA FORSTERIANA, 50,000 KENTIA BELMOREANA (to be sold in Cases as received), with COCOS WEDDELLIANA SEEDS, and SEEDS from the Canary Islands, and (weather permitting) 500 DWARF and 200 STANDARD ROSES, also 60 AZALEA INDICA, extra strong plants.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 6, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Upper Edmonton.

DISSOLUTION of PARTNERSHIP. *Re* G. & J. AGATE. Absolutely Without Reserve, in one lot, as a going concern. IMPORTANT to FLORISTS, MARKET GARDENERS, and OTHERS.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY, February 13, at 2 o'Clock, the Old-established LEASEHOLD NURSERY and MARKET GARDEN, known as the Wyer Hall Nurseries, Tanner's End, Upper Edmonton, ten minutes' walk from Silver Street Station, comprising 10 acres of Land, part with Fruit Trees, two Cottages, spacious Barn, sixteen Greenhouses (about 16,000 feet super. of Glass), heated by about 4800 feet of Piping. The whole of the Stock, Horse, Vans, and Utensils, will be included in the Sale; also Good-will. Lease 17 years unexpired. Rent £80.

May be viewed. Particulars had on the Premises; of Messrs. SOAMES AND THOMPSON, Solicitors, 12, Coleman Street, E.C.; Messrs. AVERY & Co., Solicitors, 792, High Road, Lower Edmonton, and 34, Finsbury Pavement, E.C.; also of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Stapleford, near Nottingham,

Ten minutes' walk from Stapleford Station (Midland Railway). THIRD PORTION. ABSOLUTE CLEARANCE SALE of the most recently transplanted and best STOCK growing at the Nurseries, including magnificent and perfect Specimen Conifers, the whole being particularly well-rooted.

IMPORTANT to GENTLEMEN, LANDSCAPE GARDENERS, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at Frettingham's Nurseries, Stapleford, near Nottingham, on TUESDAY, February 12, and THREE FOLLOWING DAYS, at 12 o'Clock without reserve (the Freehold having been sold), 20,000 CONIFERS, a grand stock of GOLDEN YEWS, a large quantity of GOLDEN and SILVER HOLLIES, for which this Nursery has been noted; CUPRESSUS LAWSONIANA in rich variety; 1000 FRUIT TREES, together with a quantity of ORNAMENTAL TREES in variety.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; of A. T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

WANTED, a SECOND-HAND ONE-HORSE VAN.—Capable of conveying 1 ton of Plants or other produce to Market. Must be in good condition and cheap.—WM. W. CLARKE, Milton, Northampton.

FOR SALE, owing to want of room.—A handsome specimen PLATYCERIUM GRANDE, measuring 6 feet across. Antlers 5 feet long.
GARDENER, S. Lawrence, Esq., Clapham Park, S.W.

TO BE SOLD, a FLORIST, JOBBING, and FRUITERER'S BUSINESS. — Four Houses heated, 140 feet run, with 45 feet heated frames. Good frontage to main road in favourite suburb of London, S.W.
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FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation-house, &c., heated by hot water; stable, shed, &c. Price £35, or offer.
Apply to W. H., Park Row Nursery, Greenwich.

NURSERY FOR SALE.—Lease, Stock, Eight Greenhouses, Sheds, &c. Low ground rent; no taxes; a bargain. Must be sold. Particulars, B. A., 35, Baronet Road, Lansdowne Road, Tottenham, N.

TO BE LET on Lease, a SMALL NURSERY at Lee, containing 4 Glass-houses about 60 feet each, and a six-roomed dwelling-house.—W. BROWN, Lee Green, S.E.

TO LET.—TWO Valuable LEASEHOLD NURSERIES, in good working condition, low rents, capital opening for an energetic man, or would let separate, within eight miles of London.
ROBERT PECKITT, 45, Plumstead Road, Woolwich.

TO NURSERYMEN and OTHERS.—TWO TOMATO-HOUSES, 100 feet long by 14 feet wide; one 50 feet by 14 feet; one Rose House, 35 feet by 16 feet, with Heating Apparatus complete. These splendid houses cost over £500 not three years ago, and are being sold cheap, as the company having got notice to quit is giving up business. Also a large quantity of RHUBARB and SEAKALE ready for forcing. Large beds of ASPARAGUS, that may be lifted in April. Nearest Railway Station, Shireoaks.

Apply to the SHIREOAKS MARKET GARDEN CO., Ltd., Netherthorpe, near Worksop.

THE "CHARLES COLLINS" FUND.—At a meeting of Members of the Horticultural Press, held at the Hotel Windsor, Victoria Street, S.W., on January 11, the following resolution was unanimously passed:—

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect:—MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.; BRIAN WYNNE, F.R.H.S. (Vice-Chairman), 1, Clement's Inn, Strand, W.C.; GEORGE GORDON, F.R.H.S. (Treasurer), Endersleigh, Priory Road, Kew; T. W. SANDERS, F.R.H.S. (Hon. Sec.), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning on the evening of December 24 from a visit to some friends at Forest Gate, and just as he was about to enter the train was suddenly taken ill, and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the committee and executive have resolved to make an earnest appeal to those who knew him to subscribe to the above Fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above, or to the Editors of the various gardening journals. The amounts received will be duly acknowledged in the gardening press.

List of Subscriptions.

	£	s.	d.		£	s.	d.
Brian Wynne ...	1	1	0	Proprietors of *Amateur Gardening* ...	1	1	0
J. Mallender ...	0	5	0	H. J. Jones	1	1	0
A. K., Dublin ...	0	10	0	Mrs. H. J. Jones ...	1	1	0
E. Trinder	0	2	6	H. T. Wood & Son...	1	1	0
Dr. Masters	3	3	0	T. W. Sanders ...	0	10	0
A. Dean	0	10	0	R. Weller	0	5	0
G. W. Cummins ...	0	5	0	H. C. Prinsep ...	0	5	0
C. T. Druery ...	0	2	6	D. B. Crane	0	2	6
"A Friend" ...	1	0	0	A. Rendle	0	2	6
G. Gordon	1	1	0	H. Stevenson ...			
W. P. Wright ...	3	3	0	Ladywell Horticultural Society ...	0	13	6
E. Molyneux ...	1	0	0	H. Shoesmith ...	0	5	0
S. Mortimer... ...	0	10	0	H. A. Smith... ...	0	2	6
C. H. Curtis... ...	0	10	6	W. Differ	0	2	6
Rev. H. D'Ombrain	0	10	6	J. Norton	0	2	6
C. E. Shea	1	1	0	Mrs. J. Norton ...	0	2	6
R. P. Brotherston ...	0	5	0	C. E. Diggle... ...	0	2	6
H. Richards... ...	0	10	6	G. W. Comfort ...	0	2	6
W. H. Divers ...	0	5	0	Mrs. G. W. Comfort	0	10	0
W. Wells	0	10	0	E. R., Dublin ...	0	5	0
E. D. Smith... ...	0	5	0	J. Mallinder... ...	1	1	0
Dobbie & Co. ...	0	10	6	A. Pettigrew ...	0	2	6
T. Humphrys ...	0	5	0	W. L. T., Chelsea ...	0	10	6
J. W. Moorman ...	0	5	0	E. T. Cook... ...	1	1	0
J. P. Kendall ...	0	2	6	Wm. Robinson ...			
A. Gardener... ...	0	1	0				
W. Iceton	0	5	0				
Laing & Sons ...	1	1	0				

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Palm Seeds (New Importation).

KENTIA BELMOREANA and KENTIA FOSTERIANA.—New Seed just arrived, 2*s.* per 100, 15*s.* per 1000. Price for 10,000 on application.
MORLE & CO., 23, Queen's Terrace, London, N.W.

MILLER'S CARROTS, Best and Cheapest—Splendid selected strains for Table or Exhibition. Carrot Early Nantes, 4*d.* oz.; James' Intermediate, 4*d.* oz.; Veitch's Matchless Scarlet, 8*d.* oz., 3*d.* pkt.; Veitch's Scarlet Model, 8*d.* oz., 3*d.* pkt.; Sutton's New Red Intermediate, 8*d.* oz., 3*d.* pkt., post free. All other seeds equally good and cheap. Seed Catalogue free.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

ASPARAGUS, for Forcing; five years old, splendid roots, 12*s.* 6*d.* per 100; extra fine, 6 years old, 15*s.* per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

To the Seed Trade.

DRIFFIELD'S "ACHILLES" TURNIP.—This remarkable variety has given absolute proof of its disease-resisting power on Farms infested with "Finger-and-Toe" Supplied only in Sealed Bags under the Grower's Trade Mark. Crop Reports and Photos on application. Wholesale Agents: HURST, London; DIXON, Hull; or from
T. N. DRIFFIELD, Brafferton Seed Farms, York.

W. WELLS' SPECIAL LIST OF CHRYSANTHEMUMS contains the Best Novelties of the Season. Also the best 12, 24, 36, 48, and 60 Japanese, and 12, 24, 36, and 48 Incurveds for Exhibition up to date, with their heights. It also contains a lot of useful information to Exhibitors, old and young. Post free, 2 half-penny stamps. My Catalogue, which gives more useful information to Amateurs than any other such book ever published, contains the names and description of nearly 1000 varieties. Post free, 4*d.* in half-penny stamps. Single Chrysanthemums a great Specialty.
EARLSWOOD NURSERIES, RED HILL, SURREY.

BEGONIAS A SPECIALTY.—Awarded Nine Gold Medals, Gold Cup and only Gold Medals for Begonias at the International Horticultural Exhibition. Seed saved from prize plants. Choicest mixed, single or double varieties, 1*s.*, 2*s.* 6*d.*, and 5*s.* per packet. Collections (seed), single, 12 named varieties, separate, 5*s.* 6*d.*; 6 ditto, 3*s.* Tubers, named singles, from 18*s.* to 60*s.* per dozen; choicest seedlings, 4*s.* to 21*s.* per dozen; bedding, choicest, 3*s.* to 9*s.* per dozen; choicest named doubles from 18*s.* per dozen; choicest seedlings, 12*s.* to 30*s.* per dozen; choicest mixed, for bedding, 9*s.* to 18*s.* per dozen. Catalogues gratis.
JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

THE
"MONTROSE"
COLLECTION OF
ORCHIDS.

JOHN COWAN & Co.
(LIMITED),

Are now selling by Private Treaty, at their Nurseries, the large and fine Collect on formed by the late DOWAGER DUCHESS OF MONTROSE. Inspection is earnestly invited. Descriptive and priced Catalogues post-free on application.

The Company have just received a large and fine Importation of EAST INDIAN ORCHIDS in fine condition, including grand lots of the following and other Orchids:—Dendrobium Wardianum giganteum, D. Thyrsiflorum, D. Jamesianum, D. Devonianum, D. nobile, D. formosum giganteum, D. Falconeri, D. Findleyanum, Cymbidium Lowianum, Cypripedium Parishii, and others.

The Company have also recently received immense Importations of LÆLIA PURPURATA and other BRAZILIAN ORCHIDS, and their general stock is very large and fine. Inspection is earnestly invited. Descriptive and priced Catalogues post free on application to the Company.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

FIVE PALMS for Sale or Exchange, in 12-inch pots, suitable for House Decoration.—Apply to GARDENER, Carlton Hall, Saxmundham.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

CHRYSANTHEMUM W. H. Lincoln.—Strong Cuttings of this grand market variety, 5*s.* per 100. Rochford Cucumber, new seed, 5*s.* per 100. Cash with order.—JENKINS, Florist, Hampton Hill, Middlesex.

B. R. DAVIS' BEGONIA CATALOGUE.—A Gem of Gems. Acknowledged to be the best Descriptive Catalogue of one of the best Gold Medal Prize Collections in cultivation, post-free.
B. R. DAVIS, Begonia Grower, Yeovil, Somerset.
P.S.—A quantity of English Oak, 8 to 15 feet; also Privet ovalifolium, all sizes, from 1 to 6 feet.

PALMS, FICUS, FERNS, in any quantity.—Kentias, Latania, Corypha, Seaforthia, Arecas, Chamærops, in 48's, 12*s.* p. doz.; do. in 60's, 5*s.* p. doz.; do. in Thumbs, 3*s.* p. doz.; Aralias, 5*s.* and 6*s.* p. doz.; Aspidistras, 48's and 32's, 18*s.*, 24*s.*, and 30*s.* p. doz.; Cyperus 5*s.* and 6*s.* p. doz.; Ficus, 12*s.* p. doz.; Adiantums 6*s.* and 8*s.* p. doz.; do. in Thumbs, 12*s.*, 16*s.*, p. 100; Six sorts good Market Ferns, 6*s.* p. doz.; Asparagus, 18*s.*, 24*s.*, p. doz.; Solanums, Heaths, Cyclamens, Marguerites, &c., 10*s.* and 12*s.* p. doz. Free on rail, carefully packed. *Cash with Order.*—ALFRED MARTIN, Angell Town Nursery, Wiltshire Road, Brixton, London.

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30,000 GERANIUM CUTTINGS, F. V. Raspail, 3*s.* per 100, 25*s.* per 1000.
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7,000 CARNATIONS, in 48's, 6*s.* per doz.; in 60's, 5*s.* per doz.
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4,000 White CYCLAMEN GRANDIFLORUM, full of bud and bloom, in 48's, 6*s.* per doz. All for cash.
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D. WARDIANUM GIGANTEUM LOWII.
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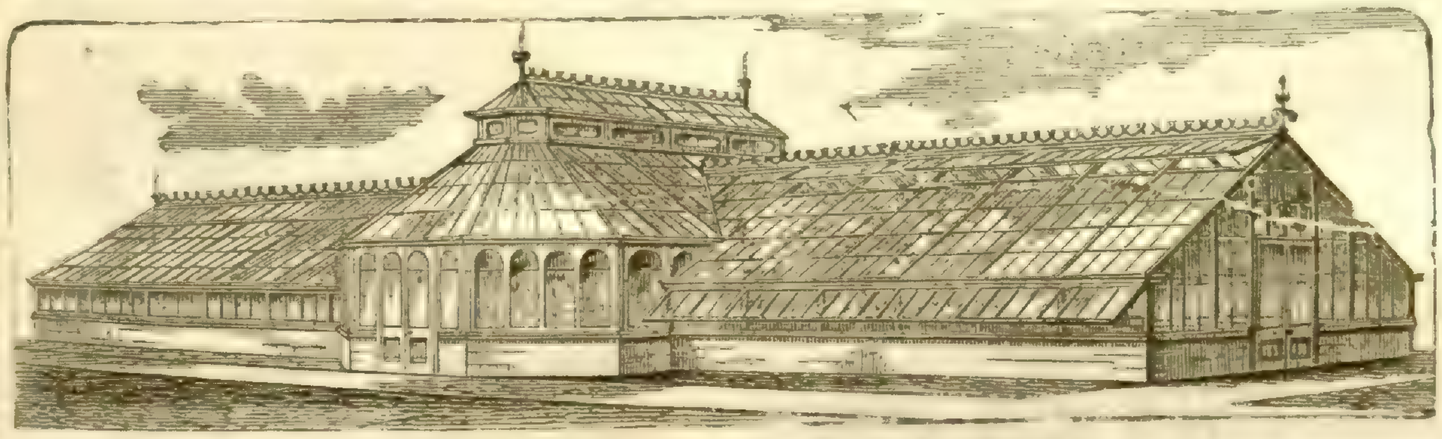

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BEST NEW CHRYSANTHEMUMS.

Sixty of the leading Prize-takers have been asked by the Editor of the *Journal of Horticulture*, to give, in their order of Merit, a list of the Twelve best new Japanese Varieties for Exhibition. This list appeared in that paper on January 24. Out of the Twelve Best, I have the honour of introducing Nos. 1 2, 3, 7, and 12. I do not boast of those I send out, neither do I cast a slur on other Growers' Varieties, but the above Golden Testimony speaks for itself. Here we have a body of independent Growers, who, unbiased by any trade consideration, have placed "The Ryecroft Collection" in the premier position of the world. The following are the Twelve in their order of Merit, with price for good plants in March:—
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MASTERPIECE

(NOW OFFERED FOR THE FIRST TIME).

A handsome new variety, of globular shape, growing to a large size, and a good keeper. The flesh is white, with pale yellow skin, and mild in flavour. It is valuable alike for culinary and exhibition purposes.

1s. 6d. per packet, post-free.

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A large and handsome new variety; specially recommended for autumn sowing, and, if transplanted in early spring, bulbs of enormous size may be produced early in summer.

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Of large size and handsome shape, whilst its good keeping and heavy-cropping qualities make it of equal value for culinary use.

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OF SUPERB QUALITY.

HERO of ISLEWORTH

Award of Merit, Royal Hort. Soc., Aug. 8, 1893.

A green-fleshed Seedling of exceptional merit, free setter, and superior quality. Highly recommended.

Per Packet, 2s. 6d.

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A high-class Seedling, of robust constitution, flesh white, of great depth, and superb flavour.

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A scarlet-flesh Seedling of great merit. Fruit of medium size, with a bright golden-yellow netted skin, and of exquisite flavour.

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FLOWER SEEDS
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Made up of the most popular Varieties, and to suit all requirements, from 2s. and upwards.

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NEW GIANT WHITE PRIMULA,

PRIMULA SINENSIS FIMBRIATA SNOWBALL.

Post-free, 5s. per Packet.

Without exception, the finest White Primula in cultivation, and we feel confident that it cannot fail to give satisfaction wherever it may be grown. It is more vigorous in growth than the old varieties, the foliage being remarkably strong. The flower-stem is very sturdy, rises well above the foliage, and bears a profusion of massive flowers of a pure white colour. The individual blooms measure 2¾ inches in diameter, and are exquisitely fringed and of great substance.

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A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

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The Descriptive Catalogue of Roses, post-free.

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WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of
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Containing also the best Novelties of the season. MAY BE HAD ON APPLICATION. Any of our Customers not having received one by post will oblige by letting us know, when another shall at once be posted.

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Seed & Trial Grounds—Feltham & Twickenham, Middlesex.

Friday Next, February 8, 1895.

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SALE OF

CATTLEYA TRIANÆ.

The true Ibaque type, which has become nearly extinct.

We had to employ a great number of men in collecting, although these mountains have been familiar to us for the past twenty years. We offer the entire lot—and no more are coming.

2000 GRAND PLANTS,

In the soundest, plumpest, most leafy, and most perfect condition that any plants have ever previously been collected. Collected by our own experienced collector in the immense Ibaque Mountain district.

OUR VARIETIES HAVE REALISED IMMENSE SUMS

when private Collections have been sold. "LEEANA" brought 700 Guineas (five Plants) Our Ibaque varieties have no equals, and the Lot now offered are from the same mountains whence we imported Leeana, Schroderiana, Measuresiana, Hardyana, Ernesti, Courtauldiana, Oweniana, Colemanii, Vanneriana, Russelliana, virginalis, alba, and many others—in fact, all the best.

The Whole to be Sold Without the Least Reserve.

ALSO

1000 IMPORTED PLANTS OF SANDER'S TRUE

Pacho Odontoglossum crispum,

Just to hand from our own mountains, which we have hired for the past eleven years.

Plants in Splendid Order and Condition,

AND ALL TO BE SOLD WITHOUT THE LEAST RESERVE.

O. crispum, apiatum, O. c. Veitchianum, O. c. Sanderianum, and all the most magnificent forms of this lovely Species are from our importations. Of this there can be no doubt, and those now offered are the genuine Sanderian Pacho type; this we guarantee.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 8, at half-past 12 o'Clock, by order of

Messrs. F. SANDER AND CO., St. Albans.

THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 2, 1895.

EXHIBITING ROSES.

THIS is the dead season in the Rose garden—I speak metaphorically, because as King Frost has not laid his icy grip on our Roses as in some recent years, I hope and believe that there are few deaths amongst them; and as we are now drawing to the close of the first month in the year, always a most trying one, whether to man or flower, it may be hoped that we have escaped any severe or cruel treatment of our Roses, although during the past week we have had both snow and frost.

At such a season, various topics which have found no place during the busy months of the year, crop up—just as when the dead social season arrives, the Big Gooseberry, or some equally important subject, is started in the daily papers, and correspondents take up the cue, and fill columns with a subject no one cares a penny about. Amongst the subjects connected with the Rose which is sure to assert itself in one form or another, is that of the method of exhibiting the flowers. We see tirades against the present formal method of exhibiting them in boxes; and we are asked—Can anything be more formal and insipid than these long lines of green boxes with stiff, formal flowers wired-up, and placed without foliage or anything that might suggest the idea of beauty? I have now for a good many years heard these complaints from time to time. I have seen attempts made to get rid of this formality, and the result has always been a failure [? ED.]. We are sometimes asked why we do not take a lesson from our neighbours across Channel. Well, I have seen Rose exhibitions the there; there was no beauty in their staging, while the flowers themselves were such as no exhibitor even in his novitiate would set up with us. But as the method of exhibiting Roses seems to be a subject with interest to many, I venture to put forward a few remarks on it, even although some of them may appear heretical to many growers.

First of all, let me ask what is the object of the Rose exhibition—is it not primarily to see the best? that is, the largest, brightest, and most beautifully-formed of the many lovely varieties of this beautiful flower. We want to see them in all their beauty, to be able to look at them all round, and to compare them one with another, and I ask confidently what form of exhibiting could do this so well for us as the present one? We can (especially if they are exhibited in Mr. Foster's tubes), do this easily in the present style of boxes; we can see easily whether rules have been broken, foliage added, or any tricks played with the flower, and I know of no other mode of exhibiting in which it can be so effectually done. I have seen them exhibited in baskets crowded with Ferns, foliage and moss from whence it would have been difficult to take out a flower for the purpose of examination, or to see whether there had been any underhand dealings with it. If therefore

we are to have Roses, &c., exhibited so that we can see them to the best advantage, I do not think there is any p'an that can affect this object so well as the present style of exhibiting, formal though it be.

But then it will be said, this may be all very well for those who are exhibitors, but the general public do not care for it. But does the general public care much for perfection in any of these things? The general public go to a cattle show or a poultry show, and their presence is very valuable, as it implies so many shillings as payment for admittances to enable good prizes to be given; but whoever imagines that the general public contributes anything to the improvement of stock feeding or poultry breeding? and after all it is the experts, or would be experts, who form the back-bone of all such pursuits.

But, again, there is one point on which I hold a somewhat anomalous, or, as some would say, contradictory opinion, viz., that the exhibition Rose is one which does not lend itself readily to the purposes of decoration. Take half-a-dozen exhibition blooms of Marie Baumann, of Merveille de Lyon, and Gabrielle Luizet, put them into the hands of the most expert decorator, give him or her a vase of any shape or character you like, and I think it will be a puzzle to them to arrange them effectively. I think the same may be said of all these regular double flowers; we cannot so utilize the double Dahlia, or the incurved Chrysanthemum, or the various double forms of Aster. With regard to the Chrysanthemum, I did not see in any of the stands set up for decorative purposes at the Aquarium a single incurved flower. They were all Japanese, rough and irregular, and much better suited for this purpose than any incurved varieties. So that while believing that the present method of exhibiting exhibition varieties is not likely to be improved upon, I think we must look in other directions for the purpose of giving variety to our shows. It has been asked by some of your contemporaries why does not the National Rose Society take this matter up? It *has done so* for a great many years, and prizes were formerly offered for stands, vases, or baskets of Roses, but the result was most disappointing, never more than three or four persons competing; then complaints were made that some exhibitors had an advantage in consequence of the receptacle used for their flowers, and one of our members—Mr. G. Paul—most kindly provided some very pretty baskets, which won general admiration, so that all the exhibitors were on the same level. But even then the result was disappointing, and ultimately the Society felt obliged to drop the class, and their desire to encourage the growth of what we now call garden Roses gave them an opportunity of making a fresh departure. Prizes were offered by Lord Penzance and by the Society for stands of garden Roses, and from these were excluded all exhibition varieties; still, however, the green boxes came into use, and the competitors staged their flowers in them. These flowers consisted of the smaller Teas and hybrid Noisettes, Polyanthas, and single Roses; while last year another improvement was carried out. The example set by one of the northern affiliated societies of filling a certain space with a decorative display, was adopted at all three exhibitions. The result was not so satisfactory as was anticipated. Curiously enough, at Halifax, from whence the idea was borrowed, no one appeared to compete for it; while at Windsor and the Crystal Palace the exhibits showed that there was still something to be learned in carrying out the arrangement.

There is one drawback in connection with the exhibition of garden Roses at both the metropolitan and northern shows, viz., that with many of them their time for flowering is gone by. It is very difficult to catch such lovely flowers as the Austrian Copper, the Austrian Yellow, Macrantha, and others of the single-flower species after June, except perhaps in some cold district or in some very backward season; and as the Society has its members in all parts of the kingdom, they have the opportunity of making use of their advantages. There is another thing to be considered, and one of considerable weight with small amateurs, and that is the difficulty of transport; first, they are cumbersome and take up considerable room, as they must be cut long, while if they are laid down in the boxes and exposed to the tender mercies of railway porters, a considerable number of the flowers will be shattered before they arrive at their destination. To the owners of big battalions and long purses this may be a matter of indifference, but it does deter smaller men, and if an exhibitor has, beside his garden Roses, stands of exhibition flowers to look after, he will find his difficulties very much increased. I know something of what it is in exhibiting Gladioli, and can, therefore, quite understand the amateur's difficulties. At the same time, the National Rose Society may give still more encouragement to the decorative side of the subject, especially to amateurs. Although I suspect that no great originality will be developed, what are called the old Garden Roses, such as Blairii No. 2, Paul Ricaut, Paul Perras, Chênédolé, Juno, and others of a similar character, will not be of much use for this object.

A movement has now been inaugurated by the Royal Horticultural Society for drawing up suggestions for judges, and I know of nothing more likely to embarrass judges at the Rose show than having the flowers mixed up together—the present system of showing them in green boxes is one which no judge would like to see abolished. How could he possibly judge by points unless the flowers were put plainly before him, and were easy to be examined? So that on the whole my verdict would be, do not meddle with the present arrangement as far as exhibition-flowers are concerned, but do what you please with the non-exhibition varieties. *Wild Rose.*

NEW OR NOTEWORTHY PLANTS.

ASPIDIUM (LASTREA) BASIATTENUATUM,

Jenm., n. sp.

STIPITES tufted, ¼ to 1 inch long, very slender, channelled, clothed with a slight gray pubescence; fronds 3 to 6 inches long, 1 to 1¼ inch wide, bipinnate, base gradually dwindling, the upper part tapered to the finally entire or semi-lobed point; green, with a fine gray pubescence, the very slender channelled rachis and other vascular parts similarly clothed, texture barely firm. Pinnæ numerous, spreading, contiguous, the greater part of each pinnatifid, fully pinnate only at the sessile base, the acute point entire, glossy above, ½ to 1 inch long, 3 to 4 lines wide; lobes blunt or round-pointed, the basal dimidiate ones free, the rest decurrently connected, ¾ to 1 line wide, 1 to 2 lines long, entire or somewhat crenulate; veins free, pinnate, simple; sori minute, medial, copious; involucres as large, gray, with a stellate pubescence. Mount Moses (2000 feet altitude), St. Andrew Parish, Jamaica, West Indies. Small and distinct, and only connected with the conterminous group by its free veins and the dwindling base of the fronds. *G. S. Jenman, Demerara, June* 1894.

LYCASTE SKINNERI, MADAME STEINMETZ, *n. var.*

Under the rules laid down by the Select Committee appointed by the Royal Horticultural Society for the regulation of "the naming of Orchids for garden purposes," it would be perfectly admissible to give a botanical varietal name to such a very distinct form as this, but a wise custom of giving these distinct variations which are so numerous among Orchids, and which often appear in but one example, has prevailed, and they are now generally named in the same way as "artificial crosses between hybrids," with fancy names, the recommendation of the same authority that "the application of personal or commemorative names should be confined to cases in which the persons commemorated have been or are in some way connected with Orchids or their culture," being invariably observed. From a florist's point of view, L. Skinneri Madame Steinmetz is the largest and most perfect which I have yet seen. It measures 6 inches across, each sepal being 2 inches broad. The sepals are pure white, the petals white mottled with pale pink; the base of the lip yellow, changing upwards to primrose colour; the side lobes and front lobe being tinged with rose-pink. It has flowered with M. C. Steinmetz, St. André, Bruges, Belgium, who is much pleased at having flowered it out of a batch of imported plants. *James O'Brien.*

SOME OF THE EPIPHYTES OF AMBOINA.*

THE last part issued of the *Annales du Jardin de Buitenzorg*, contains an interesting account of the morphology and biology* of some of the more remarkable epiphytal plants of the Moluccas, and especially of the island of Amboina. After a twelvemonths' stay in Java, the author had an opportunity of visiting the group named, and he was much impressed by the striking contrast between the two countries offered by the inhabitants, and by the vegetation, both in the natural and cultivated condition, feeling himself, as he expresses it, "transported into a new world." Epiphytes abound in the driest as well as in the most humid parts of the island, and representative examples of the principal natural orders are described and figured, beginning with a Liverwort belonging to the genus Dendroceros, characterised by being covered with bladdery excrescences. Next come two species of Trichomanes—T. peltatum and T. Motleyi—both desirable for cultivation; for I believe neither is to be found in our gardens. T. peltatum, as the name indicates, has circular shield-like fronds attached by the centre. These are sessile on the creeping stems, and the largest about 2 inches in diameter. A figure is given in the Linnean Society's *Journal*, ix., plate 8, fig. c. T. Motleyi is one of the species of tufted habit, with very small, entire, cordate, orbicular or obovate fronds, scarcely a quarter of an inch across. Teratophyllum aculeatum, an Acrostichum of the section Stenochlæna, and very closely allied to, if not a variety of the widely-spread A. sorbifolium, is one of the most remarkable among climbing epiphytal Ferns. Indeed, Mr. J. G. Baker regards it as a variety of A. sorbifolium, but so far as the herbarium specimens at Kew of the African and American varieties of this species go, they do not exhibit the extreme diversity of form of frond characteristic of the Asiatic Fern to which has been given the name Teratophyllum aculeatum. This ascends almost to the tops of the highest trees, the primary fronds of the climbing stems being bipinnate or tripinnate, with very minute ultimate segments; so small indeed that Wallich named this state Davallia achilleifolia. These fronds are closely attached to the trunk or branches of the tree on which the plant climbs. At length, simply pinnate spreading fronds, with broad entire pinnules, are produced, and occasionally inter-

* *Morphologische und biologische Untersuchungen ueber einige Epiphytenformen der Molukken, von G. Karsten*, vol. xii., pp. 117—195, t. 13—19.

mixed with them sori-bearing fronds having narrow pinnules of the ordinary acrostichoid form.

Karsten next describes some of the more remarkable species of the Asclepiadeous genera Dischidia and Conchophyllum, which produce modified concave or hollow leaves, in which a root-system is developed to aid in the nutrition of the plant; at least, this seems the most probable function of these singular modifications of the foliar organs. Much, however, has been written on this subject, and very divergent views taken of the part they play in the economy of the plant.

Fig. 18.—GLASS SHED FOR CULTIVATING APRICOTS AT BIRDSALL, YORK.

Dischidia Rafflesiana, figured and described in the *Gardeners' Chronicle*, xiv. (1893), p. 368, from a plant growing at Kew, is the most striking of those bearing pitcher-like appendages, which in this instance hang in clusters, free from the trunk on which the plant climbs. Karsten describes several species of Conchophyllum, in which the enlarged, fleshy leaves have their deeply concave surface towards and resting on the trunk, thus sheltering the root-system developed on this concave surface. Figures, from photographs, are given, showing these plants growing naturally. They affect open, dry and hot situations, and therefore benefit greatly from the means provided against the waste of moisture. In C. maximum the modified leaves are as much as 4 inches across.

Polypodium imbricatum is described as new, but it is exceedingly near P. lomarioides, though Karsten asserts that it is entirely different—*gänzlich verschieden*. It is one of those having a climbing caudex in shield-like sections or extensions. However, the real point of interest in P. imbricatum is the presence of elater-like organs, forming concentric bands around the spores, and "unmistakeably homologous in development with the elaters of Equisetum." If correctly interpreted, this is indeed a noteworthy discovery, which many microscopists will doubtless attempt to verify or refute. Karsten has written a special illustrated paper on the subject, which appeared in last year's *Ergänzungsband of Flora*. *H.*

APRICOT CULTURE UNDER GLASS.

Fig. 18 represents a glass shed for cultivating Apricots in Lord Middleton's gardens at Birdsall, Yorks, which has proved for many seasons to be extremely suitable for the purpose, it having rarely happened that Mr. Wadds, the gardener, has failed to secure a good crop of fruit, although in ordinary orchard-houses success in Apricot cultivation is rarely attained. The chief reasons for which the protection is necessary are that the blossoms require such protection during the spring, and in ungenial seasons the sheds conduce to the ripening of the fruits and the maturing of the wood. The house or shed faces east, and is a hipped roof or half-span; the wood-work of the hip rests on the back wall, and the front on a dwarf wall 4½ feet high. The height at the back is about 12 feet, and a ventilator runs the entire length. Lights at the front of the house are not necessary, but they would improve the appearance. The front rests on pillars, and the house is trellised throughout with strong wires 6 inches apart from each other, and the same distance from the roof. The open front facing east prevents the trees blooming too early in the year. The trees are planted outside, and the branches trained under the roof. The hip-roof resting on the wall is essential for admitting the western sunlight.

ORCHID NOTES AND GLEANINGS.

LÆLIO-CATTLEYA MRS. ASTOR, *O'Brien*.

A HYBRID from Cattleya Gaskelliana, by Lælia xanthina, and combining the characters of the two parents. Flowers 5 inches across, light yellow. Front of lip light pink. See *Gardeners' Chronicle*, 1894, i., pp. 230, fig. 24; *Orchid Review*, ii., p. 3; *Reichenbachia*, t. 89.

PHAIUS AMABILIS ×, *O'Brien*.

Gardeners' Chronicle, 1893, i., 206, fig. 32; *Orchid Review*, i., 86. A hybrid from Phaius grandifolius by P. tuberculosus. *Reichenbachia*, t. 90.

PHAIUS MARTHÆ ×, *Sand*.

A hybrid from P. Blumei, by P. tuberculosus. See *Gardeners' Chronicle*, 1894, i., 343; *Orchid Review*, ii., 127. The hybrid Phaius require a warm, moist, and shady house, and a good proportion of fibrous loam in the compost in which they are potted. *Reichenbachia*, t. 90.

ZYGOPETALUM ROSTRATUM, *Hook*.

Botanical Magazine, t. 2819, &c. Should be grown in a warm moist house, and be kept watered all the year round, but most liberally when making its young growths. *Reichenbachia*, t. 91.

COELOGYNE SWANIANA, *Rolfe*.

Kew Bulletin, 1894, 183; *Orchid Review*, ii., 198. A native of the Philippine Islands, allied to C. Dayana and C. Massangeana, with pendulous racemes of flowers, whose segments are white, and whose lip is brown, veined with yellowish-white. These plants should be grown in baskets, or suspended pans, and afforded, when growing, a high temperature and abundance of moisture. They are less liable to the attacks of insects than some Orchids. *Reichenbachia*, t. 92.

HYBRIDS AND THE RESTING SEASON.

In the current part of the *Reichenbachia*, Mr. Sander calls attention to the necessity in hybridising of selecting plants which have the same period of resting. If a plant happens to flower out of its proper season, as frequently happens with an imported plant, and its pollen be used upon another species which goes to rest at another season, then, in Mr. Sander's experience, the result is unsatisfactory, the plants growing badly, and the flowers produced often malformed and imperfect. This is a very curious and important observation.

PHALÆNOPSIS APHRODITE.

I may mention, *à propos* of the remarks made on p. 110 respecting a spray with fourteen flowers of this grand Orchid, that there was lately cut in these gardens a spike which possessed twenty-eight expanded blossoms. It was presented to Madame Albani, who was staying with the family at the time. There is at the present time a plant of P. Stuartiana

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with a spike of forty-one fully-developed flowers, and this plant produced in 1892 a spray with forty-three blooms. These plants came as quite small specimens from Messrs. J. Veitch & Sons, of Chelsea, seven years ago, and they now occupy small teak baskets which hang from the roof of an ordinary plant-stove that is devoted chiefly to the culture of Palms, Dracænas, Aralias, and similar plants. Two years ago these Phalænopsis were injured by low temperature during a time of severe frost. *Thos. Coomber, Hendre Gardens, Monmouth.*

DISEASES OF THE VINE.

(Continued from p. 101.)

A SECOND disease of the Vine, called "Anthracnose," has been known in Europe since Pliny's time, and like "black rot," is caused by a minute parasitic fungus called Sphaceloma ampelinum (figured and described by Dr. Cooke in our columns, July 8, 1893). Light-coloured and white varieties of Grapes are most subject to this disease, which first attacks the leaves and young shoots, finally passing on to the fruit. On the leaves the disease appears under the form of small brown spots surrounded by a darker ring, at a later stage the central portion becomes grey, dry, and cracked, and often drops out. On the shoots and young berries the spots have frequently a bright red ring inside the dark one, and surrounding the grey central portion, hence the disease is known in some parts of the United States as "Bird's-eye rot." The diseased berries gradually dry up and contract in an angular manner. As the mycelium of the fungus remains in the shoots over winter, it is important that all diseased parts should be cut out and burnt. If the disease appears, a powder composed of equal parts of sulphur and lime dusted on the plant is recommended. The too-free use of fresh stable manure is considered to favour the development of this disease. *G. Massee.*

TOMATO CULTURE.

ONE of the first requirements for a healthful condition, and a subsequent successful propagation of any plant, consists in adopting a well-devised system of soil preparation, and of manuring. We emphasise this requirement, not only on account of its intrinsic importance, but for the further reason that its management is in a controlling degree within the individual direction of each practical gardener. An indifferent admixture of soils, and an unsatisfactory system of manuring, may be considered at the root of a great many complaints of failure in various branches of horticulture, and in that of Tomato culture also.

A system of manuring may be called well-devised or rational when it is based upon the results of a careful examination into the chemical composition of the plant under cultivation, and on a due consideration of its natural qualifications for availing itself of the needed plant-food, both from the atmosphere and from the soil.

Plants with a well-developed and extensive root-system may prosper, when those with a compact and cramped area will fail; and the same statement applies with equal force to the character of the leaf-growth.

The relations of the various mineral constituents of the plants to its successful development must be fairly understood in order to know what elements of plant-food ought to be present in the soil in an available form to render success possible.

To feed plants intelligently implies possession in a fair degree of two kinds of information, namely, a knowledge of the special wants of the plant under cultivation, as regards the absolute amounts and relative proportions of the various essential materials of plant-food, and a familiarity with the composition and the general physical properties of the different kinds of manurial substances at our command.

Plants, like animals, require food for life and growth. No ordinary cultivated plant can thrive without a sufficient supply of each of a number of substances needed for its food. With an abundance of these, in forms in which the plants can use them, and with soil and other circumstances favourable, the crop will flourish, and the yield be large. But if the available supply of any manurial element be too small, a light yield of fruit is inevitable. If all the other conditions for a profitable crop of Tomatos are fulfilled in the soil, except that potash is deficient, the crop of fruit will surely fail. But if the potash be supplied, the yield may reasonably be expected to be abundant.

In removing crops from the soil we take away plant food. This is the chief cause of soil exhaustion and plant failure. Lack of fertility is commonly due, in large part, or entirely, to lack of plant food. The infertility of many soils for Tomato culture is, however, due more to their mechanical condition, their texture and relations to heat and moisture, than to absolute lack of plant food. Such soils want amendment first and manures afterwards.

From many hundreds of experiments with the Tomato, it does not appear that this plant is such a soil-exhausting crop as many other horticultural productions. The composition of the various parts of the Tomato plant, that is taking the average of several investigations, has been found to be as follows:—

Percentage composition of the Tomato plant and fruit.

Various Parts.	Water.	Ash.	Nitrogen.
In the Stem	83·61	3·00	0·32
In the Roots... ...	73·31	11·72	0·24
In the Fruit... ...	93·64	0·47	0·16

An examination of these analytical results reveal the fact that the Tomato fruit contains the largest proportion of water, and the roots the least. The roots contain in their structure the greatest quantity of ash or mineral constituents; this is what might be expected when we consider their fibrous character. The nitrogen is present in the greatest amount in the Tomato-stem, and is the least in the fruit, that is, taking it in its fresh condition. From the foregoing figures we find by calculation that 1 ton of each of the different parts of the Tomato-plant absorbs or abstracts from the soil the following chemical constituents:—

Amounts of dry substance, material matter, or ash and nitrogen, in 1 ton of the various parts of the Tomato.

Various Parts.	Water, free Substance.	Mineral Matter (Ash).	Nitrogen.
	lb.	lb.	lb.
In the Stem	367	67	7
In the Roots... ...	598	263	5
In the Fruit... ...	112	11	4

A careful study of these results reveals the fact that as the roots of the Tomato-plant contain by far the largest amount of dry substance, and considerably the most ash or mineral constituents, with also a comparatively large proportion of nitrogen, that if we wish for a healthy, vigorous, and productive above-ground growth, the conditions for the proper development of the underground growth — the root—demands the greatest care and attention. The gardener, therefore, who wishes for success in his Tomato culture should study the past history of the soil he uses, consider its quality, general character and texture, and then supply whatever he believes to be deficient.

The physical characteristics of twenty-eight varieties of Tomato-fruits, that is the percentage of flesh, and the number of cells in the fruits, have been found to be "the greater the number of cells in a fruit the higher was the percentage of solid flesh," and therefore the better the quality of the Tomato fruit for domestic purposes. *J. J. Willis, Harpenden.*

(To be continued.)

OUR POULTRY.

BY HARRISON WEIR.

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MANY readers of the *Gardeners' Chronicle* are interested in, or have the choice and control of, poultry. There are, moreover, not only very numerous poultry shows for the fancy varieties, but now also there is a movement, and which undoubtedly is a step in the right direction, for classes and shows for table poultry, and also for kinds for the production of eggs. In "old time" the *Gardeners' Chronicle* rendered good service in this direction, and to this day its records are valued for their truthfulness, and referred to as showing clearly the state and quality of the poultry of the period.

As the season has almost begun for the setting of hens and rearing of chickens, it would be well to note some of the best table breeds of fowls, that are not only valuable for the production of early chickens, but also for keeping on either for exhibition alive, or dead as full-grown fowls.

It has been too much the fashion of late to breed more for size than for actual quality of flesh, smallness of bone, and the least amount of offal, and a propensity to fatten evenly, and more particularly on the breast, for reasons which hereafter will be given. There are those who boast of their table-poultry cocks weighing as much as 16 lb. each. This is a mistake, which will be most likely admitted on reflection, when it is shown that the wing, which is considered one of the most dainty portions, would then be of a size that would prove more than sufficient for one person's dinner. Then again all large birds take longer to arrive at maturity, or what is called ripeness. Spring chickens of a large kind are mostly scanty of flesh, and that is of a weak elongated fibre, and of an almost tasteless quality. Though some are more quick in growth than others, yet it is generally that of large bone than flesh, which is generally "put on," when the frame becomes more complete. The Asiatics, as a rule, being of this character, while the old Kent, Sussex, and Surrey, five and four-toed, pure white-legged varieties, occupy, and deservedly, the very highest position for such purposes as table poultry. The five-toed varieties of these are erroneously called Dorkings; the Dorking proper, if there really be one, is a white bird, with a rose comb, pure white legs, and feet with five toes, but both are "as old as the hills," as the fowls in the counties named, though not so at Dorking, which was and is no more than a fatting-station like Heathfield and adjacent parishes in Sussex. In point of fact, most of the "Surrey fowl" sent to the London market come from Sussex. Of all fowls for fineness of flesh, skin, and bone, with the least offal, with white fat, is the pure white-legged black-breasted red game fowl, of this there is not a question or doubt. Its only fault, if any, is that it is not quite large enough for some persons' ideas, or for market purposes.

But to return to the so-called coloured "Dorking." Here we have, when of pure breed (which is of rare occurrence now-a-days, though very often professed to be so), one of, if not the very finest of fowls for all purposes in the world. It has been "the" fowl from generation to generation, fostered and kept by our forefathers, as "the" fowl for the table or for market, and is a fairly good layer.

Mr. John Baily, the well-known poultryman of Mount Street, Grosvenor Square, and an old contributor to the columns of the *Gardeners' Chronicle*, was never tired of asserting its great superiority over all other breeds. In his time, it was of a finer quality in the way of flesh, proportion, and general qualities than now, that of to-day being much larger, and from being crossed with some Asiatic kinds, of coarser flesh and more bone. Though the general characteristics are somewhat the same, it is a much longer fowl, and needlessly so, a long breast does not contain more flesh than a shorter one, nor is the depth of keel ever so great. One of the chief points of the old southern fowls was their plumpness and

squareness; the breadth now takes the place of length, which is by no means productive of so good a fowl. It is also more "lumpy" in its general movements to those of bygone days, and I am happy to hear that there is just a slight prospect that an effort will be made among the southern farmers to restore, if possible, the grand old breed that won for itself a world-wide reputation.

We are told, and this not seldom, that our forefathers paid but little attention to their poultry. How was it, then, when the poultry shows arose nearly fifty years ago, there were found plenty of good birds fit for, and ready for exhibition, and not a few of which were claimed at remarkable prices. Eight to ten pounds was the weight of the hens, and cocks sometimes over eleven pounds, and the quality undeniable. Then they were in the southern homesteads by the hundred, with their less understood or appreciated. It has been well said that "there are many that sacrifice their natural feelings for novelty; not that novelty delights them, for what is not in accord with the laws of our nature, can never please, but that they attribute their want of pleasure to want of taste, and admire in proportion to their ignorance." The farmer gives large prices for his pedigree stock or his sheep, the horse-breeder for his pedigree horses, and why? because he knows what he will get, and this of the best, and thus the most valuable, for having so much excellence, and that with almost certainty of reproduction. And yet in the face of this, and with the knowledge of this, the poultryman of to-day goes crazy over crossing and crosses, instead of selecting from the pure breeds, and of such making their profits greater.

(To be continued).

Fig. 19.—RICHARDIA ÆTHIOPICA, WITH BRANCHED MALFORMED SPADIX AND SECTION OF SAME.

Fig. 20.—RICHARDIA ÆTHIOPICA, WITH BRANCHED SPADICES.

square-made bodies, large wide breasts, full wings and tails, with pure white legs, feet, and toe-nails—not a sooty-legged fowl amongst them; and this whiteness of legs, it was the boast of their owners, they would go far and wide for a good cock of the breed for "new blood." The early morn was full of their resonant challenging crowing, as they strutted forth in front of their comely hens. But where are they now? How many of the "old breed" will be found in any of the old feeding-grounds? For some cause, but why seems scarcely known, excepting that it is the fault of the public, who do not understand what is a good fowl when they see it, the true old "unadulterated" purely white-legged hen is almost extinct. One may go into fifty of the old well-known homes of the breed, and will find nothing but cross-bred mongrel stuff, that takes the eye of the ignorant, and because of its large bone, is called "a very fine fowl." A fowl, indeed, that our old English housewives would not have tolerated for one instant. But "crossing" and mongrelising is the craze of the day, and purity of breed and high quality is less and

MALFORMED RICHARDIA ÆTHIOPICA.

The figs. 19 and 20 represent a branched condition of the spadix of Richardia æthiopica, which is certainly not common, though as the spadix is merely a shoot it is quite in accordance with the nature of things that it should branch. We are quite unable to give a reason for this unusual development, and can only suggest that it was due to over-stimulation at a certain stage of growth. The change is not desirable either, as the spathes were unusually tightly wrapped round the spadices, and were more green than white, a circumstance fatal to the award of a First-class Certificate from the Floral Committee.

TRANSPORT OF CALIFORNIAN FRUIT.

The President of the State Convention of Californian Fruit Growers remarked, in his address to a meeting at Sacramento recently, that last year the export of fresh fruit from California to the Eastern States was 7995 car-loads, and 27,326 car-loads of fruit of all kinds.

"The dulness of the Eastern market, however, led to the repetition of the experiment made some two years previously of shipping fresh fruit to England. Until we can develop a better and cheaper system of transportation than we now have, one that will do away with the bulky refrigerator-cars and their additional cost for icing and carriage, we can look upon the English market only as a last resort, in which we can dispose of our surplus fruits at a price that is better than nothing. When, however, we can deliver our fruit in less time, in better shape, and at lower cost than we now can, we may hope for a profitable market in England.

Two processes for keeping fresh fruit in transit are very promising, and will no doubt aid us in shipping fruit without the addition of ice. These are the 'Perkins process' and the carbonic acid gas process. Experiments have been very quietly conducted, but if reports are true concerning them, a very important discovery has been made. The practicability of the Perkins process has, I think, been fully demonstrated, and if either one does what is claimed for it, it will mean a large saving to the fruit shipper.

As new insects are continually appearing, also fungi not before observed, in different countries, and trees from those countries are being imported every year into our State; and as the inroads already made by these enemies to fruit-culture are a serious loss to the growers, and have made it almost impossible for them to continue the business, we have caused the inspection of every steam-ship arriving from foreign countries, to prevent their possible introduction into this State. During the year fully 600 steam-ships and vessels have thus been inspected, and infected plants and trees, numbering many millions, have been destroyed. A cargo consisting of some 2000 boxes of Oranges arrived from Mexico infested with a scale unknown in our State. These were at once

condemned and destroyed. Besides these, numerous animals which have proved very destructive to fruit in Australia were found on board, and killed. Among these was the flying-fox, that has proved such a menace to fruit-culture there, that all sorts of means have been employed for its extermination, but as yet without avail. Former conventions have devoted much time to the propagation and cultivation of fruit. These were then the important questions. We have learned how to grow fruit, and now have it in abundance. The great question for consideration at present is, how best to dispose of it; and our convention will devote much of its time, not neglecting other matters, to this branch.

The first carload of fruit shipped from California under the new process of preservation by carbonic acid gas instead of refrigeration was disposed of on the market in October last. The car was shipped from Sacramento on the 13th, and owing to numerous accidents *en route* did not reach Chicago until midnight of the 21st. Even then it was subjected to further delay in the yards, and did not reach the consignees' warehouse until the night of the 22nd. The car contained two air-tight compartments, out of which, after the fruit had been loaded, the air was exhausted, and the compartments charged with carbonic acid gas. In one of the accidents on the road the car was partially derailed, and one compartment sprung in such a manner as to permit a leakage of the gas. The other was not injured. When the fruit was unloaded, that in the damaged compartment was found to be partially spoiled, owing to the admission of air, while the fruit from the other was in as perfect condition as the day it was loaded. The price it brought was as high as any on the market. Those interested in the new experiment were delighted with the success of this initial trip, and assert confidently that it settles beyond a doubt the utility and value of their plan of preservation as compared with the refrigeration.

An experimental shipment from Sacramento to New Orleans was recently made. The sides of the car were packed in pressed and dried tule (Mexican for a Bulrush, Scirpus lacustris), which proved entirely air-tight. The substitution of this cheap Californian material for cork, charcoal, and mineral wool lessens the weight of each car from 4,000 to 2,000 lb, and will result in the saving of 145 dol. for ice demanded in the case of the ordinary refrigerator-cars. In the case of the car sent to New Orleans compressed air was used, but it is said that carbolic gas can be used equally well with the tule lining."

THE SEED-GROWING INDUSTRY OF GERMANY.

QUEDLINBURG AND THE SEED INDUSTRY.—The old town of Quedlinburg, on the river Bode, once the residence of the German emperors, dates its history from the reign of the Emperor Henry I. (A.D. 933). At that time agriculture formed the principal industry of the town, and it has since raised it to its present flourishing condition. The population of the town is now 21,000.

A glance at its geographical position will show that the district is well adapted to the cultivation of seeds, which branch of agriculture now constitutes the chief industry. It is sheltered by the Hartz Mountains from the cold north and east winds, while on the west the same mountains protect it from the moist wet winds of the Atlantic, and keep the air dry and healthy, and there is no smoke to check vegetation. The quality of the ground is so varied that it is possible to sow each kind of seed in a congenial soil, and as the ground has been cultivated for many years, a warm and productive stratum has gradually formed, and the subsoil is dry, and easily penetrated.

All these causes combine to make the cultivation of seeds successful. The field-area of Quedlinburg is 7515 hectares (30,079 morgen) (1 hectare = 2·47 acres).

The inducement to grow seeds on a large scale was first given when Beetroot began to be used for the manufacture of sugar in Europe. This is primarily the cause of the present flourishing condition of Quedlinburg, as flower-seeds have only been grown on a large scale for the last fifty years.

Another cause is, that in the eighteenth century, Quedlinburg had a flourishing trade in brewing and distilling, possessing no fewer than 150 distilleries, and brewing annually 40,000 casks of beer. These disused distilleries form excellent drying places, and the large population of working people, combined with the above-mentioned advantages, enabled Quedlinburg to be on an equality with Erfurt, although the latter place had the start, and may still be regarded as the centre of the German garden and seed-culture.

The seed-growers of Quedlinburg possess large tracts of land as far as "Westerhausen" and Halberstadt; this enables them to grow the various sorts far apart, and each thereby retains its own pure quality, for it is known that varieties when grown in close proximity impregnate one another. The greatest care is also taken to preserve the purity of the varieties, experienced men being employed to remove the "rogues." To these endeavours may be attributed the success of growing of seeds at Quedlinburg. The largest business, however, is done in Sugar-Beet seeds, and the annual production, according to the report of the Clearing-house at Halberstadt, is about 50,000 centners (1 centner = 110·2322 lb.). The principal markets, Germany excepted, are Russia and Austria. There are also about 10,000 or 12,000 centners of Fodder-Beet seeds produced annually, and the abundance of the vegetable seeds may be seen from the following figures:—Carrots, 4500; Leek and Lettuce (Cos), 1300; Lettuce (Cabbage), 800; Cabbage, 500; Peas (superior varieties), 9000; Beans, 7000; Kohl Rabi, 600; Cucumber, 300; Parsley, 900 centners, &c.

Of no less importance is the growing of flower seeds. Of Mignonette, Reseda odorata, 500 to 600 centners are grown yearly, and of Nemophila insignis, Lathyrus odoratus, &c., about the same quantity. Many of those sorts are exported to other countries.

The growing of seeds from Stocks and Asters forms a separate branch, and attracts people from all parts of the world. There are also numbers of rarer flowers grown, as a walk through the conservatories of Messrs. Dippe Bros., H. Mette, and other firms will show.

The following figures give some idea of the extent in hectares of the seed-growing: Sugar-Beets, 300 to 320; Cabbages, Lettuces, Leeks, and Cos Lettuces, 50 to 60; Peas, 95 to 100 hectares, &c. Quantities of flowers are also grown; 23 hectares of Asters, 16 of stocks, 20 of Reseda, 5 of Phlox, 3 of Viola tricolor maxima, 48 of Lathyrus odoratus, &c., together with 300,000 pots of summer Stocks, 25,000 autumn and winter Stocks, 36,000 Wallflowers, 15,000 Cineraria, 5000 of each Calceolaria and Dianthus; 80,000 of Primula chinensis, and 40,000 of each Petunia, Begonia, Cyclamen persicum, &c.

A great number of workpeople are naturally required in such a large business, so that the various branches of the work may be performed regularly and in proper time. There are about 250 gardener-assistants, 30 foremen, and from 1,800 to 2,000 workpeople. In addition no fewer than 240 horses, and 320 oxen, and for the sake of the manure about 8,000 sheep are kept. In the machinery department they have a Fowler's steam-plough, threshing-machines worked by gas-engines, amounting altogether to 80 horse-power, also thrashing-machines worked by horses and by steam, to avoid unnecessary loss of time. There are forges and workshops, each with its staff of workmen for repairing the machinery on the premises, as well as a laboratory for analysing the Sugar-Beets.

In the winter and spring the packing-rooms present a busy scene, about 300 orders being executed daily with a promptitude and exactness which is almost incredible. *Ernst Sarsson.*

FORESTRY.

QUALITY OF BRITISH-GROWN CONIFEROUS TIMBERS.

WITH the object of testing the quality of the timber of the various species of Coniferous trees cultivated in this country, I have lost no opportunity during the past twenty-two years either of collecting specimens or conducting experiments. This, I need hardly add, has been attended with considerable difficulties, and it has not been easy to procure home-grown specimens of a suitable age and size to render the experiments thoroughly trustworthy. Fortunately for the carrying out of such experiments, I have had the management of parks and woodlands where numbers of the rarer Conifers had to be removed in the ordinary course of thinning, while the wind has on not a few occasions acted as a kind friend in procuring specimens that would not otherwise have been obtainable.

As will be seen from measurements given throughout the following notes, probably the largest and oldest specimens in this country of Pinus Laricio, P. austriaca, P. ponderosa, P. Pinaster, P. Strobus, P. muricata, Cedrus Libani, Cupressus macrocarpa, C. Lawsoniana, C. torulosa, Cunninghamia sinensis, Araucaria imbricata, Abies grandis, Picea orientalis, P. nigra, P. Morinda, Sequoia gigantea. Thuia gigantea, and Cryptomeria japonica, have been cut down, and portions of the converted wood used in various ways by way of experiment in testing their quality. Whilst carrying out these experiments, few things have surprised me more than the way in which the timber of certain species of Coniferous trees is affected by the particular quality of soil on which it is produced; indeed, the difference between immature and nearly fully-matured timber is trifling when compared with the quality as affected by soil. One or two instances may be cited as examples: In thinning a plantation composed of Pseudotsuga Douglasii, Pinus Strobus, and Picea Morinda, fifty-three out of seventy-one specimens of P. Strobus were pumped or rotten at the core, and utterly unfitted for use in any way. The trees were growing on sandy loam, had been planted twenty six years, and contained on an average 25 feet of wood each. Now, having felled trees of the same species on various other qualities of soil, and found the timber perfectly sound, deductions will not be difficult to make. A still more curious example of how timber is affected by the soil on which it is grown was illustrated a few years ago on an estate on the banks of Loughneagh, in Ireland. A large number of fencing poles, Larch and Scotch Fir, were being cut from two neighbouring plantations of the same age and size, but growing on widely different soils—peaty and gravelly. The Scotch Fir timber from the peaty soil was soft, spongy, and nearly white in colour, while that from the gravel was hard, firm, and of a bright yellow colour. So pronounced was the difference in the quality of the two timbers, that the woodmen, in carrying the poles to the hard road adjoining the plantation, had not the slightest difficulty in stating from which wood the particular poles had been brought, that from the gravelly soil having a sharp ring like metal when thrown from the shoulder, whilst that grown on peat had a soft dull thud. Larch timber grown on gravelly soil is usually "pumped," or rotten at the heart, and in a remarkable instance with which I had to deal, every Larch had to be removed from a large mixed plantation of 26 years' growth, growing on soil of this description. Such facts as these are very significant, and show how careful we must be in condemning any Coniferous tree, when judged from the quality of the wood as produced on any particular class of soil; and that, with certain species at least, the observations must be extended over a fairly wide field of investigation.

In the following notes I have been careful to give not only the age of the tree from which the timber has been cut, but also the quality of soil on which it was grown; and it may be well to add that in the

case of experiments, none of less than seven years standing will be recorded. Greatest attention, too, has been bestowed on such species as produce timber of sufficient size and of the best quality for economic purposes. The arrangement is alphabetical.

Abies cephalonica (Greek Silver Fir). — Age, 33 years; cubic contents, 27 feet; soil, gravelly loam. Timber of good quality, and where it has been used in out-door work for eleven years, seems at present in an equally good state with Scotch Fir of the same age. The wood is yellowish-white, firm, medium in weight, and the quantity of resin it contains, and works smoothly, and takes a good polish. Used for forming side of temporary shed.

A. grandis (Noble Silver Fir).—Age 49 years; cubic contents 73 feet; soil gravelly loam, with a foot thick coating of decayed vegetable matter. Timber of excellent quality, very weighty, resinous, and the concentric rings closely packed. Used for boarding, both in and out-of-doors, during the past eleven years, and given general satisfaction. The balsamic fragrance from the beautiful yellowish-white wood was, at the time of felling, distinctly perceptible for many yards away, and was commented upon by the woodmen engaged in felling and removing the specimen. I think the timber is quite equal to that of Silver Fir of similar age, but more resinous, and weightier.

A. lasiocarpa (= ? *A. Lowiana*).— Age 18 years; cubic contents 16 feet; soil peaty. Timber much like that of the foregoing, and equally dark in colour, but proportionately lighter. Lasting quality not remarkable when compared with Scotch Fir of same age.

A. nobilis.—Age 42 years; cubic contents 47 feet; soil rich alluvial deposit. Timber of good quality, and for indoor work, at least, is to be highly recommended. It is light, but hard and compact, and of a cream colour, though the latter varies greatly according to soil, that produced on gravel at higher altitudes being reddish-yellow, and much harder; indeed, the difference was so great in colour, that on placing the boards side by side they could not be recognised as that of the same species. I am much pleased with the quality of the timber of this tree, and consider that it is quite equal to that of the Silver Fir, but the quality is evidently greatly affected by soil and site.

A. Nordmanniana (Nordmann's Silver Fir).—Oldest tree 53 years, but others of 23 and 18 years have been tested; soil in first instance clayey-loam, in second peaty; cubic contents 47 feet and 22 feet respectively. Timber reddish-yellow, fine and close grained, and of excellent quality. Used for many purposes both in and out of doors, where it has been proved superior to that of the Silver Fir of even age. Specimens of the timber from boggy soils in Ireland are remarkably hard and fine grained, clearly proving that the tree is of great merit for afforesting peat bogs. From the experiments of nearly fifteen years standing, I am confidently expecting that the Nordmann Fir will prove a valuable timber-producing tree in this country.

A. Pinsapo (Spanish Silver Fir).—Age of tree 53 years; cubic contents 47 feet; soil sandy loam resting on gravel. Timber of no great value, being brittle, and soon apt to decay, and hard to convert on account of the branchy stem. It resembles that of the Silver Fir in colour.

A. Webbiana (Captain Webb's Silver Fir).—Age 23 years; cubic contents 21 feet; soil unusually rich alluvial deposit, in sheltered low-lying situation. Timber white or nearly so, soft in comparison with that of other members of its family, but unusually easy to work and polish. It stood the changes of weather on an exposed shed for nine years creditably.

Araucaria imbricata (Chile Pine).—Age of trees 47 and 52 years; cubic contents 38 and 51 feet; soil in both instances loam or gravel. The timber of these trees was of a beautiful yellow colour, closely grained and firm, and worked and polished readily. My experiments prove that the timber is not well suited for outdoor work, but when manufactured into household furniture it lasts well, ten years not seeming to have changed the wood in the least. The timber of trees up to, say, 20 years is notorious for its speedy decay.

Cedrus Libani (Lebanon Cedar).—Age of trees 99 years and 130 years; soil in both cases inclined to be gravelly; cubic contents 153 and 231 feet respectively. Timber reddish-white, brittle though long grained, light, easily worked, and susceptible of a good polish. I cannot agree with those who state hat the timber is by no means durable, for my own experiments demonstrate that it is in this respect of considerable value. It is certainly apt to snap short, and is extremely brittle, but for all that it is of good lasting quality, as shown by the following:—A sheep-washing trough was formed of this wood eighteen years ago, and after being subjected to damp and drought alternately, for it was sunk in the soil, the boarding, when removed last year, was throughout perfectly sound, though dark in appearance. The tree from which the boards were cut was close upon a hundred years old, having been planted by the great statesman William Pitt, when he owned the Holwood property in Kent. The boards were fully 2 inches thick, and of various widths up to 2 feet, and the trough 12 feet long by 4 feet wide. The position in which the timber was placed was one of the most trying, for, being sunk in the soil, and only filled with water during the sheep-shearing season, the vicissitudes of drought and damp were very considerable, and well fitted to test the quality of woods. Immature wood of the Lebanon Cedar decays quickly, particularly when placed out of doors, though when kept constantly in a dry and equable temperature, it is fairly lasting. In some of the unusually large specimens which have been converted at Woburn Abbey, I consider the timber very near to that of the Larch, both in appearance and quality, but it is not so elastic. *A. D. Webster.*

(To be continued.)

PRUNING STANDARD FRUIT TREES.

Standard fruit trees are often unpruned for years, and allowed to attain a large size; and when eventually they fail to fruit freely, they are taken in hand and severely pruned, with the result that canker, worthless wood, and few fruits ensue. Too much pruning is more harmful than its total omission; and in the case of large standard trees, it is well to proceed carefully if they have been left to themselves for any length of time. It is useless to head down old trees, and cut out as much wood in one year as would have been taken out in fifteen or twenty years if proper thinning and the removal of useless wood had taken place. I am not an advocate for the let-alone system; but in the case of standard trees, it is useless to cut severely whilst allowing the roots to have full play, the result being a forest of leafy shoots which do not ripen, and are too weak to produce fruit. I once had an orchard of trees which were of good age, and before I took charge of them they had been topped, and in some cases 10 to 15 feet of wood had been cut away. The trees presented a shaven appearance, similar to those beheaded for grafting; but as the varieties were good, I came to the conclusion that this severe pruning was intended to promote fruitfulness, the trees having become so crowded strong measures were needed. There was a poor prospect of fruit for some time, and every prospect of canker. I allowed the trees to grow freely for a couple of years, not using the knife until the third season. I then merely cut out the weak shoots sparingly, and left the strong ones at their full length, and these bore nice fruits. By this time the balance of wood had been rectified, and the roots having more work to do, fruit-buds formed freely. By this severe cutting four seasons had been wasted, and if the knife had been used every season afterwards, canker would have obtained the mastery at once. Even though the young growths, to a certain extent, prevented collapse, a check was given the trees from which they never recovered, as when I saw them a short time ago some had been removed owing to canker. Some varieties will not stand such treatment, no matter how well treated afterwards.

This brings me to my note on pruning, and the gist of the matter is this—avoid severe cutting at one operation. Pyramid trees which have been cut yearly, when given a year or two's grace, have given as much fruit in one year as in a dozen when severely cut and kept in shape. It is necessary to cut in some cases, but in many others thinning would be much better, and the main or upright shoots allowed to make a longer growth. Where it is necessary to confine fruit trees to a certain space far more good would be accomplished by summer-pruning and by encouraging surface roots in preference to gross downward roots. In the case of orchard trees having a mass of tangled growth, I would do the work carefully, and take a number of years in removing such wood, which is far better than half killing the trees at one stroke. The appearance of the trees may not be equal to those where stronger measures have been taken, but the crop will be superior, and the fruits produced will be of good market value. Instead of a crop of small worthless fruit once in a few years, there will, in most seasons, be regular crops, and clean, healthy trees. *G. Wythes.*

BOOK NOTICE.

A Popular Treatise on the Physiology of Plants for the Use of Gardeners or for Students of Horticulture and of Agriculture. By Dr. Paul Sorauer, Director of the Experimental Station at the Royal Pomological Institute in Proskau; translated by F. E. Weiss, B.Sc., F.L.S., Professor of Botany at the Owen's College, Manchester. With thirty-three illustrations. (London: Longman, Green & Co., 8vo, pp. 232)

In the establishment of technical instruction and in the appointment by the County Councils of itinerant lecturers, we hail with great satisfaction the approaching realisation of measures that we have not ceased to urge for the last quarter of a century. Over and over again we have pointed out in these columns our deficiencies in this respect, and have shown how far in advance Germany, France, Belgium, Denmark, and the United States are in the matter of technical education. But it was not till the establishment of the County Councils that anything was done to remove the disparity, and it will take another quarter of a century to put us on a level in this matter with other more progressive nations.

It is otherwise with the practice of gardening. We have, we believe, arrived at the highest level possible from practice alone; but granted that this is so, we are not relatively in advance of our forefathers. The superiority of our position arises from the increase and improvement of the resources at our disposition, not from any increased skill on our parts. As a general statement, subject to exceptions, our forefathers in their way were as good cultivators as we, but they had not the advantages of cheap glass, abundant fuel, improved heating apparatus, and the endless new varieties imported from abroad, or raised here by the hybridiser, and suitable for varied conditions and different localities.

Practice and experience must always be of foremost importance; but to turn them to the best advantage, and especially to be able to avail ourselves of the resources at our disposal, something more than skill is required, and that something is knowledge. A general knowledge of the physiology of plants is an essential requisite to the gardener, but till lately how very few had even the most rudimentary acquaintance with the subject! As we have said, we see the dawn of better things, and among the indications we may mention the publication of the present volume. Professor Weiss tells us that in lecturing to gardeners on vegetable physiology at the Manchester Botanic Gardens he felt the want of a book that he could place in the hands of his pupils, which, while giving them a thoroughly scientific account of the

functions of the various organs, would at the same time deal with the practical application of vegetable physiology. He had to go to Germany for such a book, and in Professor Sorauer's elementary treatise he found what he desired. The anatomical structure of the various organs is detailed, and their uses explained. Throughout, practical applications are kept in mind, and the reader is informed of the principles underlying culture in pots, transplantation, pruning, watering, and other daily operations.

Throughout the book the necessity for affording a supply of air (oxygen) to the roots as well as of water is insisted on, and there is no doubt that the evil effects of a badly-made Vine-border, for instance, are as much due to deficient aëration as to any other cause. The consequences of improper watering are also pointed out, as well they need be, for of all the errors to which a careless gardener is liable, that of improper watering is the most common, whether it be in excess, or defect, or at the wrong season, or not in accordance with the structure and requirements of the plant and its conditions and environment. Forcing and plant culture under glass, ventilation, and the action of light, especially of the electric light (now being turned to economic account in the United States), are subjects which are not adequately dealt with in this volume. In spite of this deficiency, the book will be a valuable one to put into the hands of the teacher, and of those pupils who have the advantage of access to a botanical laboratory where they may work out for themselves most of the details given in its pages. The horticultural pupils of the present day have good cause to be thankful to Professor Weiss for his presentment of a most useful book.

BELGIUM.

ARISTOLOCHIA GIGAS VAR. STURTEVANTI,

figured in your columns 1891. vol. ii., fig. 75, has just bloomed for the first time in Belgium in the nursery of M. Desbois, Mont St. Amand, Ghent. The plant was received in April, 1894, and planted out in the cooler part of a stove. The plant grew well, but dropped its buds. M. Desbois then cut away all the shoots but one, which speedily produced branches. A flower-bud appeared in November, which opened in January; sometime before the bud opened it measured 22 inches in circumference. The whole length of the flower from the base to the tip of the tail was 3½ feet.

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

THE SPRING GARDEN.—When the frost disappears, a careful examination should be made of Pansies, Wallflowers, Primroses, Polyanthus, Myosotis, Anemones, Alyssum, Limnanthes, and other plants used for bedding, and as soon as the ground is dry enough any vacancies that may have been found should be filled. Pansies should be made secure by pegging down the long shoots. Corms of Anemone, Ranunculus, and bulbs may still be planted. Afford them a good enrichment of rotten manure, mixing it well with the soil, digging the latter deeply. Beds of alpine Auriculas should be filled up, and a top-dressing of fresh loam and old mushroom-bed dung applied, taking care not to disturb the plants by twisting them about in the process.

THE PROPAGATING HOUSE.—The propagation of Fuchsias, Lobelias, Iresines, Coleus, Verbenas, Heliotropes, Alternantheras, Petunias, Chrysanthemums, &c, for bedding purposes should now be proceeded with as fast as cuttings of these plants can be obtained. Use clean well-drained 5 or 6-inch pots filled to within 1 inch of the top with finely sifted sandy loam, and well-decayed leaf-mould, covering the soil with a layer of silver or sea-sand, pressed firmly down and watered after the cuttings are inserted, the pots being then plunged into a bottom-heat of about 80°. The top-heat of a propagating-house at this season should range from 65° by night, to 70° to 75° by day.

LAWNS.—The preparation of the ground to be sown for the formation of a lawn should be proceeded with as the weather permits, and completed without much delay. If the ground is low-lying and wet, drain it well with tile drains, afterwards trenching it to a depth of 18 inches; and if the soil be poor and sandy, add some strong clay soil previous to trenching it, and leave the surface as roughly dug. Land prepared in the autumn should be pricked over with a fork in dry weather, making it level and smooth, in readiness for sowing in March or April. Grass seeds should be sown on a wind-still fine day, by a man who has been accustomed to broadcast grass sowing from a hopper carried in front of him, taking a step and a cast. It is an operation that requires to be carefully done, so that a regular crop shall cover the soil; and after sowing, it should be well raked over and rolled firmly, and care must be taken to keep small birds off it till the plants are well up above ground. Rye-grass, which forms a part of most lawn mixtures, should, with the Clovers, be sown first, and hacked in with a hoe, the lighter grasses following altogether, and being merely raked in with a wooden rake. Where it is intended to turf a lawn, the turf must be free from Plantain, Daisies, and Couch-grass, coarse species of grass, &c., and the sooner after frost has left us it is laid down the better it will do, as it will then become established before dry weather occurs. The turves should be neatly cut with a "racer" and lifted with a turfing-iron in pieces 3 feet by 1 foot, or 1 foot square, the first being rolled up for convenience of handling, and the latter kept flat. The turf should not be more than 2 inches thick, and it should be laid down before the grasses become bleached for want of light, or dried by wind and sun. Before laying turf, the land should be pricked over slightly, and the turves laid with joints as close as possible, making it level without too much beating till all or a good portion is done, when it may receive further beating and a good rolling. If the turf shrinks from being dry, a good watering should be afforded it. New lawns either from seed or turfing, should not be walked upon till the grass has made good progress. Old mossy or bare lawns may be improved by topdressings of new soil and short dung, brushing it well about on dry days; a broadcast sowing of fresh lime is also beneficial if afforded in showery weather in the spring. On large lawns, if the grass is required to be kept very short, the grass box should be taken off the lawn mower, allowing the grass to rot on it. It will not be visible the day after the mowing if the weather is dry. All lawns should be freed from coarse weeds and Daisies, the holes made by spudding being filled up with loam, and a heavy roller passed over the turf. For obliterating worm-casts, a wood roller about 15 inches in diameter, and 3 or 4 feet long, heavy enough for one man to use with ease, is the best implement. The turf edgings of beds should be neatly cut with the edging-knife previous to digging the beds, also the edgings of walks and roads, no more turf being removed than is necessary to make a clean edge.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

STRAWBERRY PLANTATIONS. — These should have attention as soon as the weather becomes favourable for work out-of-doors, cutting off dead leaves, pulling up large weeds, and lightly forking the ground between the rows of plants, being careful not to injure the roots, simply breaking the surface, and burying any small weeds that may have sprung up since the autumn cleaning. The beds may then receive a good mulch of strawy stable manure, which has been slightly fermented in a heap for a few days, and once turned so as to destroy the germinating powers of oats or hay seeds that usually abound in it. The rain and snow will carry the manurial properties of the mulch to the roots, benefiting the plants, and the strawy portion being then clean will serve to keep the fruit clean. If slugs abound, a slight dressing of common salt before the mulching is applied, will serve to keep them in check.

NUTS OR FILBERTS.—The bushes should be examined, all suckers and stem growths pulled up, or twisted out at the point from which they originate, which, if neatly and carefully done, is certainly better than cutting off. The thinning of the tops may be delayed till the catkins have expanded, plenty of pollen being needed to make sure of fertilisation a little later. If catkins are scarce, boughs of the common Hazel with catkins attached may be hung or tied on to the branches for a few days during the period the female flowers are expanded. As soon as fertilisation is effected, all strong shoots not required for the extension of the crowns should be cut back close to the main branches, but taking care to leave plenty of the short shoots or twigs, on which the small red coloured female blossoms are found. The bushes are best kept to a single stem of about 1½ foot high, and the branches should be trained in an outward direction, so as to keep the centre of the crown open. If the land is of deep tilth and fairly good, it will be sufficient to prick it up with a fork between the bushes, burying all weeds, &c.; but if it be poor and thin, a slight dressing of manure laid on the top after being cleared of weeds, will be beneficial. Nuts are easily increased by means of suckers taken up now, or cuttings made early in the season and treated like those of the Currant; they may also be layered, and grafted when the buds commence to burst in the spring, using as a stock the common Hazel.

MULBERRY.—This fruit deserves more attention than it gets, the fruit being palatable to most persons when fully ripe, and the tree ornamental in the park and garden. The Mulberry being nicest when it is fully ripe, at which stage it falls from the tree, the latter should be planted on turf, as by so doing the fruit is not damaged. Where trees exist, and it is desired to increase the stock, this may easily be done at this season of the year by means of stout cuttings, or portions of the five or six-year-old branches. These cuttings may be 3 feet or more in length, and should be inserted about 1 foot deep in a moist, shady situation, the portion of stem remaining above ground being bound round with moss to keep the bark from drying unduly, except two or three buds at the top which should be left exposed. The trees require very little pruning at any time, a slight thinning of the weaker wood or crossing branches being quite sufficient.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

GLOXINIAS.—A number of these may be now placed in heat, choosing the largest and forwardest tubers. Before doing so, shake off the whole of the old soil, re-pot in the smallest possible pots, and plunge them in a brisk bottom heat, such as that afforded by a hotbed. When growth has fairly commenced, remove the plants to a shelf near the glass in the stove, and when the roots fill the pots, shift on into larger ones. A moistness should pervade the air round about these plants, which is best afforded by watering the gravel, spar, or coal-ashes, on which the pots are placed; and if the pots containing the plants can be stood within others slightly larger, the soil will be maintained in a more equable condition as regards both temperature and moisture, and fewer root-waterings will be called for; moreover, the fine long leaves of some of the strains are seen to better advantage by being slightly raised in this way. When well rooted, Gloxinias are benefited if afforded weak manure-water once or twice a week.

FREESIAS.—Look closely after these plants, and if aphides should appear on them, lose no time in fumigating the frame or pit in which the plants are growing before any of the blooms expand. The temperature may now be kept a little lower, with the result that the flowers will last in perfection for a longer period.

ACHIMENES.—These are lovely subjects for the stove and warm conservatory during the early summer months, and for a cool one during July, August, and September. A few tubers of each variety may be started at this date, first shaking them out of the exhausted soil, which is an operation that needs careful doing, so as not to break them. When all are picked out and sorted into sizes, lay them rather thickly in different pans filled with fibry peat, a small quantity of sifted loam and of leaf-soil, made very sandy. If the pans or boxes are shallow, rough siftings will answer for drainage, and the covering of soil above the tubers should not exceed half an inch. But little water will be required before growth has begun; and when they have grown 2 to 3 inches high, transfer them to 32's or 24's, or to pans or baskets. The latter when filled with Achimenes are beautiful objects to hang from the roof of a glass-house. When the plants have pushed their roots into the new soil, the points may be nipped off, which will have the effect of causing laterals to push, thus adding to the bushiness of the plants, but not to the size of the

blooms. The following are the names of some of the best varieties:—Longiflora major, patens, Scarlet Perfection, Eclipse, Firefly, grandis, Mauve Queen, Pink Perfection, longiflora alba, Williamsii, carminata, splendens, and Madame A. Verschaffelt.

ZONAL PELARGONIUMS.—These should now be repotted into 4½ and 6 inch pots, affording them no water for a few days afterwards, but keeping them close to the glass. If very large plants are required stop the shoots of some of the winter-flowering varieties, and keep the soil dryish till they begin to break, then shift them into larger pots, and they will make a good display in the conservatory in summer-time, or on the lawn if plunged in the turf or dropped into vases.

SHOW PELARGONIUMS.—These plants, now starting to grow, will require manurial aid. The shoots should not be stopped after this date, unless required to flower late, when the plants may be repotted. Soot-water of no great strength is a safe kind of manure for these plants. It is prudent practice to fumigate them once in about three weeks, which will keep them always free from fly, one of their worst enemies.

MIGNONETTE.—Seed may now be sown, using a compost consisting of loam, leaf-mould, mortar rubble broken small, and some dry cow-dung, sifted through a half-inch sieve, and crushed bones. This soil should be rammed firmly into 4½-inch pots that have been efficiently drained. Ten or twelve seeds should be evenly sown on the soil, and covered with a quarter-inch layer of the soil. Place in a warm frame close to the glass.

LILIUM AURATUM.—Imported bulbs should be potted up when received, loam, peat, and leaf-soil, with a few coarse bones and plenty of sand, forming the potting compost. Carefully examine all bulbs before potting them, and if mouldiness be noticed anywhere, dust it with powdered charcoal. The bulbs may either be potted singly, and afterwards repotted, or three or four may be put into 12-inch pots. Keep the top of the soil 3 inches below the rim, and put but very little mould over the bulbs. Afford no water to newly-potted Lilies; do not pot in a loose manner, but make the soil beneath and roundabout the bulbs very firm, but less so above them; and finally, plunge the pots in cocoa-fibre or coal-ashes, covering them quite, and over all place a cold frame. When growth pushes up through the covering, take out the pots and set them in a frost-proof house near the glass, being careful, in uncovering them not to break the points of the stems. Water must be afforded at once to all Lilies when removed from the plunging bed.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

MELONS AND CUCUMBERS.—Keep seedlings as near the glass as possible, and plunge the pots in shallow boxes filled with moss to prevent the soil from drying so rapidly while in small pots. Pot off the earliest plants as soon as they show the first rough leaf, and gently coil the stem by the side of pot, so that the seed-leaf may be brought level with the rim. If two seeds were sown in each pot, as advised, the plants should be potted together, the weaker one being removed when they are planted out. The earliest crop may be grown in pots, but I prefer planting them out on beds of fermenting material. If the latter be used, see that the house does not become charged with ammonia, or the delicate seedlings will be injured.

VINES.—Commence thinning in the early house as soon as the berries are of the size of small Peas. It is better to go over them several times than remove too many at the first thinning; especially so with the varieties as Foster's Seedling and Buckland Sweetwater, which do not always stone freely, and as early Grapes are generally cut as soon as ripe, it is not necessary to thin them so freely as later ones, but sufficient space must be allowed to enable the berries to swell evenly and to their proper size. Stopping and tying-down the shoots will require close attention. Avoid over-crowding, but at the same time allow the foliage to extend as far as possible, as it promotes root-action; and stop lateral growths at the first leaf. Prick over the surface of the border lightly, and give a slight dressing of fresh cow-manure, which may be washed in with water at 85°. Avoid treading on the border at any time, by placing over it an open trellis raised several inches on bricks. When the berries are swelling, the night temperature should be about 65°, unless the weather is very severe, when it may fall to 60°. Air should be admitted gradually during the day, when the temperature of the house is 70° and external conditions are favourable, closing the house early, so as to obtain about 80° or 85° with sun-heat. Vines in pots must be freely fed with liquid manure, and the surface soil dressed with rich material. The Vines should be breaking freely in the second vinery that were started about the new year. The rods must be secured in their right positions at once. If the Vines have long spurs, it is a good plan to sling the rods a few inches away from the wires, so that the shoots can be tied in more easily. Continue to syringe the canes during bright days, until the flowers appear. Any young Vines raised from eyes last spring should be cut back to a couple of eyes, and placed in gentle heat. When they have made a few inches growth, shake them out carefully and repot them, using fresh turfy loam, with a sprinkling of charcoal and crushed bones, preparing good drainage, and potting firmly. A slight bottom-heat would assist root action, but failing a better position, they may be stood on boards covered with moss, over the hot-water pipes in the second vinery, which must be kept damp, dewing them over several times during the day. Vine eyes should be prepared from well-ripened wood, and inserted firmly in small pots, which should be plunged in a close frame, with a bottom-heat of 80°. Look over any Grapes still in bottles, removing any bad berries, and filling up the bottles with water as required. Keep the room dry and cool.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

IMPORTED ORCHIDS.—Continuing my remarks on this subject, it may be stated that Masdevallias often suffer more severely in transit than other species, owing to their not possessing pseudobulbs. When the plants are removed from their cool moist mountain habitats, the fleshy leaves are very liable to suffer from the heat of the countries through which they must pass, so that when sold in this country most of the leaves are lost. If the right method be adopted when they are unpacked, but few will be lost. It is not sound practice to attempt to force these plants into growth by subjecting them to a higher temperature than that of an ordinary greenhouse, or by laying them on the stages and sprinkling them with water, the effect of this being to weaken the plants by inducing growth before they have completely recovered. They should first be freed from all rubbish, and placed in the smallest pots possible, using nothing but clean crocks to fix them firmly with; and these crocks should be watered sparingly at first with the spout of the watering-pot, only sufficient being afforded to replace that which may be lost by evaporation. Place the plants in the cool Odontoglossum-house, keeping them shaded from strong sunshine, till some amount of recovery is set up. The plants make leaves rapidly after this, and roots form quickly and in large numbers. At this stage a compost consisting of fresh fibrous peat, and live sphagnum moss in equal quantities, with crocks broken small, and a sprinkling of coarse silver sand, should be afforded them, using but little of it at first, filling the pots almost with drainage material, which is a very important point, the lack of this precaution often causing the leaves to turn black, and the plants to succumb. Slugs do much injury to Masdevallias by gnawing the young growths, and should be constantly searched for.

ODONTOGLOSSUMS.—When well grown, few Orchids are more beautiful than Odontoglossum crispum, and few more popular or which can be cultivated at less expense, unless it be the hardy species of Orchids. For many years past these charming Andean species have arrived in satisfactory condition owing in great part to the care and intelligence of the collectors, and the rapidity of transit. To those about to commence the cultivation of Odontoglossums, a few hints as to treatment may be of service. When a large number of these plants is obtained, immediately after their arrival in this country, a stage in the coolest house should be set apart for them, and if the stage consists of open woodwork, overlay it with boards or slates, upon which place a thin layer of sphagnum moss. The plants should be freed from decayed portions, and laid on the sphagnum without touching each other. Odontoglossums imported in early spring do not need syringing overhead, the moisture arising from the damped paths and the earth beneath the stage being sufficient, too much dampness frequently setting up decay. In due time the new growth and roots will appear, and it is then time to put the plants into pots. Instead of potting up the whole of a large number at the same time, it is a better practice to pick out those which have made the best start, and so by degrees pot up the whole of them. Pot each plant separately, as it is almost certain that the flowers will differ in some points, scarcely two plants being exactly alike. The pots should be as small as can conveniently be used, and be filled almost to the rim with drainage materials, only a small quantity of compost being employed, and that as much as anything for steadying the plants. First place over the crocks a thin layer of sphagnum moss, and keep the plant well above the rim in a compost consisting of equal parts of peat and live sphagnum moss, mixed up with a moderate quantity of small crocks. When finishing off the potting, keep a quantity of the live heads of the moss on the surface, so that in a short time the top of the potful will present a living covering. After potting, keep the atmosphere cool and moist, shade from direct sunshine, and afford but light waterings at first, great care being taken not to over-water them. As roots form and grow, and the new growths gain in strength, water may be more frequently and liberally afforded. In treating of imported plants, space does not permit of mention being made of all the genera of Orchids, but in several points the treatment required is very similar, and cultivators will have to judge for themselves the kind of treatment best suited to the plants. It cannot be too strongly impressed upon tyros at the business that it is only by painstaking study of the natural conditions under which the plants live that a good knowledge of their requirements can be gained.

THE KITCHEN GARDEN

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SPINACH.—If the weather be suitable, a sowing may be made on an early south border. Sow in drills, about one foot apart, and if the soil be very wet sow a little fine dry soil in the drill first, and cover the seed with similar material. Sow the seed fairly thick at this early season. It is often sown between early Peas or Beans, but in attending to the Peas, it frequently gets badly trodden down, and I would not therefore recommend the practice. Victoria Improved Round is the best for all purposes, and the only one that need be sown, for it stands the winter well; and tried side by side for several years, I find it is better than Winter or Prickly seeded Flanders Spinach.

PARSLEY.—Take advantage of the first opportunity to get some Parsley sown in shallow drills 9 inches asunder, and cover the seeds with fine dry earth to about a quarter of an inch in depth. The seed is slow to germinate, so do not destroy a sowing unless you are quite sure it is not going to grow. It is a good plan always to work plenty of soot into the ground where Parsley is to be sown.

CELERY.—Sow a small quantity of seed in a 6-inch pot for early use or for early exhibition. Cover with silver-sand and place a pane of glass over the pot, which should be plunged to the rim in a hot-bed or in a house of stove temperature. Watch the seedlings carefully that they do not get drawn, and remove the glass as soon as they are well up above ground. Sulham Prize Pink, Major Clark's, Wright's Giant White, are good early varieties.

PEAS.—These may now be sown liberally outside on a warm border, or close under a wall. Chelsea Gem and American Wonder in dwarfs and Dickson's First and Best, and Veitch's Extra Early Selected, taller varieties, will be found serviceable for this sowing; the two first-named varieties should not be sown nearer to each other in rows than 16 to 18 inches, and the taller ones about 3½ to 4 feet asunder. If the garden is infested with vermin, coat the seed with red-lead, or, better still, use wire pea-protectors. They will last for many years, if proper care is given them when not in use. These protections take up but little room, and are very effective.

Green Chrysanthemum.—Among the plates issued by the Yokohama Nursery Company in their catalogue is one representing a Chrysanthemum of a pale green colour. It is called Green Emerald, and has the florets flat, narrow, incurved, and it is about half a foot in diameter.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, FEB. 7—Linnean Society.

FRIDAY, FEB. 8 { Royal Gardeners' Orphan Fund, General Meeting.

SALES.

MONDAY, FEB. 4 { Hardy Perennials, Carnations, Iris, &c., at Protheroe & Morris' Rooms.

TUESDAY, FEB. 5 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, FEB. 6 { Lilies, Palm Seeds, Begonias, Roses, &c., at Protheroe & Morris' Rooms.

FRIDAY, FEB. 8 { Great Sale of Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, *DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.*—39°.2.

A Cactus Society.

THE *proposal to form a* Cactus Society, mooted in July last at the Royal Horticultural Society, is taking shape. Its promoters say that Cactus growers have as much right to a society of their own as the growers and fanciers of Roses, Dahlias, Chrysanthemums, Tulips, or Carnations. So they have—much more so, indeed. We know a great deal about Roses and Chrysanthemums, and the other flowers named, and certainly no society is needed to encourage their cultivation or to teach us how to grow them. We know relatively little about Cactuses, either from a botanical or a cultural point of view.

Germany already has its Cactus Society, and as so many things are now "made in Germany," that fact may be taken as an indication that the fashion may spread to this country. In former years succulent plants were in favour in this country, the collections of the Duke of BEDFORD, of Messrs. LODDIGES, and of Mr. MASTERS of Canterbury, were noteworthy; and in our own times, Mr. WILSON SAUNDERS, and especially the late Mr. PEACOCK, made a valiant but unsuccessful attempt to influence public opinion in favour of succulents. Kew has always maintained a superb collection of these, and the Succulent-house has, for the real lover of plants, an interest not inferior to, and, in some respects, considerably superior to, that of any other department of our famous garden. As Cactuses and like plants are of necessity poorly represented in the herbarium, it is the more necessary to grow as many representative specimens as possible in order that something may be done, not only to show which are the most worthy of cultivation for their beauty or interest, but also in order that some clue may be furnished for the disentanglement of the appallingly confused nomenclature. The difficulty, and, in some cases, the impossibility, of securing specimens for preservation and reference, is at the root of this confusion—a confusion that may in part, as we have said, be removed by the observation of these plants under cultivation. Specialisation, decentralisation, and division of labour are characteristic of the age in which we are living and working, and of course there is much to be said in favour of these procedures. But we think it will be universally admitted that a man should be a gardener or a botanist first, and a specialist afterwards. When he has obtained a general grasp of the principles of his art or of his science, then, and not till then, can he specialise with advantage. It is this feeling that makes us lament the undue multiplication of special societies, and the frittering away of energy and the waste of money that they entail. If the object is purely a mercantile one, or if it is one only to gratify individual tastes and fancies, to provide recreation, and satisfy the love of sport and the interest in a fair fight, which are said to be innate in Englishmen, then there is nothing more to be said. If people like to combine the more effectually to carry out their desires in these directions, by all means let them do so. But most if not all these societies at least profess higher, more useful, and less selfish aims—aims akin to those that actuate the leading society of the nation. We would, therefore, suggest to the promoters of the Cactus Society, if they have really the higher aims they profess, that they should avail themselves of the organisation of the Royal Horticultural Society, rather than form one more society.

The relation of the special societies to the Royal Horticultural Society should be like that of the colonies to the home country. Each would benefit by association with the other, but each would be independent in its own sphere. The Royal Horticultural Society, taught by former experience, would not, as it did in former days, ignore these minor societies, and thereby "lose its America," but put itself at their head, admit their representatives to its Council, and weld them into an imperial organisation, in which each department would have full independence consistent with the security of the central organisation. Surely the results would be better than those obtained by splitting the horticultural community into a dozen or more sections.

If the Royal Horticultural Society should fail in its duty in this matter, then the Cactus Society would, no doubt, go on its own way, and, in view of the absorbing interest attaching to the plants, we should wish it every success. "Cactus," we presume, would be taken in a wide sense to include succulent plants in general. The objects of the proposed Society are—

"To increase the knowledge of this remarkable and beautiful family of the botanical kingdom.

To improve its culture.

To bring collectors together, and afford facilities for collection and exchange of the more rare and beautiful specimens.

By occasional meetings and lectures.

By an annual meeting and exhibition, when prizes, medals, and certificates would be awarded,

By the publication, if possible, of articles and growers' experiences in a journal, to be issued periodically by the Society."

Those interested in the matter should apply to ERNEST B. H. CHAPMAN, Esq., F.R.H.S., 23, Portway, Frome.

On obtaining Hybrids by Grafting.

THIS subject, to which we have already referred, but which is worthy of more extended notice, was among the last communications presented to the French *Académie des Sciences*, by Professor DUCHARTRE, whose death Horticulture has recently had to deplore; and one by M. LUCIEN DANIEL relating to the creation of new varieties by means of the graft.

Is it possible, asks M. DANIEL, to obtain new varieties from the seeds produced by grafted plants? And he answers that, although the subject is an old one, no precise or satisfactory explanation has yet been given, owing perhaps to the fact that it has been investigated mainly in connection with trees, the growth of whose seeds into mature plants takes so long that human life is almost too short to permit the deduction of conclusive results.

But by making experiments on annuals and biennials, and grafting various alimentary plants, M. DANIEL has shown that the period necessary for the due observation of the effect of grafting may be so shortened that it is possible to obtain results, as well from a practical as from a theoretical point of view, which are of the highest importance to Horticulture.

A detailed account of his investigations are contained in the *Comptes Rendus*, where it is stated that the problem presents three solutions:—(1) The young plant grown from seed produced by grafted individuals may tend to revert to the wild type, in which case no useful practical results would follow; or (2), the young plant may retain the ancestral characters of the variety, in which case the graft would permit the indefinite reproduction of varieties produced by other means; or (3), the scion—altered in form and savour by a more or less lengthened contact with another plant supplying nutrient matters differing in quality and quantity from those which would have been produced under normal conditions—may endow its seeds with new qualities which will themselves be transmitted to the offspring.

A new field of research would in this case be open to horticulturists, viz., the possibility of creating varied types possessing qualities derived both from the scion and from the stock. When M. DANIEL grafted the Turnip on Sisymbrium Alliaria, a wild cruciferous plant common in hedgerows throughout temperate Europe—in England it is known under the various names of Garlic Mustard, Sauce alone, and Jack-by-the-hedge—he obtained plants which showed a marked reversion to the wild type. When seeds of S. Alliaria and seeds produced by S. Alliaria grafted on the Cabbage were sown in adjacent beds, the former naturally reproduced the wild plant with leaves of a yellowish-green colour, and which had a very distinct odour of Garlic, which is so noticeable in Garlic Mustard. The plants in the other plot were not so tall, their leaves were much more compressed together, and they bore a very characteristic likeness to the Cabbage plant. These leaves were of a deeper green colour than in the wild plant; somewhat plaited like the Cabbage leaf, and with a less marked smell of Garlic, but combining with it something of the odour of the Cabbage leaf.

Modifications from the wild type were similarly obtained in the internal structure. The roots of the plants issued from grafted subjects were less lignified, their soft medullary tissue was scarcely thickened, their vascular cylinder was of smaller dimensions, and their liber was much more developed. The stems had also less fibrous tissue, and consequently were more tender; they contained

more chlorophyll, and the pith did not show the intercellular spaces of S. Alliaria. The leaves, however, were not different in their internal structure, although they also contained more chlorophyll or green colouring matter.

Turnips from normal seed grafted on Mortagne Cabbages gave equally characteristic results. The plants obtained produced Turnips smaller than ordinary ones, having a flavour of both the Turnip and the Cabbage.

M. Daniel remarks, however, that his observations only relate to the first generation, and that they do not necessarily indicate what may happen in succeeding generations, or on repetition of the grafting process. But he infers, that in order to improve a plant by means of the graft, it would appear to be necessary to apply it to another plant possessing qualities of a higher order as regards the nature of the improvement which is aimed at.

In other words, as M. Daniel has stated elsewhere,* if seed produced by a cultivated scion on a wild stock be sown, the plants will tend to revert to the wild type, and they will lose, to a great extend, their value as food-plants. He also states that, in grafting, inferior stock should not be selected for grafts, the seeds of which are intended to be sown.

M. Daniel sums up his conclusions on this interesting subject as follows:—(*a*) Hybridising by means of the graft is possible with certain herbaceous plants. They can be endowed with new alimentary qualities by grafting them on other plants which possess these qualities to a higher degree, and by sowing the seeds thus obtained. (*b*) The impression produced on the grafted plants and on their seeds varies with the plants grafted, but it would appear to be the more marked in connection with the Cruciferæ.

* *Revue Générale Botanique.*

THE CONSERVATORY AT BIRDSALL, YORKS.—Conservatories differ so largely in shape and design, and the degree in which they answer the intentions of their builders, that we need no apology for exhibiting to our readers one that affords ample promenading space, abundance of light to the plants, and is of the simplest character (fig. 21). Staging is quite absent; the plants, which may be termed the permanent occupants, are planted in the borders that skirt the path, and have nothing which attract attention. Flowers in season are readily disposed in groups by themselves, placed towards the front of the borders; or when tall, as for instance, standard Roses in pots, Hedychiums, Cactus, Heliotrope, Aloysia citriodora, Cestrums, zonal Pelargoniums on tall stems, Cannas, and the like, they may be stood amongst the more permanent plants. Being well lighted with large panes of glass, climbers can be more profusely employed, and need not be so closely tied in as must be the case in conservatories containing much heavy woodwork and brickwork.

Fig. 21.—The conservatory, birdsall, yorks.

THE LINNEAN SOCIETY.—An evening meeting will be held on Feb. 7, 1895, at 8 p.m., when papers will be read, 1, "The Comparative Morphology of the Galeodidæ," by Mr. H. M. Bernard, F.L.S.; and 2, "New Marine Algæ from Japan," by Mr. E. M. Holmes, F.L.S.

THE ROYAL GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place at the Hotel Windsor on the 25th ult., Mr. W. Marshall presiding, there being a good attendance of members. The following special donations were

announced:—Mr. M. Todd, Edinburgh, sale of flowers, £13 10*s.*; Mr. H. J. Jones, Lewisham, boxes in Chrysanthemum-houses, £9; the Midland Carnation Society, per Mr. R. Sydenham, £5; Mr. J. Kipling, Knebworth, for admissions to ice for skating, £2; Mr. H. Herbst, Richmond Road, Kew, £1 1*s.*; and Mr. W. H. Divers, The Gardens, Belvoir Castle, 8*s.* 4*d.* From boxes, the following amounts were announced:—Mr. William Marshall, Auchinraith, Bexley, £1 7*s.* 10*s.*; Mr. J. Hughes, Birmingham, £1 3*s* 3*d.*; Mr. Geo. Fry, Lewisham, £1 1*s.* 10*d.*; Mr. H. Perkins, The Gardens, Greenlands, Henley-on-Thames, 10*s.*; with several smaller sums, all of which the committee are very pleased to receive. A draft report for the year was read by the secretary, and also a financial statement signed by the auditors, of a distinctly favourable character, both of which were adopted for presentation at the annual general meeting, which was fixed for Friday, February 8, at the Cannon Street Hotel. Letters were read from Mr. F. Q. Lane and Mr. J. Wright, resigning their seats upon the committee through inability to attend.

THE ACADEMY OF SCIENCES.—M. Cornu, the Director of the Botanical Garden at the Jardin des Plantes, Paris, has been elected a Vice-President of the Academy.

—— MM. H. Baillon, Guignard, and Ed. Bureau are candidates for the vacancy in the Botanical section, caused by the death of M. Duchartre.

THE LATE WILLIAM THOMSON.—We have been requested to publish the following letter:—"I would like to thank many friends belonging to the horticultural world for their sympathy for my sisters, and myself, in our recent bereavement. All readers of the *Gardeners' Chronicle* who have kindly sent us messages of comfort and consolation will please accept our public thanks. We would have liked to have replied to all the kind sympathisers personally, but find that will be impossible, and therefore hope that they will accept this acknowledgement instead. John Thomson, *Clovenforde, N.B.*" We may add that we have received very numerous letters expressive of the high esteem in which Mr. Thomson was held by his colleagues.

THE MONTROSE COLLECTION OF ORCHIDS.—Messrs. John Cowan & Co. have purchased the whole collection of Orchids formed by the late Dowager Duchess of Montrose at Newmarket. The collection is large and varied, and its nature is well known to most Orchid lovers, and is now offered for sale. An illustrated price-list is published by the Company.

AYRSHIRE GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The usual fortnightly meeting of this Association was held in the Carrick Street Hall, Ayr, on Thursday evening; Mr. McCartney, gardener to Lord Blackburn, Doonholm, presided. An interesting and practical paper on "The Peach and Nectarine" was read by Mr. Alex. Henderson, Fullarton Gardens, Troon. Amongst the exhibits brought forward was a single pink Hyacinth (Homerus), bearing eight well-formed trusses, grown by Mr. Scott, Cambusdoon. The next meeting will take place on February 7, when Mr. D. Wilkie, Sundrum Gardens, will read a paper on "Germination of Seeds."

THE GROWTH OF WOUNDED ROOTS.—In a recent number of *Natural Science* (vol. vi., p. 9), we referred to some experiments by which Dr. Pfeffer had shown the root-tip to be the seat of sensitiveness to the stimulus of gravity. In the issue of the *Annals of Botany*, mentioned in the foregoing note, our readers will find an account of some work on the same lines by an American botanist, Professor V. M. Spalding, carried out in Pfeffer's laboratory at Leipsig. The subject is the investigation of the curvatures, styled traumatropic, which follow the infliction of wounds on the tip of growing roots. These phenomena were first studied by Charles and Francis Darwin, and described in the *Power of Movement in Plants*. Young seedlings were allowed to grow in moist air, and a small piece of card was fixed on one side of the tip of the short rootlet by means of shellac dissolved in alcohol. A large proportion of these rootlets became considerably bent, curving away from the side to which the object was attached. A similar result followed when nitrate of silver was used as an irritant, or when thin slices were cut off parallel to one of the sloping sides of the apex. In their explanation of these experiments, the authors concluded that sensitiveness resided in the tip of the root, a theory which Pfeffer's recent ingenious experiments have put beyond doubt; and also that extremely slight pressure or simple contact was a sufficient irritant to induce deflection. Detlefsen repeated the Darwins' experiments, and came to the conclusion that the curvatures were simply a mechanical result of an injury to the root-cap. When this is injured the tissues beneath are partly released from strain, and extend more rapidly than those on the opposite side, thus causing convexity of the side affected. Professor Spalding, however, observed that curvatures in the radicle of a Bean follow a branding of the tip after the removal of the root-cap. He also finds, as Wiesner proved ten years ago, that the curvatures do not result from simple contact, and from several experiments adduces strong evidence that they are the result of an injury to the growing point. Thus they follow a small injury which extends to the growing point, but fail to take place even after extensive injury in which the growing point is not involved. Some of the most interesting cases cited are those which show that the stimulus to a curvature may remain latent during an artificial suspension of growth. It was found that roots which have been wounded may have their growth in length stopped by confinement in plaster casts for several days, and that traumatropic curvature still takes place when they are released and growth is resumed. Finally, the author claims that the experimental evidence adduced justifies the belief that the growing point of the root is sensitive, and that its irritation induces the curvature in the zone of rapid growth behind the root-tip. Such results are comparable with those obtained in the study of curvatures induced by the stimulus of light and gravity. For instance, in the case of the cotyledons of grasses, the tip has been shown to be most sensitive to the directive action of light, the stimulus being transmitted from the tip to the lower part, where, after an interval of time, the corresponding curvature is observed. *Natural Science.*

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, February 4th, when the adjourned discussion on the paper read by Mr. H. Blackbourn (Fellow), on "The London Building Act, 1894," will be resumed. The chair to be taken at 8 o'clock.

FLOWERS IN SEASON.—Strains of Primula sinensis fimbriata have been so improved year after year by selection, and by cross-fertilisation, that it is the rule rather than the exception in these days to see flowers of large size, good substance, and bright cheery colours. Mr. Wm. Bull, nurseryman, King's Road, Chelsea, has recently submitted a good number of blooms of his best varieties for our inspection, which still further prove what fine strains are obtainable. Well up to the average in size and substance, the flowers were remarkable for their pleasing colour. It is of little use quoting names, perhaps, in these strains, but mention may be made of a new variety called Brilliant, the colour of which was charming, being of a rich shade of crimson tinged with carmine, and having a pale yellow eye. Comet, another new one, is a good specimen of carmine-crimson, and has a yellow throat. A delicate shade of rose is obtained in Gipsy, another new one; and Imperial Blue is deeper and better in colour than the ordinary blue one. Mr. B. S. Williams also sends a remakably fine sample of a creamy-white variety.

LEE, BLACKHEATH, AND LEWISHAM HORTICULTURAL SOCIETY.—The annual general meeting of the above was held on Monday evening, the 14th inst., at the Lee Institute, Mr. M. A. Buttanshaw, in the unavoidable absence of the President, J. Penn, M.P., taking the chair. The meeting was well attended, and the report and balance-sheet were adopted. The balance shows a small deficiency, but in reality that is not so, a sum of £50 having been invested as a reserve fund in New Zealand stock. The dates fixed for the exhibition in the current year are Wednesday and Thursday, July 3 and 4.

"ALBUM OF SUTTON'S GARDEN PEAS."—This is a well got up publication, showing excellent photographic representations of various new Peas introduced of late years by Messrs. Sutton & Co. The appearance and texture of the pods and seeds are wonderfully brought out. An album of this character, published at intervals of a few years, would furnish valuable evidence of the nature and degree of change effected by careful selection and cross-breeding. The plates afford one of the finest illustrations of the application of photography to the representation of vegetables that we have seen.

NATIONAL CHRYSANTHEMUM SOCIETY.—In addition to the three exhibitions announced to take place at the Royal Aquarium in October, November, and December, the usual show of early Chrysanthemums, Dahlias, and Gladioli, will be held on Sept. 3, 4, and 5, the National Chrysanthemum Society giving £20 in prizes for early Chrysanthemums, and £10 towards the Dahlia and Gladioli classes, supplemented by a grant of £50 from the Royal Aquarium Society. The schedule of prizes will be issued as heretofore, with those of the National Chrysanthemum Society.

"HEALTH AND WEALTH."—We note the issue of the first quarterly part of a journal with this cheerful-sounding name. The new-comer is the organ of The Church Society for the Promotion of Kindness to Animals, The Church Sanitary Association, and The Funeral Reform Association, the interests of which three institutions it warmly endeavours to promote. The publishers are Messrs. Wells, Gardner, Darton & Co., Paternoster Buildings.

TOMATOS.—According to an article in the *Revue Horticole*, MM. Nicaise despatch from Palaiseau, near Paris, every day during the season between 5000 and 6000 kilos. of Tomatos to London (5000 kilos. = 5 tons nearly). The plants are grown on a slope 2 hectares in extent, facing south, with a gradient as steep as 80 in the 100, and which had formerly been used for Strawberry culture. The plants are placed in rows a mètre apart, and 60 centimètres from plant to plant. The seed is sown in a frame in the middle of March; the plants are pricked out in due time under a well-ventilated frame, and every effort is made to secure a robust growth. The plants are set out in the open at the end of April, when the weather is generally rainy. Two leading branches only are left, and the plants are stopped when they reach the top of the trellis to which the plants are attached. The fruits are gathered from the first week in August onwards. The fruits can be gathered and sent to market in good condition, whilst those from the south, owing to the longer transit, require to be gathered before they are ripe. What are our distressed agriculturists about?

WASPS.—The inevitable untimely wasp appeared on January 18; so says a gardener at Thetford. We can only say, "So much the worse for the wasp," if London weather prevail at Thetford. Our correspondent advises our readers, apparently quite light-heartedly, to take potassic cyanide, break it fine, of which a tablespoonful is to be poured into the wasp's nest when discovered. What with weed-killer, and a variety of insecticides and fungicides, which require the utmost care in use and storing, we have more than enough of poisonous compounds, dangerous to human life, kept in the potting-shed and other readily-accessible places in a garden, without

adding one more deadly substance to the list. A bit of rag dipped in melted brimstone, if set alight and held beneath a hanging wasp's nest, or stuffed into the entrance to an under-ground one, is an efficient insecticide.

BIRMINGHAM DISTRICT AMATEUR GARDENERS' ASSOCIATION.—The second annual meeting of the Birmingham and District Amateur Gardeners' Association was held at 116, Colmore Row, on Wednesday evening, January 23, the President (Alderman WHITE) in the chair. There was a good attendance of members. The Silver Medal for the best series of exhibits at the Society's periodical competitions during the past year goes to Mr. W. H. PEAKE, and the Bronze Medal to Mr. C. DANIELL. Certificates were also awarded to Messrs. H. BEECH, H. SMITH, T. P. COPE, A. GROVES, J. C. CLARK, and W. B. GRIFFIN. A Special Certificate, nicely illuminated, was awarded to Mr. W. H. PEAKE (Handsworth), for the best exhibit of plants and flowers at this meeting.

"WILD FLOWERS IN ART AND NATURE," by J. C. L. SPARKES and F. W. BURBIDGE, with coloured plates by H. G. MOON. London: EDWARD ARNOLD. A work issued to the public under such three-fold recommendation as is implied in the names above quoted, hardly needs more than the mention of its publication. An indication of the nature of its contents may, however, not be superfluous. In the first place we have a chapter containing general directions for flower-painting by Mr. SPARKES, the Principal of the Art Training School at South Kensington. Some useful hints for beginners are here given, and an elaborate account of the various pigments employed. The plates are not intended for botanical purposes, but as art studies, and, therefore, only the general effect is considered, and this, in most instances, is excellently rendered. Detailed instructions for the representation of the flowers are given which will be of very great assistance to the beginner. For the literary portion of the volume Mr. BURBIDGE is responsible.

LECANOPTERIS CARNOSA is a remarkable Fern whose rhizome forms an irregular putty-like crust surrounding the branches of the trees, to which it clings by means of short brown fibrous roots. The rhizome is glaucous, green, fleshy, and scaleless, becoming brown and leathery in texture with age. Its interior is full of small cavities or galleries, similar to those of certain ant-infested Rubiaceæ from the same region. Living specimens, says the *Kew Bulletin*, are now in cultivation, having been sent by Mr. CURTIS from Penang. Mr. CURTIS remarks that it is a very unpleasant plant to collect, as the ants are most pugnacious. It grows on the highest and most exposed portions of the hill at an elevation of 5000 to 6000 feet. Mr. CURTIS, from pressure of other duties, had only one clear day to procure the plant. He started early on Sunday morning, got to the top soon after midday, collected the plant, and got to a bungalow about 2000 feet down, and slept there. The following morning he started at 5 A.M. to catch the boat for Penang, and on Tuesday by noon the case was on its way to England. This is a "record" in plant collecting.

PROPAGATION OF PLANTS.—Under the title of *Guide Élémentaire de Multiplication des Végétaux*, M. MOTTET has issued a little treatise on seed-sowing, the striking of cuttings, layering, grafting, and division. The book has been executed with care, the directions being concise and clear, and containing directions which writers of such books sometimes do not think it necessary to give, but which nevertheless, are of the greatest service to beginners. To those who read French we commend this excellent little treatise, which is, moreover, well illustrated. It is published at a low price by M. OCTAVE DOIN, Place de l'Odéon, Paris, and it may be ordered of Messrs. WILLIAMS & NORGATE, or other foreign booksellers.

"A DICTIONARY OF BIRDS."—Professor NEWTON'S valuable publication, edited with the assistance of HANS GADOW, R. LYDEKKER, C. S. ROY, and R. W. SHUFELT, has now reached the article "Sheathbill," so that one more part will complete the volume. The pennant-winged nightjar has two of its primary wing feathers enormously elongated. While the quills are bare, the blades are feathered, and when the bird sits on the surface of the ground, its body is concealed by the surrounding herbage, but these two feathered blades are level with the tops of the grasses. The arrangement reminds one of the similar disposition of parts in the fishing-frog (Lophius piscatorius). The history of the sand-grouse and their wonderful migrations will be read with interest, as also the record of the sapience of our legislators, who in 1888 passed an Act to protect these birds; but as the Act was not to come into operation till February, 1889, it was a futile measure.

ROYAL HORTICULTURAL SOCIETY'S COMMITTEE, 1895.—SCIENTIFIC.—Sir J. D. Hooker, K.C.S.I., C.B., F.R.S., Chairman; W. T. Thiselton Dyer, C.M.G., F.R.S.; Professor M. Foster, Secretary, Royal Society, and Maxwell T. Masters, M.D., F.R.S., Vice-chairmen; Rev. Professor G. Henslow, M.A., F.L.S., Drayton House, Ealing, W., Hon. Sec.; Mr. J. Allen, Mr. J. G. Baker, F.R.S.; Professor I. B. Balfour, F.R.S.; Mr. W. H. F. Blandford, M.A.; Dr. E. Bonavia, Mr. F. W. Burbidge, M.A.; Professor A. H. Church, M.A., F.R.S.; Colonel R. Trevor Clarke, Mr. Francis Darwin, F.R.S.; Rev. C. Wolley Dod, Mr. H. J. Elwes, Rev. G. H. Engleheart, M.A.; Professor J. B. Farmer, M.A.; Dr. E. Frankland, F.R.S.; Mr. F. Du Cane Godman, F.R.S.; Mr. R. Lindsay, Sir J. T. D. Llewelyn, Bart.; Mr. R. Irwin Lynch, Mr. W. H. Maxwell, Mr. R. McLachlan, F.R.S.; Mr. A. D. Michael, Mr. D. Morris, M.A., C.M.G.; Mr. Hugo Müller, Ph.D., F.R.S.; Mr. F. W. Oliver, D.Sc.; Dr. C. B. Plowright, Sir J. W. Russell, Bart., F.R.S.; Mr. Osbert Salvin, F.R.S.; Mr. D. H. Scott, M.A., Ph.D.; Mr. A. W. Sutton, Mr. G. J. Symons, F.R.S.; Mr. H. J. Veitch, Professor Marshall Ward, F.R.S.; and Mr. G. F. Wilson, F.R.S.

FLORAL.—Mr. W. Marshall, Chairman; Rev. H. H. D'Ombrain, Mr. John Fraser, and Mr. George Paul, Vice-chairmen; Mr. T. Humphreys, Royal Horticultural Society, Chiswick, W., Secretary; Mr. W. Bain, Mr. W. Barr, Mr. C. F. Bause, Mr. E. Beckett, Mr. C. Blick, Mr. Briscoe-Ironside, Mr. H. Cannell, Mr. R. Dean, Mr. C. T. Druery, Rev. G. H. Engleheart, Mr. J. H. Fitt, Mr. W. Furze, Mr. T. Godfrey, Mr. G. Gordon, Mr. W. J. Grant, Mr. H. Herbst, Mr. C. Jeffries, Mr. J. Jennings, Mr. H. J. Jones, Mr. J. Laing, Mr. W. C. Leach, Mr. R. B. Lowe, Mr. H. B. May, Mr. E. Mawley, Mr. E. Molyneux, Mr. G. Nicholson, Mr. C. Noble, Mr. R. Owen, Mr. J. D. Pawle, Mr. C. E. Pearson, Mr. C. J. Salter, Mr. C. R. Scrase-Dickens, Mr. H. Selfe-Leonard, Mr. G. Stevens, Mr. H. Turner, Mr. J. Walker, Mr. W. Watson.

ORCHID.—Mr. H. J. Veitch, Chairman; Sir Trevor Lawrence, Bart.; Maxwell T. Masters, M.D., F.R.S.; Baron Schroder, Vice-chairmen; Mr. James O'Brien, Hon. Sec.; Mr. E. Ashworth, Mr. H. Ballantine, Mr. T. W. Bond, Mr. R. Brooman-White, Mr. Joseph Broome, Mr. H. A. Barberry, Mr. F. W. Barbidge, Mr. H. Chapman, Mr. W. Cobb, Mr. Norman C. Cookson, Mr. Sydney Courtauld, Mr. De Barri Crawshay, Mr. J. Douglas, Mr. J. T. Gabriel, Rev. E. Handley, Mr. Fred. Hardy, Mr. T. B. Haywood, Mr. E. Hill, Mr. C. Ingram, Mr. J. Jacques, Mr. W. B. Latham, Mr. R. Lindsay, Mr. E. V. Low, Mr. C. J. Lucas, Major Mason, Mr. Charles Pilcher, Mr. H. M. Pollett, Mr. W. H. Protheroe, Mr. F. Sander, Mr. A. H. Smee, Mr. T. Statter, Mr. W. Thompson, Mr. M. Wells, Mr. W. H. White, Mr. H. Williams, and Mr. O. O. Wrigley.

FRUIT AND VEGETABLES.—Mr. Philip Crowley, Chairman; Dr. Hogg and Mr. T. Francis Rivers, Vice-chairmen; Mr. Archibald F. Barron, Royal Horticultural Society, Chiswick, W., Secretary; Mr. H. Balderson, Mr. W. Bates, Mr. W. Bennett, Mr. Joseph Cheal, Mr. W. Crump, Mr. G. W. Cummins, Mr. A. Dean, Mr. W. H. Divers, Mr. Malcolm Dunn, Mr. W. Farr, Mr. Robert Fyfe, Mr. E. Gilman, Mr. T. Glen, Mr. George Goldsmith, Mr. C. Herrin, Mr. J. Hudson, Mr. J. Laing, junr., Mr. Fred. Q. Lane, Mr. James McIndoe, Mr. G. T. Miles, Mr. G. Norman, Mr. A. H. Pearson, Mr. W. Pope, Mr. G. Reynolds, Mr. Charles Ross, Mr. G. H. Sage, Mr. T. J. Saltmarsh, Mr. James Smith, Mr. G. Taber, Mr. J. H. Veitch, Mr. P. C. M. Veitch, Mr. Jesse Willard, Mr. G. Woodward, Mr. John Wright, Mr. S. T. Wright, Mr. G. Wythes, and Mr. A. Young.

"OUR DOGS."—This, a new penny weekly journal, is remarkable indeed, since it is avowedly "devoted solely to dogs!" It will, at any rate, prove acceptable to those who own specimens of the canine race, and it is addressed to those who have but one or two dogs as well as to the comparatively few interested in breeding or training on a larger scale. The mere appearance of such a journal shows how almost universal has become the institution of keeping dogs in our English homes; and we hope it may do good service in protesting against the cruel and ugly practice of cropping ears and docking tails in deference to the dictates of senseless fashion. The publishing offices are at 10, Gore Street, Piccadilly, Manchester; and 172, Strand, London.

"MEEHAN'S MONTHLY" FOR JANUARY signalises the entrance on a new volume, by selecting the wonderful Darlington pitcher-plant of California for its coloured illustration. The plant, we are told, is omnivorous. It feeds on earthy matters like other plants, but eats insects as a gastronomic luxury. The natural history department tells of American sacred Lotos, and of the botanical pleasures of the woods in winter, and illustrates the Hickory Nuts often seen on Grape Vines, which we learn are made by insects. A beautiful blue-flowered hardy shrub from China, looking like a Spiræa, is illustrated, and a number of natural history paragraphs make the denizens of the city envy his fellow who can enjoy country life. The gardening department has been enlarged by four pages, and practical chapters are numerous. The pruning of trees, Grape Vines, and hedges, is especially dwelt on, and summer pruning shown to be the chief element in success. The hole in the bottom of a flower-pot is shown to be for the purpose of getting air to the roots of plants; and the proper method of pruning shrubbery is illustrated by wood-cuts. The biographical column has brief sketches of RAFINESQUE, Dr. CHAPMAN, and the late Dr. J. BERNARD BRINTON. Agricultural and horticultural legislative commissions are shown to be costly affairs, California alone having spent two millions and a quarter on them in fifteen years. Specimen copies are sent free by the publishers, THOMAS MEEHAN & SONS, Germantown, Philadelphia.

SOUTH BIRMINGHAM GARDENERS' ASSOCIATION.—At the last fortnightly meeting, Mr. JAMES UDALE, Horticultural Lecturer to the "Worcestershire Union of Workmen's Clubs and Institutes," gave a lecture on "Potatos." Mr. UDALE gave in detail the history, development, and final stages of the disease and its ravages, at the same time giving his own personal observations and experiences regarding its eradication. He strongly advised the planting of late sorts early, so as to ensure thorough ripening of the tubers, and spoke of the evils of planting too close, or upon cold wet ground. He advised his hearers to abstain from planting the sets in contact with manure. Bastard trenching he advocated heartily, and advised storing in dry sheds in preference to "clamps." Mr. UDALE also touched briefly on the experiments now being made by Messrs. SUTTON & SONS in the crossing and intercrossing of Solanum tuberosum and S. Maglia.

THE NOVA SCOTIA SCHOOL OF HORTICULTURE reopened on Monday, January 7, 1895, for a four months' course in horticulture, especially adapted to young farmers and farmers' sons who can attend during the winter months. The lectures during the course are of such a nature as can be fully understood. No examinations are required

for admission. The instruction covers such subjects as formation of soils, their treatment, orcharding, vegetable gardening, nursery work, diseases of plants and their remedy, injurious insects and their treatment. The modern facilities in greenhouse, root cellar, and plant house, afford means for practical work in grafting, budding, pruning, seeding, cutting, &c., carrying on all kinds of work connected with horticulture on the farm. Students are asked to bring with them any problems along the line of horticulture, specimens of diseases, insects, soil, &c., for study in laboratory with microscope, chemicals, &c. It is hoped that the young men of the province will avail themselves of this opportunity and attend. Tuition is free. Board at cost. Write for circulars and information to Prof. E. F. FAVILLE, Wolfville, Nova Scotia.

PUBLICATIONS RECEIVED.—*Phycological Memoirs: being Researches made in the Botanical Department of the British Museum.* Edited by GEORGE MURRAY. A series of descriptive notes on various Algæ, beautifully illustrated, and accompanied also by essays on the geographical distribution of various species. The *Memoirs* are published by DULAU & Co.—*Dictionnaire Pratique d'Horticulture et de Jardinage.*—The last number of the French translation of NICHOLSON'S *Dictionary* is before us, bringing the work up to the word *Juncus*. In it, by the way, we find the explanation of the difference between "horticulture" and "jardinage," which has, we know, puzzled some of us. Jardinage is an amusement or a recreation for amateurs. Horticulture is a business pursued for pecuniary profit. The publisher is OCTAVE DOIN, 8, Place de l'Odéon, Paris.—*Culture du Caféier, &c.* By E. RAOUL. (Paris: CHALLAMEL.)

PLANT PORTRAITS.

CAREX SCAPOSA, Clarke.—A broad-leaved Sedge, with panicled flowers and pink perianth-scales.—Hong-Kong. See *Bot Mag.*, 6940.—*Wiener Illustrierte Garten Zeitung*, December, 1894.

CYPRIPEDIUM CHARLESWORTHII, Rolfe, *Gartenflora*, 1895, t. 1410.

DARLINGTONIA CALIFORNICA, Torrey, *Meehan's Monthly*, January.

DATURA CORNUCOPIA, fl.-pl., *Illustration Horticole*, January 15.

LYCORIS AUREA, *Garden*, January 19, 1895.—An Amaryllid, with narrow, bright orange, undulate perianth segments.

OPUNTIA CLAVARIOIDES, Pfeiffer, *Gartenflora*, January 15, p. 47.

ROSE VICTOR VERDIER, *Canadian Horticulturist*, January.

GLOXINERA × BRILLIANT.

(GESNERA PYRAMIDALIS ♀, GLOXINIA, RADIANCE ♂.)

OUTSIDE the natural order Orchidaceæ, there are practically only one or two bigeneric hybrids in existence. One, Philageria Veitchi×, was raised in 1872 by Messrs. Veitch & Sons, Chelsea, by fertilising Lapageria alba with pollen from Philesia buxifolia. Another, which is represented in the accompanying illustration (fig. 22), was raised in the same establishment, and made its appearance at a meeting of the Royal Horticultural Society on May 8, 1894, when it received an award of merit. Like Philageria, the generic name Gloxinera is a combination of Gloxinia and Gesnera—the latter being the seed-bearing plant. The flowers are of a fair size, and of a brilliant scarlet colour tinged with magenta in the shadows. The foliage is more nearly that of a Gloxinia than a Gesnera in appearance, being very succulent and covered with fine hairs. Everything seems to point to a large number of bigeneric hybrids in the future, and it may be interesting in years to come for posterity to look back upon some of the first results achieved by their predecessors. *John Weathers, R.H.S.*

HOME CORRESPONDENCE.

CUTTING THE COMMON LAUREL IN WINTER.—As a rule, I read my *Gardeners' Chronicle*, and note p. 73, under the heading "Pruning Laurels, &c." I should advise all whom it may concern to remember "*Punch's* advice to those about to marry," viz., "Don't." The idea of slashing away in mid-winter with saw, hatchet, and knife is too dreadful to contemplate! If the poor Laurels could speak, would they not implore to be protected from such brutality? and inwardly repeat "Woodman spare (this) tree." No one should condemn a system unless he can offer an alternative. I therefore condemn the above, and my alternative would be to bury the "hatchet, saw, and knife" until the spring. The last week in March, the first week in April, and the second week in April; here are "three courses" open, and my advice would be to take the middle one. Perhaps the gentleman who penned the above advice had written out directions for every week in the year, and somehow got them mixed, so the copy which ought to appear next March is coming out in mid-winter. I hope "J. L." will pardon my temerity. For many years I have marvelled at the close affinity of the vegetable and animal world, and am thinking that Laurels slashed and exposed to this cruel winter would resemble my own plight, viz., confined to the house for days in consequence of a long, cold drive across an open common, resulting in influenza. I fear the poor trees under such treatment would suffer, not only from influenza, but rheumatic fever, and gout also. Now for my castigation. Good-bye! *Charles Noble.*

JADOO FIBRE.—The notice on p. 109 of the *Gardeners' Chronicle* of Colonel Halford Thompson's lecture on the "Uses of Jadoo Fibre," at the People's Palace, reminds me of a number of plants cultivated in this material which I saw at Exeter and Torquay in November last. At the autumn exhibition at the latter place, Colonel Thompson's gardener succeeded in winning several first prizes with Chrysanthemum blooms, which I was given to understand had been grown in this fibre. Not only were the blooms remarkable for size and depth, but the various colours were particularly bright. Where soil is with difficulty obtained, this material appears likely to supply a long felt want; and what struck me as being remarkable was the quickness with which the pots filled with roots after plants were potted. Not only must the fibre become valuable to persons with limited house accommodation, but for filling baskets or hanging pots and pans, it being very light and retaining the moisture much longer than mould. With baskets, lightness is a matter of some account. To nurserymen sending off small plants, &c., this fibre should prove a great boon, as it will render the packing of plants for transit much easier, and the small weight of a package as compared with soil will enable the parcel post to be made available to a greater extent than hitherto. *E. Molyneux.*

THE COLOURING OF APPLES.—In reply to Mr. T. Easter's question, on p. 115, I may state that soil has only an influence on the flavour of fruits, and not on their colouring. A soil, containing no lime, will never produce such sweet and delicately-flavoured fruits as a soil containing lime in whatever combination it may be. Colouring depends on the differences of moisture and sunshine, so far as it is not inherited by a special fruit. If an Apple be exposed to full sunshine, it will become warm, and when the temperature cools down at night, the fruit remains warmer, and in consequence is covered by moisture on the next morning, and when the sun shines again, the warmth and direct rays of the sun absorb the moisture on the fruit, and this causes the colouring. If he will take off a few leaves overhanging or covering the fruit at a time when the Apples have attained nearly full size, and wet the Apples with a sponge several times a day, he may be sure to get colour. In France they produce even initials, letters or patterns on certain Apples or Pears which colour well, by applying cut-out paper cyphers by some adhesive material. The initials remain pale. *Max Leichtlin, Baden-Baden.*

COTTAGE AND ALLOTMENT GARDENS.—Frequently, in examining cottage and allotment gardens, I have noticed that crops, have been grown for two or three years, if not for a longer period, without any manure of any kind being placed on the ground. Poorness of soil soon shows itself in poor crops, and yet the occupiers of such gardens appear to think that the goodness of the land, and its capacities to procure satisfactory crops, are inexhaustible. A cottager will sometimes say that the rent of his plot is so high that he cannot afford to purchase manure or any other fertilising agent, forgetful of the fact that a dressing of good manure—and a cartload of serviceable dung can be purchased for a few shillings—would increase the crops five-fold. It must not, however, be forgotten that in some districts it is difficult to get manure except at a cost which is almost prohibitive, and when lecturing to allotment-holders I have put it to the local representative of the County Council, whether it is possible for someone of position in the neighbourhood to purchase a quantity of a good economical manure such as is prepared by artificial means, and sell it at cost price to the tenants of allotments. I have always found allotment-holders who find difficulty in procuring manure, highly favourable to a suggestion of this sort. I once asked Mr. J. J. Willis, of Harpenden, if he could recommend a suitable and economical artificial manure for allotment-holders; and he admitted that the matter was beset with difficulties, not, as he said, for want of the materials, but for their storage, preparation, and application. This led me at once to see that it is no good recommending anything that requires careful mixture. Mr. Willis said, further, that the best all-round manure is undoubtedly guano, but he added that its composition varies so greatly that persons who can ill afford to do so may pay double its value. Probably the safest and most economical manure for general garden purposes would be a low grade one, such as is advertised as Turnip manure, at a cost of from £7 to £8 per ton. Such a manure contains about 9 per cent. of nitrogen, and should be sown broadcast and dug in at the rate of from 2 to 3 cwt. per acre, according to the crop for which it is intended, the Cabbage tribe requiring more than Onions, Carrots, Beet, Peas, &c. Supposing a ton of such guano costs £8, it would be delivered carriage free, and it could be sold to allotment-holders at 8*s.* per cwt. Supposing 3 cwt. be applied per acre, the cost of enough for a quarter of an acre would be 6*s.* Then it is portable, and could be housed in a kitchen or wash-house, or any outbuilding, and applied as required. Mr. Willis also advocated the use of some of the good bone manures which are well adapted for Peas, Potatoes, Onions, &c. The more powerful concentrated manures costing from £15 to £20 per ton are not only too costly, but require too careful handling to be suited to the allotment holder. I think, therefore, that if a number of allotment and cottage gardeners could be induced to club together and procure one or two tons of this Turnip manure direct from a good firm, they would find it cheaper than going to an agent. I think that allotment holders too often overlook the value of soot as a manure, for it is rich in salts of ammonia, and it also contains salts of potash and soda, as well as sulphate of lime. How often the chimney-sweeper is allowed to carry away what would be so valuable in the garden; and the house-wife often casts soot aside as of no value, forgetful of the same fact. Then there is the compost heap, on which vegetable refuse, weeds that will quickly rot, road scrapings, and droppings, and such like can be thrown, with an occasional layer of soil and lime, and which can be saturated with chamber slops. By this means valuable fertilising material can be obtained, dug into the soil when necessary. *R. D.*

TOMATO CULTURE.—Although I cannot corroborate your correspondent's statement on p. 80 as regards the combination of Melon, Onion, Mushroom, and Potato-Apple flavour in that of the Tomato, this probably is due to the deficiencies of my palate, yet I agree with him as to the good qualities of Chemin Rouge Tomato. It is good in colour and shape, one of the best flavoured, and eminently adapted for market purposes. I grew it in three gardens last year, both under glass and outside; in each case the plants were put in the borders. The fruits set very freely, and although the season was unfavourable for outside Tomato culture, yet we obtained a good percentage of ripe fruits, and the rest were saved by lifting and planting inside. Our heaviest cropper here was Vilmorin's Hâtive de Pleine Terre, a very early short-jointed Tomato of robust habit, producing at each joint a truss of flowers which set remarkably well. It has a good flavour, but is flat in appearance, and corrugated in the larger fruits, though a large percentage of the smaller fruits would have passed for smooth-skinned. I cannot recommend this one too highly for early supply, inside or out, and it is good for local trade, but I prefer Chemin Rouge for the London markets. *W. G., Frythesden Gardens.*

FIG. 22.—GLOXINERA × BRILLIANT: FLOWERS BRILLIANT SCARLET. (SEE P. 144.)

gardener to the Earl of Chesterfield." The above was printed in 1771. I wonder if there are at the present time any descendants of these gardeners now in existence? I have another old book, *The Gardeners' Pocket Journal*, by John Abercrombie. The brief sketch of the life of the author, who was born in Edinburgh, 1726, and died in London about May, 1806, is very interesting. If this old work of 320 pages could be reprinted, and be revised, it would be very useful for the gardener. The directions for nursery work would, I am sure, be much appreciated by many of the gardeners of the present day. The first-named book, although called a kalendar, is something more, and contains, amongst other useful matter, "designes for laying out grounds and making the best thereof." *G. Howes, Merton Hall Gardens, Thetford.*

OLD VERSUS NEW CALENDARS OF GARDEN OPERATIONS.—How interesting it is to read the old Kalendars, and to note the old varieties of Peas, such as Early Nichols's, Hotspur, early Golden Hotspur, Master Hotspur, Spanish Marotto, Large Egg, &c, also Broad Beans, the Sandwich Toker, &c. The above are taken from an old Kalendar the full title of which is *The Modern Gardener, or, Universal Kalendar of Operations of Gardening,* "selected from the manuscript diary of Mr. Hitt, formerly gardener to Lord Robert Manners at Broxholm. Revised, corrected, and very much improved by James Meader,

PLANT NAMES.—"W." (*Gardeners' Chronicle*, p. 115) is not happy in selecting the plant known in most gardens as Disa grandiflora as an example of a plant bearing a model name, for the plant he has in his mind has no right to the name, it being properly Disa uniflora of Bergius, a name which is itself a misnomer, for the plant generally bears more than one flower on each inflorescence. Thus, the name commonly used in gardens, and which delights "W." by its appropriateness, does not of right belong to the plant at all; while that which, by the incontestable rule of priority, is its proper name, is misleading if it is expected to be descriptive. *James O'Brien.*

VIOLA "BLUE BELL."—I notice that in the catalogue of one of the London wholesale seed houses, seed of Viola Blue Bell is offered, and it is described as a large rich blue. As the raiser and distributor of the true form of Blue Bell, I am compelled to take up the cudgels on behalf of my bantling. It is one of the smallest of Violas, and its colour is a pale rather than a deep blue. I am wondering what is being sent out under the name of this favourite old variety. No Viola out of a considerable collection at Bedfont stood the wet summer better, or was dwarfer and more compact in growth than the original Blue Bell, and it was sent out very nearly a quarter of a century ago. *R. Dean, Ealing, W.*

LUCULIA GRATISSIMA.—I quite agree with what your correspondent, Mr. S. A. Wood, says with regard to this plant as a fit subject for placing in borders. When I was employed in the gardens at Bedford Hill, Balham, the proprietor was very much taken with this plant for its lovely perfume; but it was found that pot culture produced only unsatisfactory results. Calling one day at Coombe Cottage, when Mr. G. Baker filled the gardener's post, I saw a very fine Luculia which was planted out in a brick pit in one of the houses, and I at once treated our plant in the same manner, with the result that I had in about three years a very fine plant, with fifteen or twenty fine heads of bloom. The very fine roots of this plant should not be disturbed or cramped in a flower-pot. *W. R, Harrow Weald.*

THE GREAT SYCAMORE AT GRIMSTON PARK.—When looking through vol. xvi. of the *Gardeners' Chronicle* (1881) I came across the figure of the above fine specimen on p. 469. The tree at that time appeared to have been in the zenith of its beauty. I regret to state that during the violent gale of Dec. 22 last, it suffered very severely. The top, from about half way up, of the stem on the right-hand side of the figure was blown off; therefore its beauty has been ruined. I beg leave to correct an error made in the accompanying note, p. 468, which speaks of it having but three stems. It has, in fact, four. Regret is also expressed at not being able to give exact dimensions. I have pleasure in stating that it measures 21 feet in circumference at 4 feet from the ground. The lowest limb extends 44 feet from the bole, and is about 6 feet from the ground, this heavy limb being supported by a stout forked prop. *J. S. G.*

THE ORMSKIRK HYBRID SWEET-SCENTED RHODODENDRONS.—The valuable hybrid sweet-scented Rhododendrons raised and distributed by Messrs. Isaac Davies & Son, nurserymen, Ormskirk, are not so much seen in these days as they deserve to be. Generally of compact bushy growth, bearing large pure white, bell-shaped flowers, sometimes tinged with rose or purple, deliciously fragrant, and blooming freely on quite young plants, they are admirably adapted for decorative purposes in spring and early summer. It is necessary to name only a few of the best, viz., Countess of Derby, pure white, extra fine; Lady Skelmersdale, pure white, very handsome; Countess of Sefton, white, with a band of rosy-purple on each side of the corolla, which is fringed on the margins; Duchess of Sutherland, white; and Miss Davies, pure white. White appears to be the normal colour of these hybrids, but though all of this colour, the varieties named differ materially, and the foregoing may be accepted as quite distinct. For some reason or the other, these hybrids have not found their way into cultivation in the south so much as their merits deserve. My old friend, the late Mr. Samuel Barlow, used to grow very fine examples of these Rhododendrons at Stakehill, and exhibit them at the spring exhibition of the Manchester Botanical and Horticultural Society. Countess of Sefton was one of his favourites, large and striking, with its band of deep rose shading to purple; Lady Skelmersdale, so free as to produce a dozen finely-developed flowers on a truss; and on a plant of Duchess of Sutherland I once counted seventy flowers borne on eleven trusses. Mr. Barlow's method of treatment was simple, but it answered well; he used to repot after the plants had done blooming, using a compost made of peat, sand, cocoanut fibre, and a little loam, enough of the latter to add cohesion to the whole; the specimens were kept in a cool house during the summer, where they grew into fine bushy specimens, and sometimes they were plunged out of doors to set their buds. They are nearly hardy, but while they will bear a little frost with impunity, it is well not to let them have too much. Some liquid manure given when the plants were coming into bloom proved of advantage in developing fine trusses. *R. D.*

A SEEDSMAN'S QUALIFICATIONS.—Nobody, I suppose, is prepared to dispute in the main the orthodoxy of "Seedsman" when dealing with this subject in your issue of January 26; but I venture to suggest that, if not an employer of labour, he is

emphatically speaking on their behalf, or rather from their point of view. Further, if my long experience in the nursery and seed trade has not been lost on me, "Seedsman's" knowledge is confined chiefly, if not wholly, to the wholesale London trade. Granting that a duly qualified seedsman then must be adequate to all the necessities involved in that gentleman's arguments, what are the qualifications compared with those obviously inseparable from the merits of a seedsman and nurseryman! Are there any bounds to the questions (as regards variety) that are asked in any establishment of the kind in the course of the year? As to whether in all cases every assistant is qualified to answer most of the queries, I must leave, as my object is to uphold the claims of a "Nursery and Seedsman" who is up to his business; or, in other words, has a comprehensive knowledge of what he is talking about. Now, what an immense field of thought must be brought to bear when reflecting on the additional merits that are required to constitute a sound "nursery and seedsman" over and above the qualifications of a mere seedsman. Here we have the ideal man of practical experience through all the branches of the nursery and seed trade, comprising not only the following qualifications mentioned by "Seedsman," viz., commercial grip, intelligence, observance, forecast, enterprise, method and tact, but knowledge of plants and their value both hardy, greenhouse and exotic; an intimate acquaintance with all the principal genera and their species, forest trees, ornamental and deciduous shrubs, Roses, &c., together with an intimacy as to the best stocks wherewith to cope with all the different subjects, the chemistry of soils, and the adaptability or otherwise of given plants to given aspects or other conditions, and all other practical knowledge attendant on these. Combined then with the dual qualification "Nursery and Seedsman" from a practical standpoint, where is the practical seedsman? Far be it from me to disparage the claims of either individually, but I must contend that he who is well versed in both sections is the man of the future, as regards an employé at all events. And this brings me to a point on which I should like to dilate as briefly as possible, and that as regards the English system of apprenticeship or no apprenticeship. I am firmly resolved that (speaking generally, be it understood) there is not the class of assistants in the nursery and seed-trade that its exigencies demand. I mean as regards a good sound general education. And in my opinion the reason of this is not far to seek, taking into consideration the way in which most youths "creep" into the business, instead of undergoing a good general apprenticeship of, say, five years, which might be insisted on with a fair remuneration to the employer in the way of premium, by all houses of repute. Until some such system is instituted throughout the "nursery and seed trade" generally, I fear the materal employed will never be able successfully to cope with the fundamental requirements of a fully-qualified "Nursery and Seedsman." On the other hand, if employers united by some means to raise the standard of assistants by a system of apprenticeship, thereby ensuring a good all-round practical and theoretical knowledge, the outcome would be the ultimate weeding out of all that is unpractical and unfit. *Nursery and Seedsman.*

ONCIDIUM INCURVUM.—The value of this species was frequently exemplified last year, it having been found in some of the best arranged groups of miscellaneous plants at the leading shows in the South of England. At Southampton Mr. Carr used it effectively in his group that took the 1st prize; and at Salisbury, where groups are always well arranged, it appeared again in numbers. The long branching spikes, which attain a height of 4 feet in good hands, are loaded with quaintly-coloured blossoms that arrange readily with suitable flowering and foliage plants. Of course, every good plant runs the risk of being employed in excess, but this is a fault that clever exhibitors always bear in mind. It is a plant of easy culture, and is an inmate of the cool-house. *E. M.*

NURSERY NOTES.

ORCHIDS AT MESSRS. JAS. VEITCH & SON'S.

A good number of rare Orchids, both species and hybrids, are now in flower in the Royal Exotic Nursery, King's Road, Chelsea. One of the prettiest is Phalænopsis × Vesta (rosea leucaspis × Aphrodite), and which is the last novelty in hybrid Phalænopsis raised by Messrs. Jas. Veitch & Son, and who have hitherto almost exclusively worked in this difficult branch of Orchid hybridisation, in which they have already succeeded in maturing the handsome P. × F. L. Ames (amabilis ♀, intermedia ♂), so finely shown from Lord Rothschild's gardens at the last meeting of the Royal Horticultural Society; P. × John Seden (amabilis ♀, Luddemanniana ♂), a charming rose-spotted flower; P. × Artemis (amabilis ♀, rosea ♂), a close ally of P. intermedia Portei; P. × Harriettæ (amabilis × violacea), a beautiful hybrid, and P. × Rothschildiana (Schilleriana × amabilis), a large and one of the most beautiful Moth Orchids. These with the pretty P. × Vesta, now furnished with its pretty reddish rose and white flowers, and others flowered at Chelsea, make a remarkable record of work done with an intractable genus. Another pretty and rare hybrid in flower is Epidendrum × Endresio-Wallisii (Endresii × Wallisii), with terminal bunches of light violet-tinted flowers. Among the new species in flower are two very pretty and distinct Dendrobiums, viz., D. subclausum, with peculiarly-formed orange-scarlet flowers, and D. glomeratum, with bunches of rose-purple blooms.

Among others better known are many exceptionally well-flowered plants of Dendrobium luteolum, which few growers succeed in bringing to perfection; the pretty and fragrant D. × Wardiano-japonicum, and the old favourite, D. × Dominianum. In the warm-houses, Angræcum sesquipedale, Saccolabium violaceum, and its white variety, S. v. Harrisonianum, Vanda Amesiana alba; Calanthes, in many varieties; Miltonia Roezlii, both white and coloured forms; and the never-failing Cypripediums, many of them profusely-flowered large plants. Among these the most attractive were C. × œnanthum superbum, C. × T. B. Haywood, C. × Lathamianum, in many varieties; C. × Crethus, C. × Æson, C. × Germinyanum, and the last two new ones, C. × Minosa superba (Arthurianum × Spicerianum), and C. × Norma (Niobe × Spicerianum).

In the cool-houses there was, considering the dull weather, a good show of Odontoglossum crispum, Sophronitis grandiflora and Ada aurantiaca, good for contrast sake; some fine varieties of Lycaste Skinneri, finely-flowered Oncidium tigrinum, O. Forbesi, and other Oncidiums; the pretty and uncommon Odontoglossum cariniferum, and O. blandum, &c. In the large Cattleya-house, the occupants of which maintain their remarkable vigour unabated, were some of the plants of Cattleya Trianæi in flower, one variety named C. T. rosea having very fine flowers of a pale lavender-rose hue, that are very distinct looking and attractive. The white and coloured forms of Lælia anceps still continue well in bloom, as also a variety of Lælia tenebrosa and various other interesting and pretty species.

A GREAT FORCING ESTABLISHMENT RE VISITED.

We suspect that the name of Mr. William Iceton, of Putney Park Road, S.W., is associated principally with the growth of Palms and other foliage plants popular with and used by furnishers and decorators in London and out of it. Such a reputation could hardly be separated from this energetic horticulturist, who, during the last ten years or so, has grown and distributed thousands of Palms, and whose stock at the present time contained in the houses approaching in number half a hundred, is so vast and of such good quality.

Another branch of this establishment, however, is treated with the same skilful attention that has resulted in success in Palm growing, and in this department is forced a marvellous quantity of flowers, the largest items of which are Lily of the Valley, Roman Hyacinths, Tulips, Azalea mollis, &c. When we paid a visit recently to this place, one of the most striking features to notice was the success attending the forcing of Lily of the Valley crowns. More than two millions are imported from Germany, and forced for the supply of flowers during winter. They are packed closely into boxes, and about 100 crowns are put into each box, and covered with Cocoa-nut fibre. Each day, or nearly so, about 100 of such boxes are placed into heat in a dark-house, of forcing temperature and humid atmosphere. Half-a-dozen houses or so are monopolised by this Lily-forcing, and in each house one sees the flowers in different stages of growth. When the spikes are well up, and the flowers opening, daylight is admitted, and before the flowers are cut they are in the strongest light that can be obtained. But the delicate green tint of the foliage would not be got if the light were admitted too early. In the sheds are several smart "hands," bunching the spikes and foliage for market, and examining them, one sees that the spikes bear an unusual number of bells of large size. As many as sixteen may be counted over and over again on extra strong spikes, and gardeners who engage in this same business, but in a smaller way, will understand the quality of such spikes. In fairness, however, it must be stated that they are not all of such excellence, neither are there any that are really inferior; but the immense quantity of crowns required by Mr. Iceton obliges him to obtain his stock from more than one source, and the quality varies a little in each case. Mr. Iceton says his Lilies this year have been better than usual, and so it would appear.

Tulips require more care in forcing. It is found that fashion favours different colours in different seasons, and even the demand for the Tulip itself varies from year to year. This season they have sold remarkably well, and the favourite colours are yellow, pink or flesh, and dark scarlet. Of yellows, Canary Bird, and Yellow Prince are both very charming, but Rose Crystalline, a rose and white variety, producing good flowers very freely, is even more prepossessing than they. Upwards of 300,000 Roman Hyacinths have been forced this season, but these pay best during early winter, and the stock is now practically exhausted. Azalea mollis lasts generally throughout the forcing season, and a formidable stock is requisite for the purpose. Lilium Harrisii is another good subject for forcing, and this season Mr. Iceton was able to place a fair quantity on the market for Christmas, a very early date for a plant that usually resents very hard forcing. Tuberoses, Pancratiums, and a few other plants furnish flowers at different periods of the year, and the excellent plants of Stephanotis that we have referred to when previously visiting this nursery, yield an enormous return in flower. There is no better practice than to thoroughly thin out this useful climber each winter, and the omission of this necessary operation is the cause of plants in many gardens flowering so shyly.

Reverting to the Palm department, there is little to add to previous descriptions of this excellent stock, except that whatever orders have to be executed, there appears always an unlimited number of recruits to take the places of those sent away. Plants from excellent table size in 5-inch pots to large specimens of Cocos and other species 15 or 20 feet high, may be seen in most satisfactory condition; indeed, anything in this way that would be required for the largest, as well as the smallest, furnishing contract is here. Phœnix rupicola is the handsomest species of this genus, and it is next to impossible to cultivate a larger number than can be sold. Livistonas of good appearance and merit meet with a brisk demand. Particularly worthy of note amongst these species was a grand lot of L. rotundifolia in excellent health; the plants were young, dwarf, and strikingly good. Species of Cocos are very well done, and all the marketable varieties are in large stock; whilst the same remarks apply equally well to the ever-popular Kentias. Geonoma gracilis is very elegant, and there is a large collection of this species. Raphis humilis is not so popular here for furnishing as on the Continent, but Bambusas have been used a good deal of late. Arundinaria falcata is a capital plant in the summer, but during the winter the ends of the leaves so frequently turn yellow, that its appearance is greatly marred. A variegated variety, glaucous on the under-side of the leaves, appears much better in this respect, and the leaves seem more persistent.

Fatsia japonica, Aspidistra lurida, A. l. variegata, and Araucaria excelsa are all grown well, and in very large quantities; and the nursery is so well known for the high-class Dracæna Lindeni it has produced for several years past, that note is scarcely needed. D. Douceti is a much more difficult plant to produce in large numbers; but plants are always at hand for fulfilling orders, though the time and difficulty necessary to get a good-sized plant make it too dear for general work. Asparagus plumosus, A. p. nanus, A. tenuissimus, &c., have always been largely grown by Mr. Iceton; and he is especially successful in seeding two very large plants, the seed of which is sent over a very wide area. Gardeners interested in foliage plants generally, or in forcing flowers, would enjoy a visit to "Icetons', Putney."

THE GOLDEN GEM MIGNONETTE.

This novelty, offered by Mr. C. Lorenz for the first time (fig. 23), is, we surmise, of English origin. It produces a great abundance of yellow flowers, has a dwarf compact habit, and is quite distinct from another yellow-flowered variety known in the trade as Golden Queen, which is a tall-growing plant. It is well suited for culture, or as an edging plant if the seedlings be thinned out to a distance of 6 inches apart.

LA MORTOLA.

We have frequently had occasion to speak of this fine garden near Mentone, so liberally and judiciously managed by Mr. Hanbury. To him we have often been indebted for specimens and for information. The following memoranda record the passing impressions of a horticultural visitor, Mr. Pope, of Birmingham, and are, of course, not to be considered as anything more than casual and very incomplete impressions.

The visitor is struck with the large collection and immense quantity of Cacti and succulents planted out, the various varieties of Epiphyllum speciosum or truncatum also growing and flowering freely in partial shade. Opuntia tunicata, with its long but very dangerous ivory-looking spines, 5 to 6 inches long, having the appearance at a little distance of a mass of downy white, measuring a yard across, is very remarkable. Close by are examples of Pilocereus senilis (the Old Man Cactus), 2 to 3 feet in height, with large drooping hair-like tufts, resembling a wig, and very silvery in colour. Boronias serrulata, pinnata, and others, growing chiefly in the shade of Pine trees, which are indigenous to the soil, and are common in the district. These Boronias are free-flowering bushes, and luxuriate here. A large quantity of Palms, many of considerable size, grow freely here, especially species of Phœnix, and there are grand specimens of Pritchardia filamentosa and P. filifera, if not identical.

Solanum ciliatum has the habit of S. capsicastrum, but with larger foliage, and berries an inch in diameter. Salvia leucantha is a very effective plant, with long spikes of lilac flowers, with white centres, and like S. splendens in habit, but the flowers are more pendent. Clianthus Dampierii was growing freely and in great plenty, but the blooming season was over; but the plants were in robust health, and had an abundance of seed-pods. There is a specimen of Cocos campestris at least 20 feet high. Rhus vernicifera is a very striking plant, with compound leaves 2 feet long, of a rich deep crimson colour. Specimens of Agave Salmiana 12 feet wide, 8 feet high, with leaves 20 inches wide; a grand plant of Agave ferox of the same dimensions, and other species of the genus are in profusion. Melianthus Trimenianus was conspicuous for its brilliant rich scarlet-crimson colour; and close to it was a mass of Bouvardia leiantha, in full bloom, surrounded by a large collection of Abutilons. At the back of this group is a monster specimen of the double white Brugmansia, about 20 feet high, with hundreds of blooms upon it. Polygala myrtifolia 8 to 9 feet high, and blooming profusely. One of the most gorgeous-coloured plants in the gardens was Salvia frutescens, 12 to 14 feet high, with spikes of flowers 12 inches long, and 8 inches wide at the base, and these plants were so conspicuous as to be seen a long distance away.

Lotus peliorhynchus, with its trailing habit, and glaucous, blue-tinted foliage, and scarlet Pea-shaped blossoms, was growing on the top of the rockeries. The single yellow Banksian Rose growing over some arches leading to one of the rock-gardens, was in full bloom, and bright, and the double varieties seem to be scarce in the district; and on the rockwork Tecoma capensis gave a profusion of bright scarlet flowers, and Asparagus plumosus and A. acerbifolius were in luxuriant growth. Small beds of Primula sinensis in varieties were gay, and do well planted out. Salvia semi-atrata, with its black and blue flowers, reminding one of Torenia asiatica in colour, and forming a small growing bush, is regarded as a great variety, and is certainly very attractive and curious. Asparagus decumbens was used as a vase-plant, its graceful, drooping shoots falling over the sides on to beds of plants of Cypripedium insigne and barbatum sections chiefly. Arches of various climbing plants are used, and give

Fig. 23.—The Golden Gem Mignonette.

partial shade to other plants, such as Tillandsia xiphioides (called the Mexican Air-plant) hanging from the trellis, and in some instances Hoya carnosa is growing freely over the trellis. Stapelia grandiflora and others were flourishing planted out; and a very fine Cycas revoluta attracted attention, being from 12 to 14 feet high, and as much in diameter, and this was growing out of one of the rockeries. The handsome Ilex cornuta was bright with large red berries; and the pretty small-growing plant Gerbera Jamesoni, with its scarlet Anemone-like flowers, was very effective in sheltered corners of the rockeries.

Cannes.

The climatic conditions of the Riviera being so different to ours, visitors to those districts are struck with the growth and beauty of many plants which with us are seen under glass culture chiefly. At Cannes there is a magnificent avenue two miles long of specimen Pritchardias and Date-Palms, planted alternately; and the Blue Gum tree (Eucalyptus globulus) is very common everywhere. The early-blooming Mimosa grandiflora and the late-blooming A. dealbata are met with constantly, large trees, and blooming freely. Hoya carnosa flourishes out-of-doors, and the porch of a small country inn was covered with it. Fuchsia arborescens forms large trees, with large panicles of lilac-coloured flowers; and immense bushes of Begonia macrophylla in full bloom are frequent, with trusses 12 inches in diameter of flowers. Beds of Primula sinensis are common in the Riviera, and in the public gardens are beds containing quite a thousand plants; but the varieties are inferior to those grown in England, excepting the blue-coloured variety, and a few beds of these were very effective.

In the gardens at Monte Carlo there is a very fine collection of Palms, and one of the most striking features of the place is the collection of specimens of Brahea Roezlii, one of the fan Palms, the foliage here having a strongly-marked blue tint of colour. They range from 10 to 12 feet in height, and 10 feet through, and in superb health. The colour was so intense as to be striking objects to an English visitor. Everything in these gardens is kept in admirable order, and the bedding out is on a very extensive scale, the Chinese Primula being used in very large quantities. *W. D.*

FLORISTS' FLOWERS.

THE HIPPEASTRUM.

It is now quite time that these handsome spring-flowering bulbs were repotted. Plunge the pots up to the rims in some spent bark from the tan pits, and use a moderate bottom-heat. They require a house that can be heated. The soil for potting should consist of one-third fibrous peat and two-thirds good yellow loam, to which is added some decayed manure and leaf-mould, with some sharp white sand. Good drainage is a necessity. When the bulbs are turned out of their pots, the old dry soil will easily crumble away, and all dead or decaying roots must then be cut away, and the base of the bulbs examined, removing any decaying skin. If decay has entered the bulb itself, it should be carefully removed, and some powdered quicklime pressed into the wound with the fingers; but it is seldom that decaying bulbs recover. Scarce and valuable varieties may be kept alive until offsets form which will produce healthy stock. It will be found, on examining the base of a bulb, that there are few or no roots at the centre; the roots all issuing from the outer rim, I raise a cone of potting soil nearly as high as the rim of the pot, and on the blunt top of the cone put some white sand. Then I place the base of the bulb on the top of the cone, with the roots hanging down its sides; place the soil about the roots, and press it firmly. The bulb should be a half or one-third of its depth below top of the soil, according to its size—the larger ones to about one-third of their depth. Plunge them in a moist bottom heat of about 80° to 85° in a house having not more than about 50° as a minimum temperature. The potting material being in a moderately moist condition at the time of using, no water will be needed for three or four weeks. By that time the minimum temperature having been increased to 55° or more, considerable growth will have been made both in the development of spikes and leaves. Sometimes the spikes will come before the leaves, and sometimes no leaves will appear till the flowers are expanded. Generally, however, spikes and leaves come together, and it is much more satisfactory if they do so. *J. Douglas, Ilford.*

The Show Pink.

Those who wish to have well-marked flowers should not expect to obtain them from plants wintered under glass either in boxes or flower-pots. No bloom ever won a prize at an exhibition treated in this way. The plants must be well established in good soil in the open ground before wintry weather sets in. Our plants are all right up to the present time. They are, as I write, frozen into the ground, but when the thaw comes it is necessary to look over the plants, and if any of them are thrown out of the soil, they must be pressed in again with the hand; but in truth they are generally all loosened so much that it is better to go over the entire collection. *J. Douglas.*

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending January 26.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 —	0	63	— 30	+ 118	2 —	21	3·7	18	10
1	5 —	0	70	— 31	+ 149	2 —	17	2 7	20	18
2	5 —	0	57	— 30	+ 97	3 +	22	3 9	28	19
3	4 —	0	52	— 29	+ 62	4 +	21	3 2	21	16
4	4 —	0	53	— 36	+ 84	4 +	17	3·1	26	20
5	3 —	0	35	— 34	+ 65	2 —	18	2·7	25	23
6	5 —	0	50	— 39	+ 114	9 —	18	1 7	46	28
7	4 —	0	44	— 33	+ 81	0 aver	20	2·7	27	20
8	3 —	3	32	— 46	+ 76	1 —	21	4·2	29	29
9	4 —	0	40	— 55	+ 89	0 aver	21	2 8	31	19
10	5 —	1	33	— 78	+ 63	6 —	21	4·3	33	24
*	1 —	20	9	— 35	+ 26	1 +	25	4 0	31	30

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending January 26, is furnished from the Meteorological Office:—

"The *weather* of a very unsettled type again prevailed over our Islands. Rain was very general at the commencement of the week, but occasional falls of snow, alternating with intervals of bright sunshine, were subsequently experienced. A short, but sharp, thunderstorm, accompanied by heavy hail, was experienced in London and some other parts of our south-eastern and eastern counties during the forenoon of Wednesday.

"The *temperature* was below the mean, the deficit ranging from 1° in the 'Channel Islands,' and 3° in 'England, S. and S.W.,' to 5° in some of our northern districts and in 'Ireland, S.,' and to 6° in 'Scotland, N.' The highest of the maxima, which were recorded on the 20th in 'England' and during the middle part of the period in 'Ireland and Scotland,' ranged from 56° in 'England, S.W.,' and 53° in 'England, S. and the Channel Islands,' to 43 in 'Scotland, E. and England, N.E.' The lowest of the minima occurred on the 26th, when the thermometer fell to 8° in 'England, S.W.' (at Llandovery), to 10° in 'England, E.,' 15° in the 'Midland Counties,' and to between 18° and 23° in most other districts. In the 'Channel Islands' the lowest reading was 32°.

"The *rainfall* exceeded the mean in the 'Midland Counties and England, N.E. and E.,' as well as in the 'Channel Islands;' elsewhere the fall was either just equal to or less than the normal.

"The *bright sunshine* was in excess of the mean in all districts, except 'Scotland, E. and England, E.' The percentage of the possible duration ranged from 46 in 'Scotland, W.,' and 33 in 'Ireland, S.,' to 18 in 'Scotland, N.'"

VARIORUM.

CEYLON TEA.—"There is something pathetic, says Mr. Stanton in a paper read before the Society of Arts, "about the rise of the Ceylon Tea industry, for it rose as a Phœnix from the ashes of the ruined Coffee plantations, which had brought golden harvests to the fortunate proprietors, and were suddenly destroyed by the terrible ravages of the Hemileia vastatrix, large tracts of coffee-bearing land covered with fruitful bushes being suddenly reduced in value from thousands of pounds to almost nil. The planters, after trying Cocoa, Cinchona, Cardamums, &c., with but partial success, finally turned their attention to Tea. The extraordinary suitability of the Tea plant for the climate compared with the Coffee plant was strikingly illustrated by the fact that Tea, when left untended, was found to force its way through the undergrowth and jungle, and to thrive and luxuriate in the midst of this tropical vegetation, triumphing alone and uncared for over the surrounding difficulties, while Coffee untended was soon found to sicken and die. So much more suitable did the climate of Ceylon, with its abundant rainfall, prove for the leaf crop of the Tea plant, than for the fruit crop of the Coffee plant, that planters soon grasped the fact that, at last, they had found a product pre-eminently suited to the soil and climate of their island. Hence, once Tea was fairly started in cultivation, thousands of acres were quickly planted up, until in the course of a few years large tracts of land were covered with Tea plantations, some 280,000 acres being under Tea cultivation in 1894. So rapidly did the export increase, that it rose from about 300 lb. in 1876, to 81,000 lb. in 1879, and 611,068 lb. in 1882, and 4,352,895 lb. in 1885, and about 84 000,000 lb. in 1894; and the rise of the Tea industry, which commenced when almost the whole island was in a state bordering upon ruin through the failure of the Coffee industry, has resulted in the restoration of prosperity and comfort to the sorely-tried planters."

MARKETS.

COVENT GARDEN, *January* 31.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	5 0	- 6 0
Azaleas, doz. sprays	0 6	- 1 3
Bouvardias, p. bun.	0 6	- 1 0
Carnations, 12 blms.	1 0	- 2 0
Chrysanthemums, per 12 blooms ...	1 0	- 4 0
— per 12 bunches	4 0	- 8 0
Daffodils, double, dozen bunches ...	15 0	- 18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	- 4 0
Gardenias, per doz.	3 0	- 4 0
Pelargoniums, scarlet, per 12 bunches	4 0	- 6 0
— 12 sprays ...	0 6	- 0 9
Hyacinths (Roman), doz. sprays ...	0 10	- 1 0
Lapageria, 12 blms.	1 0	- 2 0
Lilac (French), per bunch	5 0	- 6 0
Lilies of the Valley, doz. sprays ...	1 6	- 3 0
Lilium Harrisii, per dozen	4 0	- 8 0
Maidenhair Fern, per 12 bunches ...	4 0	- 6 0
Marguerites, 12 bun.	1 0	- 3 0
Mignonette, 12 bun.	2 0	- 4 0
Mimosa (French), per bunch ...	0 9	- 1 0
Orchids:—		
Cattleya, 12 blms.	6 0	- 12 0
Odontoglossum crispum, 12 blm.	3 0	- 6 0
Pyrethrums, 12 bun.	2 0	- 4 0
Roses, Tea, per doz.	1 0	- 2 0
— coloured, p. dz.	2 0	- 4 0
— yellow (Maréchals), per dozen	6 0	- 9 0
— red, per dozen	1 0	- 1 6
— (French), red, per dozen... ...	1 6	- 2 6
— (French), yellow, per dozen ...	1 0	- 2 0
Stephanotis, dozen sprays	4 0	- 6 0
Tuberoses, 12 blms.	0 4	- 0 6
Violets, Parma (French), p. bch.	3 6	- 4 6
— Czar (French), per bunch ...	1 9	- 2 0
— doz. bunches	1 0	- 1 6
— (English), per dozen bunches ...	1 6	- 2 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 0	- 2 0
— English, 2nd quality, per lb.	0 6	- 1 0
Grapes, Muscat, per lb.	4 0	- 6 0
Cobs, per 100 lb. ...	25 0	- 27 6
Pine-apples, St. Michael, each ...	2 0	- 6 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	- 12 0
Aspidistra, per doz.	12 0	- 30 0
— specimen, each	5 0	- 15 0
Chrysanthemums, per dozen ...	6 0	- 15 0
Cyperus, per dozen	4 0	- 10 0
Dracæna, each ...	1 0	- 5 0
Erica hyemalis, doz.	12 0	- 18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	- 24 0
Ferns, small, doz....	4 0	- 12 0
— various, doz.	5 0	- 12 0
Ficus elastica, each	1 0	- 7 6
— small, per 100	4 0	- 6 0
Foliage plants, doz.	9 0	- 24 0
Marguerites, p. doz.	6 0	- 12 0
Mignonette, p. doz.	0 0	- 6 0
Palms, various, ea.	2 0	- 10 0
— specimens, ea.	10 6	- 84 0
Primulas, per dozen	4 0	- 6 0
Solanums, per dozen	10 0	- 12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, per lb. ...	1 0	- 1 6
Cauliflowers, per dozen	2 0	- 3 0
Cucumbers, per doz.	6 0	- 8 0
Mushrooms, per lb.	0 8	- 0 10
Onions, per bush. ...	2 0	- 2 6
Potatos, Channel Islands, per lb. ...	0 6	- 0 7
Rhubarb, per dozen bundles	1 3	- 1 6
Seakale, p. punnet	1 3	- 1 6
Tomatos, per lb. ...	0 3	- 0 6

POTATOS.

Severe weather has prevented many farmers from sending forward supplies, except in a small way; consequently, our stocks have been rapidly decreasing, and prices have advanced from 5*s.* to 7*s.* 6*d.* per ton all round.

NEW POTATOS.

Small parcels from Canary Islands have come to hand, but too early to command satisfactory prices. *J. B. Thomas.*

SEEDS.

LONDON: *January* 30.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the wintry weather natural checks to some extent the spring demand for Clover and other seeds. Meantime, holders ask last week's rates for all descriptions. Cables from New York report Red 1*s.* higher. Alsyke continues in abundant supply. Spring Tares are steady. Canary seed, despite small and diminishing stocks, favours buyers. Haricot Beans keep strong at the recent advance; and blue boiling Peas are slightly better. Fine Mustard and Cress seeds are now obtainable on very tempting terms. More money is asked for large Black Rapeseed.

FRUITS AND VEGETABLES.

BOROUGH: *January* 29.—Quotations:—Savoys, 2*s.* to 3*s.* per tally; Cauliflowers, 2*s.* to 2*s.* 6*d.* per dozen; Sprouts, 9*d.* to 1*s.* per half-sieve; Greens, 1*s.* 6*d.* per dozen bunches Carrots, 1*s.* 6*d.*; Turnips, 1*s.* 6*d.* per bag, and 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Parsnips, 8*d.* to 10*d.* per score, and 2*s.* per bag; Rhubarb, 1*s.* 6*d.*; and Celery, 10*s.* to 12*s.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 3*s.* to 4*s.* per cwt.; do., foreign, 1*s.* 6*d.* to 2*s.* 3*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.*; and other sorts, 8*s.* to 14*s.* per barrel.

STRATFORD: *January* 30.—The supply to this market during the past week has been good; and, with a large attendance of buyers, a brisk trade has been done at the prices shown below:—Savoys, 1*s.* 6*d.* to 3*s.* per tally; Greens, 1*s.* to 1*s.* 6*d.* per bag; do., 1*s.* 6*d.* to 2*s.* per dozen; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; ditto, 7*s.* to 11*s.* per tally; Brussels Sprouts, 9*d.* to 1*s.* 6*d.* per half-sieve; ditto, 2*s.* to 3*s.* 6*d.* per bushel; Celery, 8*d.* to 1*s.* per roll; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; ditto, 45*s.* to 50*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* per ton; do., cattle-feeding, 15*s.* to 21*s.* per ton; Mangolds, 12*s.* to 15*s.* per ton; Swedes, 10*s.* to 18*s.* per ton; Onions, English, 80*s.* to 100*s.* per ton; do., Dutch, 2*s.* 3*d.* to 2*s.* 9*d.* per bag; do., Valencia, 5*s.* to 9*s.* per case; Apples, English, 2*s.* 6*d.* to 7*s.* per bushel do., Nova Scotia, 15*s.* to 20*s.* per barrel.

FARRINGDON: *January* 31.—Quotations:—Rhubarb, 1*s.* 6*d.* per dozen bunches; Seakale, 1*s.* 3*d.* per pound; Curly Kale, 1*s.* per bushel; Parsnips, 2*s.* 6*d.* per bag; Beet, 2*s.* 6*d.* per bag; Celery, 15*s.* per dozen; Cauliflowers, 1*s.* 9*d.* per dozen; Turnips, 2*s.* 6*d.* per dozen bunches; Carrots, 2*s.* 6*d.* do.; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Apples, American, Greenings, 18*s.* to 20*s.* per barrel; Pears Californian, 10*s.* to 12*s.* per box; Grapes, 1*s.* 6*d.* per pound.

POTATOS.

BOROUGH: *January* 29.—Quotations ranged from 70*s.* to 110*s.* per ton.

STRATFORD: *January* 29.—Quotations:—Magnums, Dark soil, 70*s.* to 75*s.*; do., Upland, 75*s.* to 85*s.*; Main Crop Kidneys, 80*s.* to 90*s.*; Imperators, 80*s.* to 90*s.*; Sutton's Abundance, 80*s.* to 95*s*; Scotch Magnums, 80*s.* to 85*s.*; Bruces, 80*s.* to 90*s.*; do., Main Crop Kidneys, 85*s.* to 100*s.* per ton.

FARRINGDON: *January* 31.—Quotations:—Main Crop, 90*s.* to 110*s.*; Colossals, 90*s.* to 110*s.*; Bruces, 70*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 85*s.*; Blackland Magnums, 75*s.* to 80*s.* per ton.

LONDON AVERAGES: *January* 30.—Main Crop, 90*s.* to 120*s.*; Magnums, 70*s.* to 90*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Snowdrops, 90*s.* to 110*s.*; Kidneys, 60*s.* to 70*s.*; Blackland Magnums, 70*s.* to 80*s.*; Hebrons, 90*s.* to 110*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending January 26, and for the corresponding period in 1894:—1895: Wheat, 20*s.* 9*d.*; Barley, 21*s.* 11*d.*; Oats, 13*s.* 10*d.* 1894: Wheat, 26*s.* 1*d.*; Barley, 20*s.* 1*d.* Oats, 18*s.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 115*s.*; do., inferior, 45*s.* to 90*s.*; hay, best, 60*s.* to 93*s.*; inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 105*s.*; and straw, 20*s.* to 36*s.* per load.

FRUIT REGISTER.

PEARS MARIE BENOIST AND OLIVIER DES SERRES.

These varieties of Pears are not so generally known as they deserve to be, ripening as they do early in January, when Pears are becoming scarce. Both varieties possess good flavour; and although the quality of the best October and November Pears cannot be claimed for them, they are sufficiently rich in flavour, and delicate in flesh, to be classed as "good." Marie Benoist is large and handsome, and a fine variety for exhibition; while Olivier des Serres is an almost round fruit of medium size, with a russety rind. We have them as cordons on a wall facing east, not the most favourable position for late Pears; a wall with a western aspect would improve the flavour. Good late dessert Pears are not too abundant, and raisers of new varieties might do valuable service by devoting their attention to the raising of such. *Thos. Coomber.*

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ADDRESS: *J. E. Bourne.* Offices, 337, Strand, London, W.C.

AMERICAN GRAPES IN ENGLAND: *J. Carter & Co.* These varieties are not spoken favourably of by those who have tried them here. They are too pulpy, and some of them have a flavour that is unpleasant to most persons. Perhaps Mr. Pettigrew, of Cardiff Castle, or Mr. B. Wadds will kindly inform Messrs. Carter through our columns of their experience with some of these varieties. A note on the best of them was given in our columns for November 6, 1880, p. 591.

BOOKS: *J. R.* A paper by Mr. Bailey was published in the last volume of the *Journal of the Royal Agricultural Society*, which affords much information on Willows. A small book on the cultivation of Willows, by William Scaling, was published in 1868 by W. Kent & Co., Paternoster Row, London, and Allen & Son, Caxton House, Long Row, Nottingham. — *Frederick Clarke. Practical Geology* by William Smith is long out of print, and could only be obtained through second-hand booksellers, or some such agency.

BOWLING GREEN: *J. E. B.* There is no fixed area for a bowling-green, but it should not be less than 15 yards square.

CARNATIONS: *Geo. Stocks.* We do not remember the colours of the florists varieties of Carnation which you give. Perhaps some large grower may be able to help you.

CINERARIA SEED: *A. Penn.* Seed is readily obtained from self-fertilised flowers; but if definite improvement is looked for in colour of bloom, size of the same, regularity of florets, and habit and stature of plant, varieties must be brought together when flowering which possess the properties required in the progeny. Such plants must be isolated in a glasshouse away from others, and they should be enclosed in fine netting, so as to exclude the bees, &c. Fertilisation may be left to chance, or the operator may distribute the pollen according to fancy.

COBŒA SCANDENS VARIEGATA: *W. G. S.* It is in the nature of this plant, whose succulent stems acquire a woody consistency in old age, to die off in the manner that those you sent have done. It cannot be prevented, so far as we know.

FUNGUS ON PAVING TILES: *J. C. S.* That which you take to be of a fungoid nature is probably an exudation from the mortar in which the tiles are embedded. Can you send specimens?

NAMES OF PLANTS: *A. Picket.* 1, Carex brunnea variegata, commonly, but erroneously, called japonica; 2, Cyperus alternifolius; 3, specimen not sufficient; 4. Eulalia japonica, probably; 5, Pteris cretica; 6, Asplenium fœniculaceum.—*K. F.* Croton: 1, trilobum; 2, Weissmannii; 3, irregulare; 4, pictus variety; 5 and 6, Mortii; 7, interruptus; 8, angustifolius aureus maculatus.

POLYGONUM SACHALINENSE: *C. D. B.* Several persons have commenced to propagate this plant for sale purposes, and you should advertise your wants.

PROLIFEROUS ROSE: *Bems.* Mr. Jones, Llysonen Gardens, St. Clears, sends us a specimen of this very common monstrosity—when we say very common, we mean in reference to outdoor culture. Under glass, where the conditions of growth are more uniform than in the open air, we should not expect to find this change so common; indeed, at the moment we do not recollect to have seen such a case when grown under glass.

PTERIS CRETICA CRISTATA TORRANCII: *Stroud Bros.* It was meant that market men, with their reasonable dislike of long names, would abbreviate it greatly.

TERMS OF NOTICE TO QUIT EMPLOYMENT: *J. T.* There is neither common sense nor legality in a servant paying a month's wages to his employer in lieu of the customary notice. Sometimes an employer, who may not desire to keep his servant for a week, or a month, or even a longer period, may give him his wages for the time of the notice, instead of insisting on his earning them.

TREE FERNS: *D. D. H., Pennsylvania.* The tallest Dicksonias that we know of in cultivation are those at Gunnersbury, of which we gave an illustration in 1873, p. 544.

VALLOTA CULTURE: *Vallota.* We will afford the information next week.

VINE ROOTS: *Cymru.* The border having got into an unwholesome condition, the finer roots decay as fast as they are produced, with the result that the berries shank, bunches come undersized, and leaves small. You must prepare a new border, and replant the Vines, not making the border more than 2½ feet deep in any part. As to your other question, an outside border should be warmed or protected in some manner if early forcing is done.

COMMUNICATIONS RECEIVED.—Messrs. Cassell & Co.—G. H. H. G. G.—F. S.—D. Bros.—G. C.—J. H. B.—H. M.—A. D.—J. H.—F. Kränzlin.—J. D.—A. B.—W. Stevens.—D. G. C.—W. B. H.—P. R. L.—W. S.—T. C.—R.

DIED.—Mr. C. SMITH, formerly of Trentham and Alton Tower Gardens, and for the last ten years Gardener to A. P. Heywood-Lonsdale, Esq., Shavington Hall, Salop, an excellent all-round gardener, and very highly respected by all who knew him. He leaves a widow and young family to mourn his loss.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

CHRYSANTHEMUMS.

NORMAN DAVIS

has much pleasure in announcing that his

CATALOGUE OF CHRYSANTHEMUMS

IS NOW READY, and can be had free by post.

This Catalogue is issued simply as a Guide, such as a Catalogue should be, and will be found comprehensive and useful. You are welcome to a copy, even if not a purchaser.

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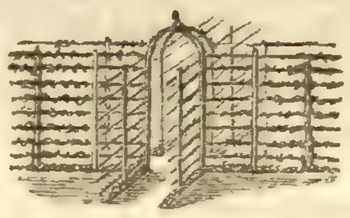

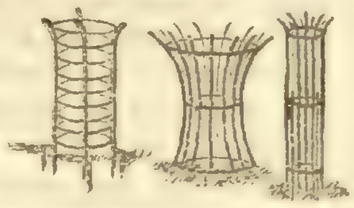

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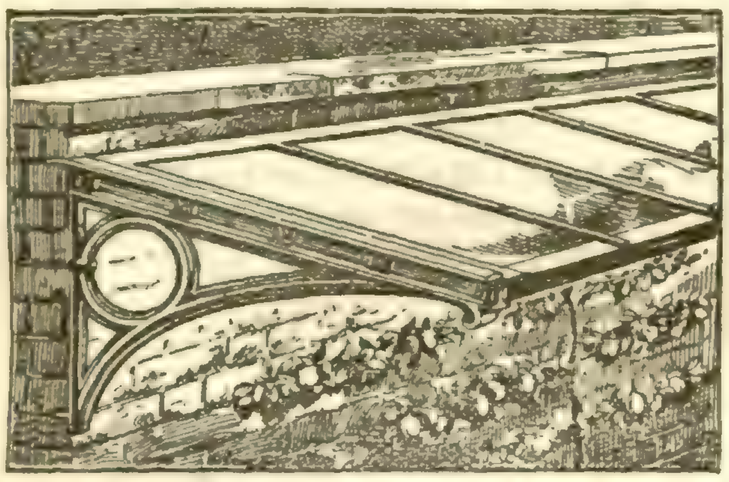

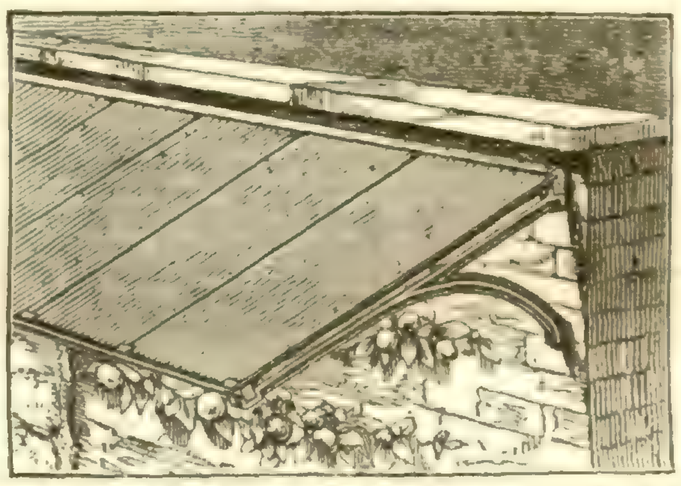

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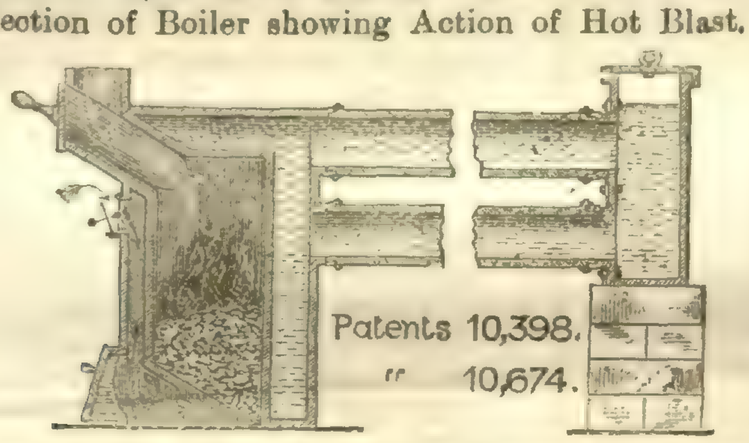

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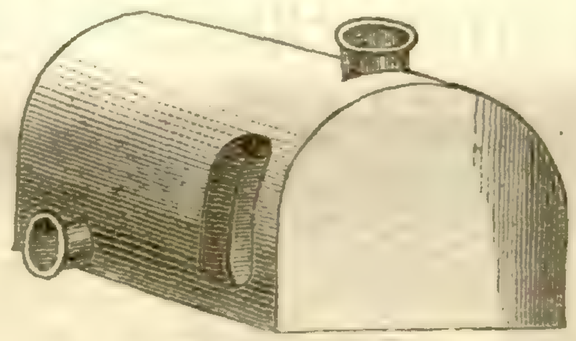

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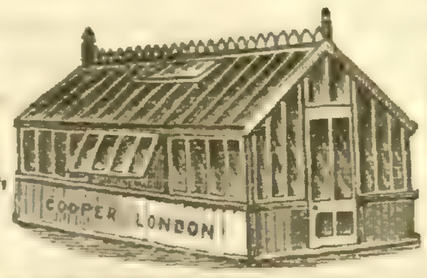

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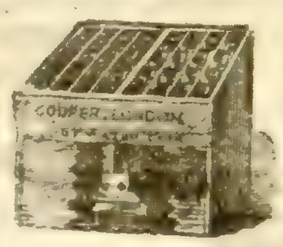

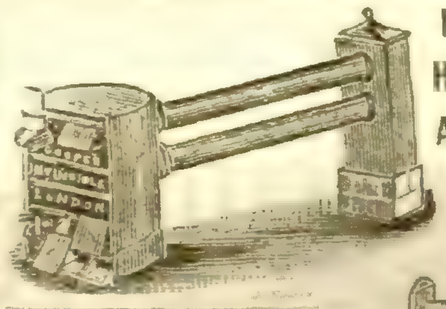

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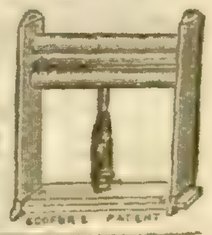

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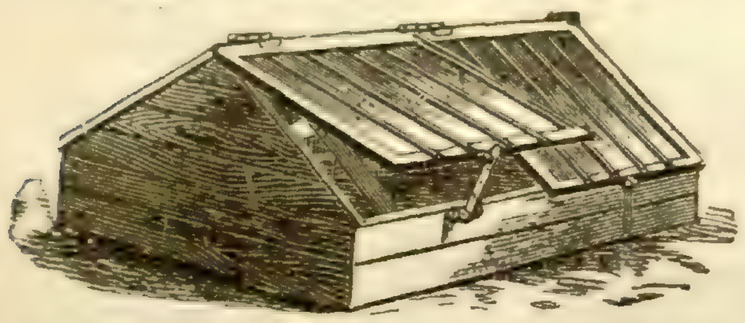

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All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

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GARDENING APPOINTMENTS.

Mr. Arthur Cordery, as Gardener and Bailiff to R. C. Coode, Esq., Polapit, Tamar, Launceston, Cornwall.

Mr. Stephen Sherlock, for the past ten years with Mr. Bailey, at the Briars Gardens, Reigate, has been appointed Gardener to W. G. Tyler, Esq., Oakwood, Mortimer, Berks.

Mr. Thos. Bennett, late Foreman in the gardens at Ripley Castle, Yorkshire, as Head Gardener to T. L. Boyd, Esq., North Frith, Tonbridge.

Mr. M. Field, for the past two and a half years as Gardener at Knowle Green House, Staines, as Head Gardener to Mrs. Bell, Lockner Holt, Chilworth, Guildford.

Mr. Thomas Young, for the last eighteen months Gardener to Major Archibald, Beechwood, Tillicoultry, N.B., as Head Gardener to David Cooper, Esq., Warren Tower, Newmarket.

Mr. George Stiven, for the last two years Gardener to Jas. Orr, Esq., Harviestoun Castle, Dollar, N.B., as Head Gardener to Major Archibald, Beechwood, Tillicoultry, N.B.

Mr. Wm. Lumsden, of late years Foreman in Bloxholm Hall Gardens, as Head Gardener to H. T. N. H. Ogilvy, Esq., at Bloxholm Hall, a situation that his father (the late Mr. D. Lumsden), held for forty-five years.

Mr. J. W. Sigee, as Head Gardener to Captain Drummond, Enderby Hall, Leicester, previously holding the situation of Foreman at Sandbeck Hall Gardens, Rotherham.

Mr. E. C. Crook, formerly Under Gardener at Lockinge Gardens, as Gardener to the Rev. Hugh A. Berners, Harkstead Rectory, Ipswich.

Mr. James Suttie, for four and a half years General Foreman at Arthurstone, as Gardener at Reithock House, Brechin, Forfarshire, N.B.

Mr. Thos. Mackie, Abbey Bank, Arbroath, as Gardener to H. W. Hope, Esq., Luffness, Aberlady, East Lothian, in room of Mr. Harris, who has been appointed Land Steward over the same estates.

Mr. Wm. Gibson, for five years Foreman at Levens Hall, Milnthorpe, Westmoreland, succeeds Mr. Milne as Gardener at that place.

Mr. J. Humphrey, late Gardener to A. M. Dorman, Esq., The Whist, Ashford, as Gardener and Bailiff to the same gentleman, at East Hill House, Ashford.

CATALOGUES RECEIVED.

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Dobie & Mason, 22, Oak Street, Manchester—Seeds.
W. Thompson, Tavern Street, Ipswich—Seeds.
W. P. Laird & Sinclair, 73, Nethergate, Dundee—Seeds.
Hogg & Wood, Coldstream, N.B.—Seeds.
Tom B. Dobbs & Co., 32, Queen Square, Wolverhampton—Seeds.
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GARDENER (Head); age 32, married.—A Lady giving up her establishment wishes to recommend her Gardener to any Lady or Gentleman in want of a trustworthy and practical man, experienced in all branches, including Orchids. Excellent character.—J. SMITH, Heathfield, Saltwell Park, Gateshead-upon-Tyne.

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GARDENER (HEAD WORKING), where three or more are kept.—Age 30; fourteen years' practical experience in all branches of Gardening. Well up in Peaches, Nectarines, Melons, and Grapes, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Highest references. Four years and three-and-a-half in last two places.—HEAD GARDENER, Knightshayes Court, Tiverton, North Devon.

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GARDENER (HEAD WORKING); age 30.—H. PARROTT can with confidence recommend his Foreman, Frederick Nash, to any Lady or Gentleman who requires an energetic man.—For particulars, apply Woodend Gardens, Chichester, Sussex.

GARDENER (HEAD WORKING), where three or more are kept.—Life experience in all branches; excellent testimonials.—G. BARTLE, 18, Brown Lane, South Beeston, Notts.

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GARDENER (HEAD WORKING), single, age 26.—Mr. W. YEOMAN can with confidence recommend his Foreman, A. Pinnott, to any Lady or Gentleman requiring a thorough practical, energetic man as above. Twelve years' experience.—Yewhurst Cottages, Ashurst Wood, East Grinstead.

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GARDENER (SINGLE-HANDED), or where help is given—Age 27; eleven years' practical experience in all branches, both in Nurseries and Private Gardens. Good references.—M. A. B., Dorset House, Harrow Road, Kensal Green, W.

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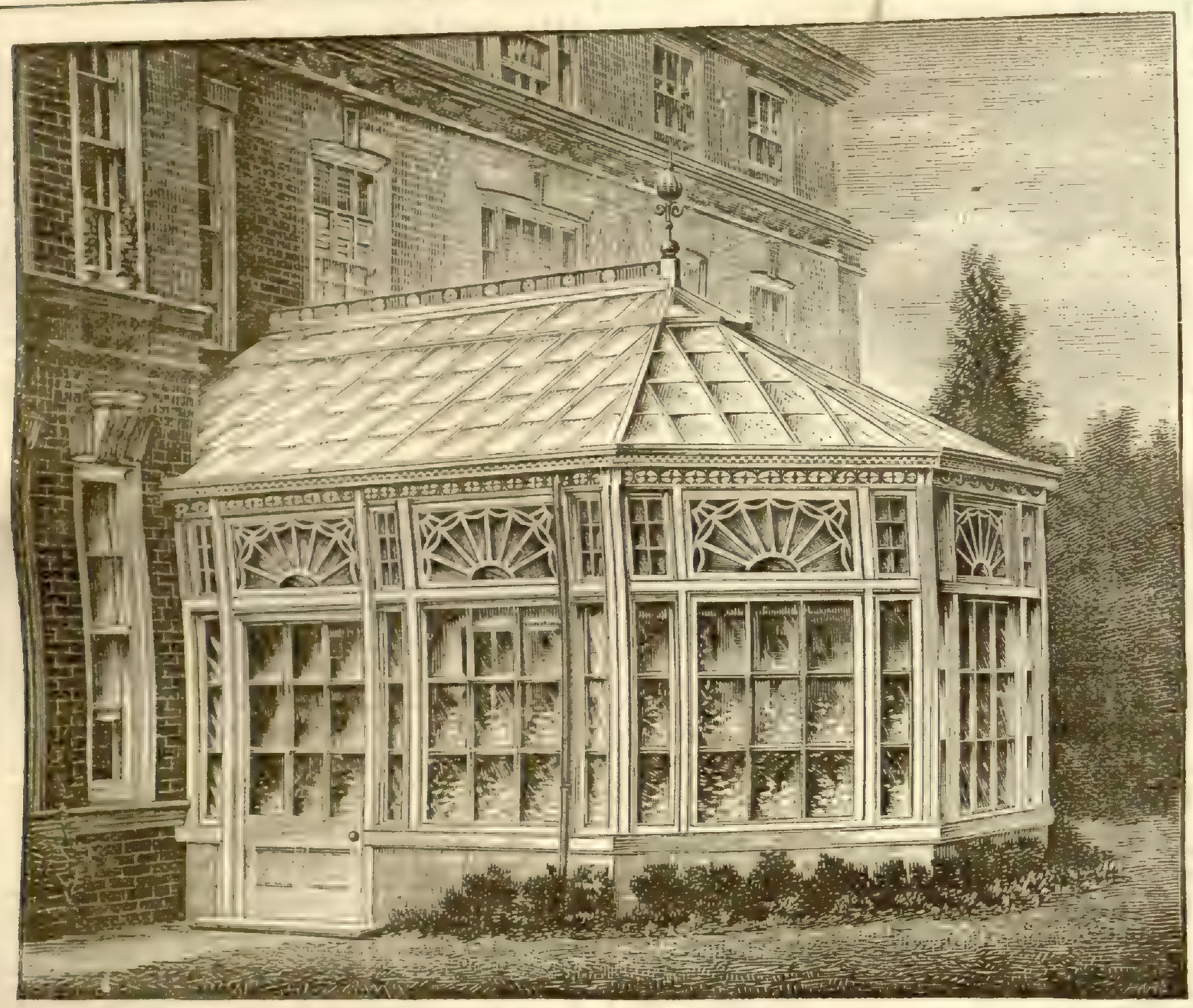

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WANTED, about 2000 COMMON HOLLY, 2 feet to 3 feet, young, clean, straight-grown stuff. Apply to Mr. BRIANT, Cholderton, near Salisbury.

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MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

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KENTIA BELMOREANA and KENTIA FOSTERIANA.—New Seed just arrived, 2s. per 100, 15s. per 1000. Price for 10,000 on application.
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Absolutely Without Reserve, in one lot, as a going concern.
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MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY NEXT, Feb. 13, at 2 o'Clock, the Old-established LEASEHOLD NURSERY and MARKET GARDEN, known as the Wyer Hall Nurseries, Tanner's End, Upper Edmonton, ten minutes' walk from Silver Street Station, comprising 10 acres of Land, part with Fruit Trees, two Cottages, spacious Barn, sixteen Greenhouses (about 16,000 feet super. of Glass), heated by about 4800 feet of Piping. The whole of the Stock, Horse, Vans, and Utensils, will be included in the Sale; also Good-will. Lease 17 years unexpired. Rent £80.

May be viewed. Particulars had on the Premises; of Messrs. SOAMES AND THOMPSON, Solicitors, 12, Coleman Street, E.C.; Messrs. AVERY & Co., Solicitors, 792, High Road, Lower Edmonton, and 34, Finsbury Pavement, E.C; also of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Stapleford, near Nottingham,

Ten minutes' walk from Stapleford Station (Midland Railway).
THIRD PORTION. ABSOLUTE CLEARANCE SALE of the most recently transplanted and best STOCK growing at the Nurseries, including magnificent and perfect Specimen Conifers, the whole being particularly well-rooted.
IMPORTANT to GENTLEMEN, LANDSCAPE GARDENERS, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at Frettingham's Nurseries, Stapleford, near Nottingham, on TUESDAY NEXT, Feb. 12, and THREE FOLLOWING DAYS, at 12 o'Clock without reserve (the Freehold having been sold), 20,000 CONIFERS, a grand stock of GOLDEN YEWS, a large quantity of GOLDEN and SILVER HOLLIES, for which this Nursery has been noted; CUPRESSUS LAWSONIANA in rich variety; 1000 FRUIT TREES, together with a quantity of ORNAMENTAL TREES in variety.

May be viewed. Catalogues may be had on the Premises; of A. T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Wednesday Next

LILIUM AURATUM, and other JAPANESE LILIES; thousands of BEGONIAS, GLOXINIAS, DAHLIAS, home-grown LILIES, GLADIOLI BRENCHLEYENSIS, TRITOMAS, Hardy BORDER PLANTS, CARNATIONS, SEAKALE, KENTIAS, and other PALMS, PEARL TUBEROSES, and about 100 lots of DUTCH BULBS. Also (weather permitting) STANDARD and DWARF ROSES, Hardy CLIMBERS, and 300 AZALEA MOLLIS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 13, at 12 o'Clock.
On view morning of Sale, and Catalogues had.

Friday Next.

150 Lots of Choice ESTABLISHED ORCHIDS, from a well-known private Collection, amongst which will be found:—

2 Cattleya Wagnerii
2 ,, Eldorado Wallisii
,, Gaskelliana albens
,, Mossiæ
Cypripedium Chas. Canham
,, Leeanum superbum
,, Morganiæ
,, Schroderæ splendens
,, Leuchorhodum
,, Savageanum superbum
,, Œnanthum superbum
Dendrobium nobile album
,, ,, Cooksonii
,, ,, nobilius
Cœlogyne cristata alba
Lælia anceps Dawsonii
,, Williamsii
,, Hilli
,, Sanderiana
Masdevallia melanoscantha
Odontoglossum aspersum
,, Humeanum
,, vexillarium superbum
,, Wilckeanum
,, Insleayii splendens
Lycaste plena Measuresiana
Trichopilia tortilis alba, and others

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, February 15, at half-past 12 o'Clock.
On view morning of Sale, and Catalogues had.

Friday Next.

By order of W. L. LEWIS & Co., Southgate, N.
Fine imported plants of
CATTLEYA CITRINA,
in the best condition; also
ODONTOGLOSSUM ROSSI MAJUS,
collected in the same district from whence came the celebrated "BARVINS" strain, in which appeared the darkest forms yet flowered; together with a few plants of—
DENDROBIUM FINDLEYANUM GIGANTEUM,
in extra fine condition.
ESTABLISHED and SEMI-ESTABLISHED ORCHIDS,
comprising the rare SOPHRONITIS GRANDIFLORA ROSEA, CATTLEYA MENDELII (now scarce), in sheath; ONCIDIUM CRISPUM GRANDIFLORUM O. CONCOLOR, O. VARICOSUM ROGERSII, the large-flowered type: CYPRIPEDIUM CONCOLOR, C. PEARCEI, &c Also—
CYPRIPEDIUM JUNO (hybrid)
,, CONSTANCE
,, BRAGAIANUM
,, SWINBURNEI (Stand Hall var.)
LÆLIA ANCEPS WILLIAMSII
ODONTOGLOSSUM CITROSMUM SULPHUREUM
VANDA TRICOLOR LEWISII
CYMBIDIUM LOWIANUM VIRIDE, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 15, at half-past 12 o'Clock.
On view morning of Sale, and Catalogues had.

Tuesday Next, February 12.

BY ORDER OF MESSRS. F. HORSMAN AND CO.
500 MASSES of LÆLIA PURPURATA from a New District, among them will be found some huge masses, also cases of Cattleya Harrisoniæ violacea, C. intermedia alba and Lælia purpurata, without the slighest reserve.
FROM MESSRS. HUGH LOW AND CO.
200 LOTS of ODONTOGLOSSUM CRISPUM in grand condition from best Pacho district, with very plump bulbs and sound growths, and judging from the grand appearance of the plants good varieties may be expected.
Also
BY ORDER OF MESSRS. W. L. LEWIS AND CO.
CYPRIPEDIUM INSIGNE.—A small consignment of this grand old favourite from an entirely new district.
CŒLOGYNE CRISTATA (?).—Sent as a new species by our Collector, who says:—"This plant produces long racemes of large flowers of good substance, some of which are absolutely pure white."
CYPRIPEDIUM GODEFROYÆ.—Collected in the same locality as the C. insigne. Our collector remarks:—"The form and magnificence of the flowers are beyond description," and adds, "that from the Hybridist's point of view, it will be a valuable plant to work upon."
together with
ESTABLISHED and SEMI-ESTABLISHED ORCHIDS,
ORCHIDS in FLOWER, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 12, at half-past 12 o' Clock.
On view morning of Sale, and Catalogues had.

Friday Next.—Weather Permitting.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, February 15, at half-past 12 o'Clock—
Fifty ADA AURANTIACA, CYPRIPEDIUM HYBRIDS, C. VILLOSUM VIOLACEUM, LYCASTE SKINNERI ALBA, L. ANCEPS ALBA, ONCIDIUM SUPERBIENS (VAR.), and others.
On view morning of Sale, and Catalogues had.

Wednesday Next.

ROSES, FRUIT TREES, BORDER PLANTS, SHRUBS, &c

An Importation of Liliums from Japan, including some extra fine LILIUM AURATUM, L. A. MACRANTHUM L. A. PLATYPHYLLUM, L. SPECIOSUM RUBRUM, L. S. MELPOMENE, L. ALBUM KRÆTZERI, L. TIGRINUM, L. ILEICHTLINI, L. LONGIFLORUM GIGANTEUM, L. KRAMERI, SACRED LILIES, &c., in fine condition. Also choice English LILIUMS.

A Collection of Stove and Greenhouse Plants, including well-grown PALMS in sorts, AZALEAS FERNS, &c.

1000 Choice named Standard, Dwarf, and Climbing ROSES, from first growers, including many of the newest and most popular sorts.

Surplus Stock of Ornamental Shrubs, comprising a fine COLLECTION of LAURELS, RHODODENDRONS, AZALEAS, YEWS, PÆONIES, Golden BOX, IVIES, LILACS, ABIES, CUPRESSUS, CONIFERS, HYDRANGEAS, &c. All well grown and in fine condition for present planting.

200 Well-grown Pyramid and Dwarf-trained Fruit TREES, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, also CURRANTS, GOOSEBERRIES, &c.

A Collection of Carnations, Pinks, Picotees, &c., HOLLYHOCKS, GLADIOLI to name, CYPRIPÆDIUM SPECTABILE, AMARYLLIS, BEGONIAS from Ghent, FREESIAS, LILY OF THE VALLEY Clumps, 1000 SPIRÆA JAPONICA, DIELYTRA SPECTABILE, IRIS, ANEMONES, 3000 South African TUBEROSES, ARUMS, HYACINTHUS CANDICANS, &c.

Also a Great Clearance of Dutch Bulbs, several thousand unsold lots from Sales during the season, in large quantities, without reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 13, at half-past 12 o'Clock precisely.
On view morning of Sale, and Catalogues had.

WANTED, TO RENT, a good PIECE of LAND, suitable for Market Gardening, with Glass and a Cottage; no stock. South of London.—J. H., Mr. J. Noise, 32, Mercer Chambers, Long Acre, W.

FLORISTS.—Genuine BUSINESS for SALE, immediately. Good neighbourhood. Double-fronted Shop, House, Stabling, low rent. Stock and Fixtures at nominal price.—Apply at 152B, Church Street, Stoke Newington, N. No agents.

NURSERY FOR SALE.—Lease, Stock, Eight Greenhouses, Sheds, &c. Low ground-rent, £10 taxes; a bargain. Must be sold. Particulars of B. A., 35, Baronet Road, Lansdowne Road, Tottenham, N.

An Opportunity seldom met with.

FRUITERER'S, FLORIST, and SEED BUSINESS for Disposal, in one of the most flourishing towns in the Midlands. Centrally situate. Good agricultural neighbourhood. Stock, Fixtures, and Goodwill, only £90. For particulars, apply to H. HOLYOAK AND SON, Auctioneers, Surveyors, &c., Luton, Beds.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation-house, &c., heated by hot water; stable, and shed. Price £85, or offer. Apply to W. H., Park Row Nursery, Greenwich.

For Immediate Disposal.

NURSERY and FLORIST'S BUSINESS, situated in one of the best residential suburbs of London, and only 6½ miles from Covent Garden.—4 acres of exceptionally good soil, together with 5 Span-roof Houses, each 100 feet in length; 3 Pits, same length, all well-heated, and in good order; Stabling, Sheds, &c. Besides these, there is a large and handsome Conservatory, 30 by 20 ft., facing main entrance, in a good thoroughfare, which is used for an Office and Seed Store, also well-heated. This is really a genuine opportunity for anyone with a moderate capital.—For further particulars and price, address, FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO LET.—TWO Valuable LEASEHOLD NURSERIES, in good working condition, low rent, capital opening for an energetic man, or would let separate, within eight miles of London.
ROBERT PECKITT, 45, Plumstead Road, Woolwich.

FRUIT TREES.—Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, Nuts, Gooseberries, Strawberries, Currants, Figs, and all other Hardy Fruits, in all forms, of best quality, true to name, and very reasonable in price. A splendid stock to choose from. Priced Descriptive Catalogue free by post.
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H. AND F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of VEGETABLE and AGRICULTURAL SEEDS of 1894 growth, which will compare very favourably with those of other English growers.
SEED-GROWING ESTABLISHMENT, WISBECH.

The Sensation of the Century.

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TOMATO "CHALLENGER" (Collins').—STILL LEADS THE WAY, as the finest in cultivation, either for Amateurs or Growers. Awarded Four First-class Certificates. Thousands of packets sold annually. 1s. per packet. (Wholesale from Hurst & Son, IN OUR SEALED PACKETS ONLY). General Seed Catalogue of all the finest Vegetable and Flower seeds, &c., unsurpassed in quality, sent free.—COLLINS BROS., 39, Waterloo Road, London, S.E.

PALMS, FICUS, FERNS, in any quantity.—Kentias, Latania, Corypha, Seaforthia, Arecas, Chamærops, in 48's, 12s. p. doz.; do. in 60's, 5s. p. doz.; do. in Thumbs, 3s. p. doz.; Aralias, 5s. and 6s. p. doz.; Aspidistras, 48's and 32's, 18s., 24s., and 30s. p. doz.; Cyperus 5s. and 6s. p. doz.; Ficus, 12s. p. doz.; Adiantums 6s. and 8s. p. doz.; do. in Thumbs, 12s., 16s., p. 100; Six sorts good Market Ferns, 6s. p. doz.; Asparagus, 18s., 24s., p. doz.; Solanums, Heaths, Cyclamens Marguerites, &c., 10s. and 12s. p. doz. Free on rail, carefully packed. *Cash with Order.*—ALFRED MARTIN, Angell Town Nursery, Wiltshire Road, Brixton, London.

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DRIFFIELD'S "ACHILLES" TURNIP.—This remarkable variety has given absolute proof of its disease-resisting power on Farms infested with "Finger-and-Toe." Supplied only in Sealed Bags under the Grower's Trade Mark. Crop Reports and Photos on application. Wholesale Agents: HURST, London; DIXON, Hull; or from
T. N. DRIFFIELD, Brafferton Seed Farms, York.

CHEAP CLEARANCE SALE OF BULBS, ALL IN FINE CONDITION AT GREATLY REDUCED PRICES.
Price List on Application. Choice mixed Daffodils in great variety, per 1000, 21s., per 100, 2s. 6d.; Rainbow mixture of Single Tulips in great variety, per 100, 4s. 6d.; Summer Snowflakes, per 100, 2s. 6d.; Chinese Sacred Lilies, or Joss Flowers, for growing in pebbles and water, per dozen, 4s. 6d.; Freesia refracta alba, per 100, 3s. 6d.
BARR & SON, King Street, Covent Garden, W.C.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; ditto large, in 48's, 10 best selling sorts, 6s. per dozen; strong seedlings, 6s. per 100, 50s. per 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. per dozen; ditto, for making large plants quickly, 16s. and 20s. per 100; Aralias, 10s. per 100; store, 5s.; Cyperus, Aralias, Solanums, Grevilleas, in 48's, 6s. per dozen; Spiræas, Cinerarias, Genistas, in bloom, in 48's, 9s. per dozen; Ficus, Palms, Dracænas, Ericas, Cyclamen, 12s. per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

SMALL SHRUBS and CONIFERÆ.—Aralia Sieboldii, from pots, 6 to 8 in., 12s. per 100; Box Tree, Green, 6 in., 60s.; Cup. macrocarpa, 1 yr. trans., fine, 10 to 15 in., 80s. per 1000; Cup. Allionii, 6 in., 6s. per 100; gracilis, 6 in., 7s.; erecta viridis, 6 to 7 in., 40s.; Cotoneaster microphylla, 1 ft., 35s. per 1000; Escallonia macrantha, 9 in., 10s.; Eulalia japonica, 9 in., 4s. per 100; Gueldre Rose, 1-yr., 6s.; Honeysuckle, Common, strong, 6s., H. japonica, strong, 12s. per 100; Ivy, Irish, 15 in., 6s.; Laurustinus, 7s.; Olearia Haastii, 6 in., 10s.; Pinus excelsa, 2-yr., 6s.; Rhododendron ponticum, 3-yr., 25s. per 1000; 4 to 5 in., 40s.; Thuia Lobbii, 12 to 15 in., 25s.; 15 to 18 in., 30s.; Ellwangeriana, 8 in., 40s.; Virginian Creeper, 1-yr., 6s. per 100.
GARLIES MITCHELL, Nurseryman, Stranraer.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.
Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

THE "CHARLES COLLINS" FUND.—In addition to the List of Subscribers to the above which was printed in our columns on Saturday, February 2, we have pleasure in giving the following Names of Donors, and the amount of their Donations:—

Amount previously acknowledged, £30 1s. 6d.

	£	s.	d.
G. Bunyard	0	10	6
W. Paul & Son ...	1	1	0
R. Hooper Pearson (*Gard. Chron.*) ...	0	10	0
A. F. Rentell (2nd subscription) ...	0	2	6
"A Friend," per Geo. Gordon	3	3	0
W. J. Godfrey ...	0	10	6
Y. B. A. Z.	0	10	6
E. Mawley	0	10	0
A Sympathiser ...	0	10	6
A Reader's Offering	0	5	0
S. Deadman	1	0	0
R. Dean	0	10	6
W. Strugnell ...	0	3	0
J. B. Riding	0	10	6
Geo. MacLeod ...	0	5	0
W. H. Cox	0	2	6
G. W. Cook	0	10	0
H. A. Needs	0	5	0
Member of N. A. G. A.	0	5	0
Miss L.	0	2	6
A. J. Foster	0	2	6
Ladywell Hort. Soc. (2nd sub.)	0	4	6
H. Burbidge... ...	0	5	0
S. Reece	0	5	0
"A Friend," per S. Reece	0	2	0

Some errors having occurred in the List published last week, we desire to correct them, viz.:

For E. Trinder	...	read G. Trinder.
,, H. T. Wood & Son	,,	Wooderson.
,, W. Differ	,,	W. Dipper.
,, E. R., Dublin ...	,,	F. K., Dublin.
,, J. Mallinder ...	,,	J. Mallendar.

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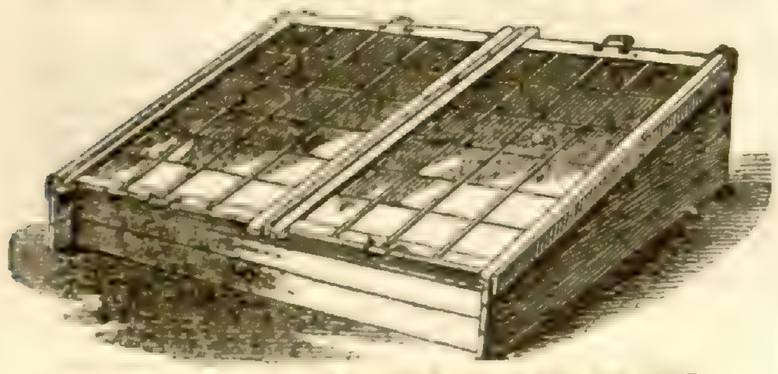

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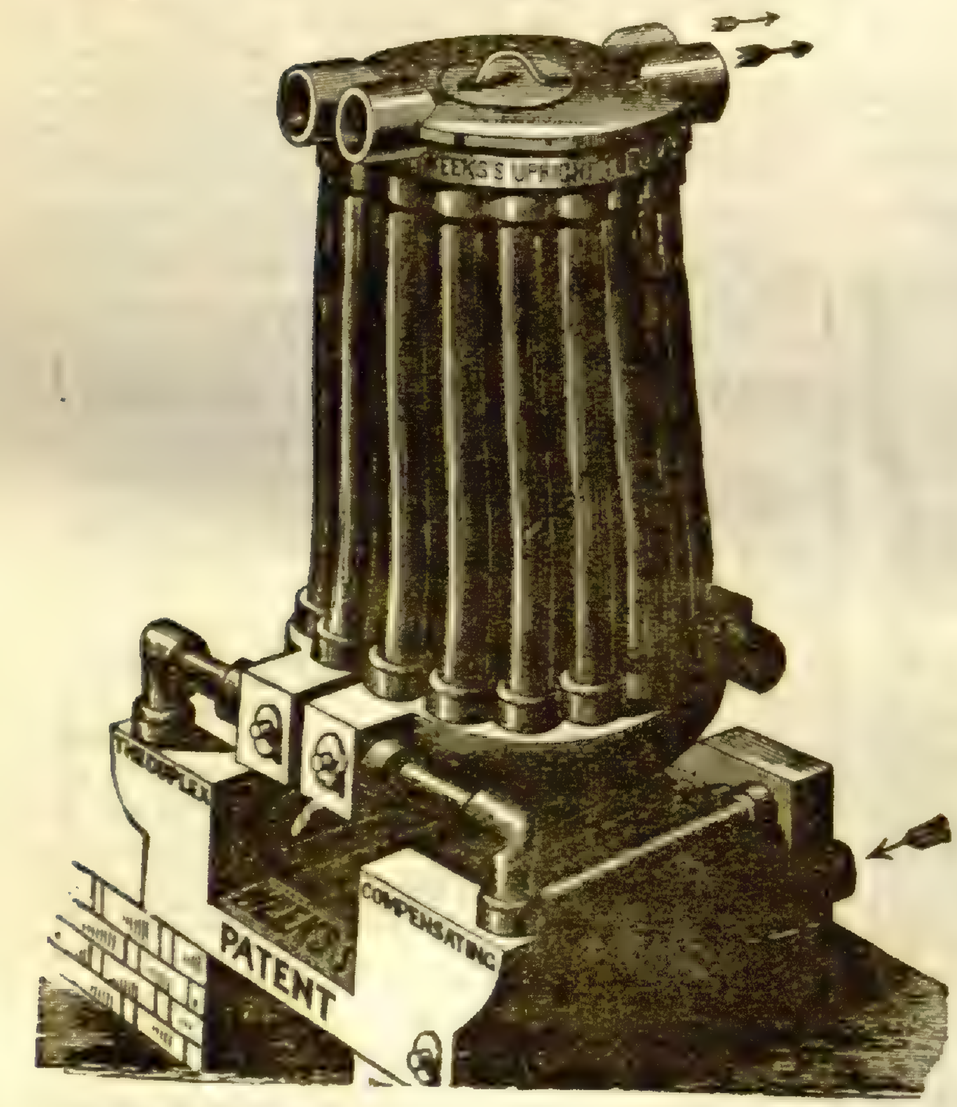

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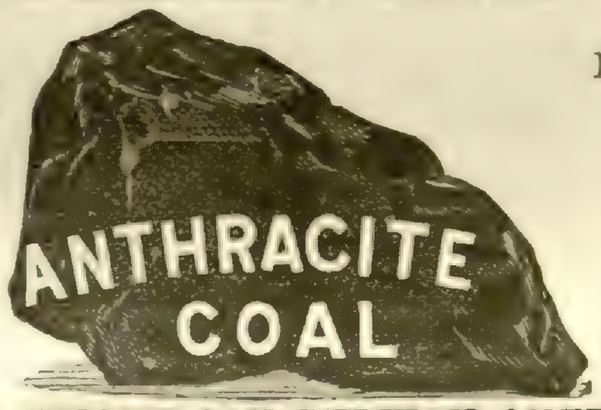

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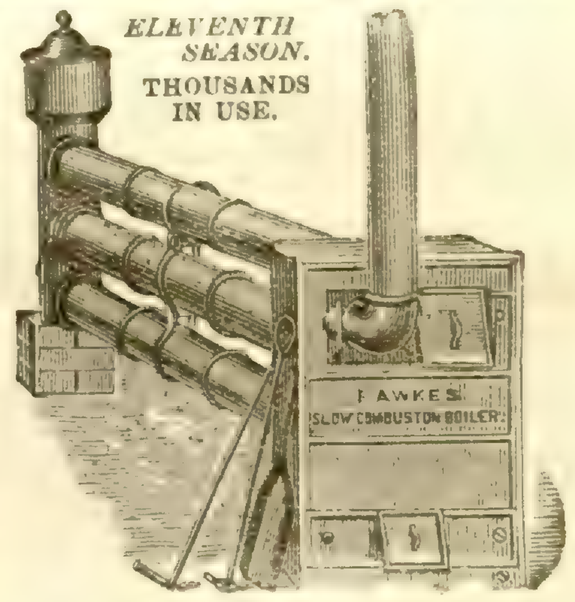

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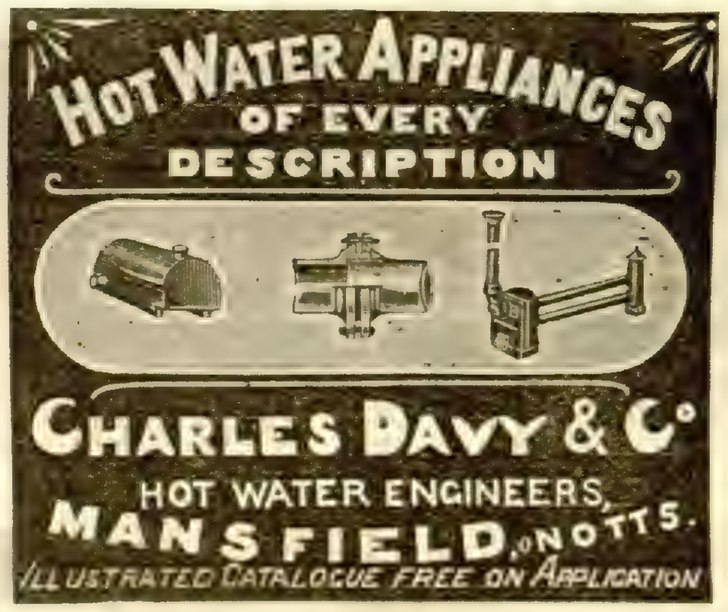

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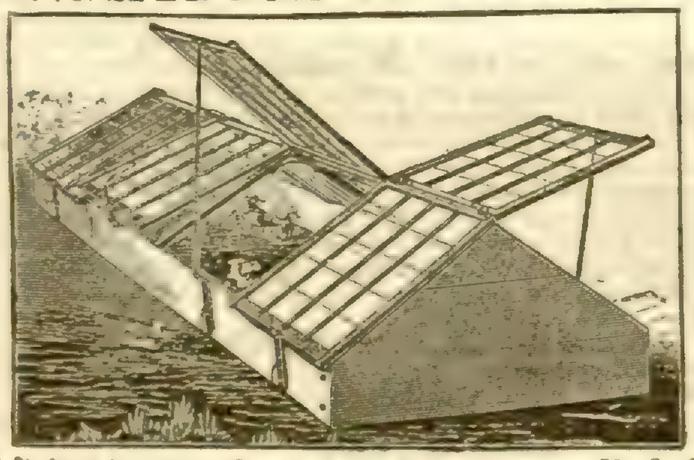

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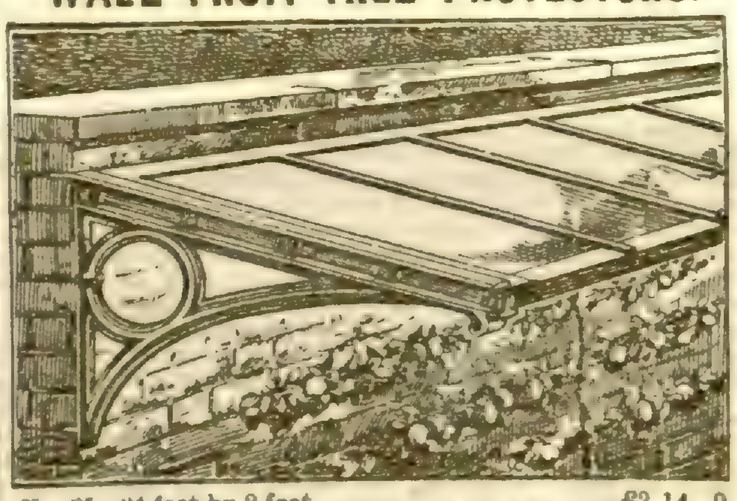

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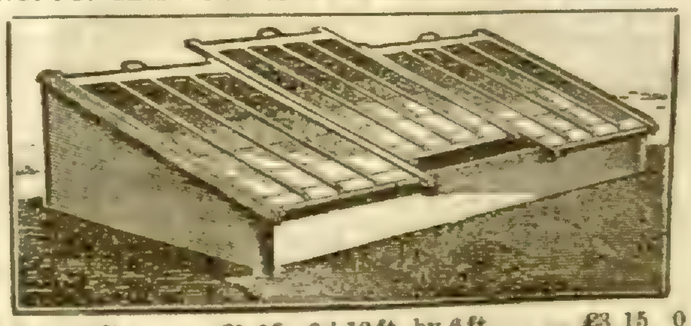

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THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 9, 1895.

THE EDUCATION OF GARDENERS.

IT would certainly not be difficult to name men of eminence as gardeners, who, before they entered the bothy, had no education beyond that of the primary school. They have acquired their practical knowledge in the only school in which it can be obtained—that of practical experience; and, so far as they have at all supplemented this practical knowledge by learning the scientific principles that underlie its rules of thumb, they have only been able to do so by laboriously up-hill processes of self-tuition in the intervals of a busy life. It must, however, be borne in mind that in the case of many such gardeners, the primary school in question was across the Border, where primary education has long been far more complete than with us.

It would, on the other hand, we may safely say, be impossible to find one of these self-taught men of eminence who does not regret that he had not greater educational facilities in his youth. Taking a rational view of all the circumstances of the profession as they are, it is of little use to indulge in Utopian dreams of advanced education for all gardeners. That can at most apply only to a future generation; but it is well worth while to consider what practical steps might be taken in this direction at the present time. In doing so, we ought to bear in mind the requirements of those who have already started in their career, as well as of those who have their time before them. What seems to be wanted is, firstly, a sound rudimentary training in "the three R.'s," necessary for all children alike, which need not occupy them beyond their ninth year; secondly, continuation schools, in which a certain degree of specialisation is desirable, which should occupy all a boy's time until he is thirteen, fourteen, or even fifteen; and thirdly, a systematic curriculum of classes which can be attended by any after those ages, whilst engaged in practical work.

The Primary School.

If parents sincerely wish their children to succeed in after life, they will certainly do their best to secure for them a sound grounding in those elementary subjects that are essential to all: they will send them to school early and regularly; and they will not be anxious to remove them prematurely. If our primary schools, on the other hand, are not hopelessly understaffed and inefficient, any sane child sent to them at six years old ought to be able to read and speak its own language distinctly and with ease, to write legibly, and to understand at least the first four rules of arithmetic before it is nine years old. As these are essential subjects they are here mentioned alone, without any reference to object-lessons or kindergarten exercises, which may be most valuable in training the eye to observe, and the hand to manipulate, but which should supplement, and can in nowise take the place of, the "three R's."

*

The Continuation School.

So far, no special training is requisite for the future gardener, nor is there any special call for effort or self-denial on the part of his parent in securing an education for him. After the boy has acquired the barest rudiments of an education, however, and still more when he reaches an age at which he might legally be wholly or in part removed from school, the time comes when his parents must expect to have to make some sacrifice. A boy intended for an occupation which has a scientific basis ought to be kept at school entirely until he is at least fourteen. During these five years, from nine to fourteen, there are many subjects which the future gardener should learn in common with all other boys, and several others less "generally necessary to" education. It is not necessary that he should add to his arithmetic what has been called "the low cunning of algebra;" but it is necessary that he should learn how to keep accounts, i.e., what is called compound addition, subtraction, multiplication and division, and perhaps also the elements of book-keeping.

Desirable as it is that every good citizen should know something of the history of his country, it is far more important for the budding horticulturist to get a good knowledge of geography. If this subject be well taught, he should get a clear grasp of the climatic characters of the various countries of the world, and of the general features of their vegetation, to say nothing of means of transport, trade routes, and merely political matters.

Then, again, though neither an acquaintance with French nor German, and still less Greek, is essential, it is at least highly desirable that he should learn some Latin, considering the large part that language still plays in matters botanical. So, too, though he need not master Euclid's *Elements of Geometry*, it is most important that he should—as should every boy and girl—learn to draw. Some knowledge of geometrical drawing, the making of plans, and the use of surveying instruments, will be of the greatest practical value to him in after life, and these subjects are not difficult or expensive to introduce into any school curriculum, though it may at present be necessary in some cases in these subjects, and in some of those yet to be mentioned, to supplement the wide powers of our primary school teachers by some kind of peripatetic specialists.

Though, from motives of economy of both time and money, we have confined our ideal curriculum to subjects of practical utility and not merely of educational value, it is now agreed by all our leading authorities that, educationally no less than practically, some science should find a place in all elementary schools. Some considerable experience as a teacher has convinced the present writer that this introduction to science should advance from the necessarily disconnected object-lessons of the kindergarten stage to an exposition of connected general principles rather than to the separate catechetical study of the facts of various departments of science. In other words, I think connected lessons on what has of late years been called in this country "physiography," preferable to such a miniature encyclopædia of facts as M. Paul Bert's *First Year of Scientific Knowledge*. A skilful teacher can find means to impart sound conceptions of scientific methods of exact observation and inference, such as are clearly set out in Prof. Huxley's *Introductory Primer*. The constitution and various states of matter, the mechanical powers, the various forms of energy, the nature of the chemical elements, the principles that underlie much of the sciences of heat, chemistry, meteorology, and even geology, and many of the simpler instruments used in those sciences, can, by the use of numerous familiar illustrative examples, as is done in Ganot's *Popular Natural Philosophy*, be made intelligible to any boy between twelve and fourteen. There is no reason why every boy at the latter age should not understand the principles of a lever, a pulley, a thermometer, a barometer, a pump, and a still, and know something of the chemistry of air and water, and of the formation of soils.

But while the education of every boy would be the better for the introduction into it at this stage of some physiography, he who is to be a gardener should have in addition some insight into elementary biology or natural history. It is not by any means essential that he should learn much as to the anatomy of a frog or a crayfish; but it is important that he should know something of the action of green plants on the air, the chemical requirements of plants in the way of food, the essentials for the germination of seed, the processes of nutrition and seed-production, the relation of parasites and saprophytes to green plants, and of plants to animals. In other words, what he requires is general physiology, and some vegetable anatomy. It will, of course be easier to obtain specimens and to illustrate this subject in the country than in large towns; but there is no insuperable difficulty in teaching any of the subjects we have discussed so far, in a town school.

It may be a matter of surprise to some that no mention has hitherto been made of the study of botany. It is, of course, desirable for a gardener to acquire as full and detailed a knowledge of this science in all its branches, as his circumstances permit. A gardener must, in fact, necessarily be a student of botany throughout his career. The questions remain, "how and when shall he begin this study?" It is of the utmost importance that every step in his advancing knowledge of this scientific basis of his life's work should be planted firmly on the sure basis of fact—in other words, that his botanical training should be essentially practical, gained from the study of plants rather than, or at least before, the study of books. Here comes in, with far greater force than in the question of elementary biology, the advantage of country training over that in towns.

It is difficult to maintain strict class-discipline in the open air, and it is important in no way to repel the young student from the scientific aspect of his work. For these reasons I strongly incline to the plan adopted with such signal success by the late Professor J. S. Henslow at Hitcham, of making botany an out-of-school or recreation study—at least, at the outset.

I have found it possible to teach many of the distinctive characters of leaves and flowers to children of five or six years old; but, judging from some of the Hitcham specimens given me by the Rev. George Henslow, most of his father's pupils who actually collected, preserved, and named plants, were about eleven or twelve. Between this age and the time of leaving school an immense amount of valuable information on plant life, on the relations of plants to soil and to animals, and on the characters used in discriminating plants, can be imparted by a competent and enthusiastic teacher. *G. S. Boulger.*

(To be continued.)

New or Noteworthy Plants.

CYPRIPEDIUM WOLTERIANUM, *Krzl., n. sp* *

This leaves are bright green above, with very slightly darker hieroglyphic markings and tessellations. The scape is about 1 foot high, brownish and covered with grey hairs. The two bracts are very different in size, and much shorter than the long, brownish-purple ovary. The dorsal sepal is ovate-acute, somewhat hood-shaped. The apex is bent forward and downward. In the shape of this sepal our species represents a quite new type in Cypripedes. The colour is a very beautiful tint of green, with a broad white border. The inferior sepal is pale whitish-green, half as long as the lip, and of particular interest. The petals prove the great resemblance it bears to Cypripedium Lowii in shape and general appearance, but the colour of the basal region is quite different. They have not the large purplish-black spots of Cypripedium Lowii, but in the upper margin the brownish warts are like those of Cypripedium barbatum, but without the hairs and with numerous purplish dots on the disc; while the inferior half of the petals is bright green without any markings.

The lip is rather large for the size of the flower. It has converging borders to the basal part, with small shining warts, and very acute side-lobes; the general colour is purplish-brown (more dirty-purplish than brown), paler behind and below, with numerous very small purple dots. The column has a staminode quite different from that of C. Lowii; it is oblong-obcordate, with a tooth in the sinus, but without the erect and hairy horn of C. Lowii; its colour is green, with a white border. The whole flower is quite destitute of hairs and ciliæ, and entirely glabrous. In short, the plant resembles C. Lowii in general appearance, but differs principally in its smaller inferior sepal, in the colour of the basal part of the petals, in its entirely different staminode, and in its smoothness.

It is perhaps a natural hybrid between C. Lowii and another parent unknown to us. The staminode, however, shows such a peculiar feature, and is so dissimilar to this organ in other Cypripediums that we must consider the plant for the moment as a true species. The habitat is to be kept secret for the present, but I can assert that it is not the native country of Cypripedium Lowii. For myself, I was struck by the information given to me by the importer. The flowers have all the grace of those of Cypripedium Lowii, and are of about the same size. I may add that the specimen which flowered at Magdeburg, in M. T. Wolter's collection was a very poor one, yet its flowers were in size and beauty equal to those of a normal C. Lowii. It is to be hoped that the flower will increase in beauty when the plant has acquired more strength. The artificial hybrids of C. Lowii, viz., C. calanthum, Rchb. f. (C. barbatum Crossi × Lowii), and C. macropterum, Rchb. f. (C. Lowii × superbiens), are not identical, the latter being perhaps similar in many respects. *F. Kränzlin.*

* *Cypripedium Wolterianum*, n. sp. (*C. Lowii*, Lindley affine).—Sepalo dorsali ovato acuto cucullato dorso carinato margine præsertim basin versus reflexo, apice inflexo læte viridi, margine albo, linea mediana in ipsa basi brunnea; sepalo inferiore ovato acuto quam labellum fere duplo breviore albido-viridi; petalis obovato-oblongis acutis leviter deflexis margine omnino nec undulatis, nec ciliatis, basin versus supra viridi-brunneis papulis nigro-purpureis pone marginem superiorem punctulisque purpureis crebris, dimidio inferiore læte viridi, a medio apicem usque pallide purpureis; labello pro floris magnitudine magno, margine basilari utrinque contiguo, papulis nitidis instructo, galea labelli pone orificium utrinque acutangulo, toto labello omnino pallide purpureo bruneo infra et postice pallidiore, infra densissime purpureo-punctulato; gynostemio minuto; staminodio supra bipartito infra v. antice late emarginato, umbone in denticulum interpositum elongato; toto gynostemio viridi margine albo (nec marmorato). Flores 12 cm. lati, 8—9 cm. alti, folia lanceolata supra vix reticulata infra pallide-viridia. D. Wolter, Magdeburgensi dicatum.—*F. Kränzlin.*

GREENHOUSE HARD-WOODED PLANTS.

(Continued from p. 70.)

Myrtus.—Although in the more favoured and sunny districts of the south, and further north where the warm influence of the Gulf Stream is markedly felt, the Myrtle may be safely grown against warm walls and even as bushes, it is safer to recognise them as greenhouse plants. Save in the point of less pruning being required by the plant, the culture is similar to that which is found to suit the Polygala, except that the form of the plant must be regulated by stopping the strong shoots, and water afforded more freely during the summer. A full exposure to sunshine is needed in order to secure a good display of blossoms. For growing into a large specimen plant, M. communis is no doubt the best, more particularly if a standard is required; but if dwarfer and compacter plants are preferred then I would select M. angustifolia or the Box-leaved Myrtle—this variety will in warm positions make handsome dwarf bushes or small pyramids which will flower profusely during the autumn. Further south than London I used to grow both of these varieties on walls; the only protection needed by them in winter was supplied by placing mats over them when the frosts became severe. Myrtus Ugni, or as it used to be called, Eugenia Ugni, is grown

outside with considerable success in favoured spots in South-west England, but on the whole I have found it to be rather more tender than M. communis. This species is not at all to be despised for its fruit, which although somewhat small, is liked by some persons, being agreeably perfumed. In order, however, to fruit it successfully, it should be planted out in a sunny position under glass, which is much the better mode of treating it. In each case propagation can be effected by taking cuttings of the half-ripened shoots, or by layering, which I have found to be a quick method of increase. Thrips will, in addition to the red-spider, cause trouble if not closely looked after, and scale is sometimes troublesome.

Fig. 24.—HELIANTHUS DEBILIS VAR. CUCUMERIFOLIUS: RAY-FLORETS BRILLIANT YELLOW; DISC PURPLISH-BLACK.

Clethra arborea.

In this species we have one of the handsomest plants for the cool conservatory or greenhouse that can be grown for flowering from early in August to the end of September. It is not often, however, that we now see plants of it in good condition. The only explanation that I can offer for this is a very simple one, viz, it is a plant which attains to a height of from 8 to 12 feet. I only remember to have seen it exhibited once as a specimen plant in a collection of stove and greenhouse flowering plants, and then, although under excellent management, and in most profuse bloom, it was disposed to grow too tall for that purpose. At home, however, it is a plant that can be strongly recommended, flowering as it does at a season when really good and distinct things are not plentiful. Given the central bed of a conservatory, where it could be planted out, I know of nothing in its season which can surpass it. Its white racemes of flowers are freely produced, and resemble the finer varieties of the Andromeda. In houses of ordinary height it is advisable to restrict the growth, by cultivating the plants in a tub. Even when planted out this species of Clethra can be kept fairly well in bounds, by stopping the stronger upper shoots, thus allowing the lower ones to increase in strength. It is a peat-loving plant, and one that needs to be rather liberally watered when growing freely. If planted out in the open border, the addition of some loam to the soil would be advisable, as tending to maintain the soil in a healthy condition for a longer time than would be the case were peat alone used. In commencing to grow this plant, I would much prefer to start with a small healthy example, for if thus taken in time it would be possible to check its natural upward growth. Any actual pruning should be attended to after the fall of the leaf, when also the old wood could be dressed with an insecticide. *James Hudson.* [There are two varieties of this Madeiran plant, one having smaller, and one with variegated leaves. Ed.]

(To be continued.)

HELIANTHUS DEBILIS VAR. CUCUMERIFOLIUS.

In the subject of our illustration (fig. 24), we have a showy Composite, a native of Texas (see Asa Gray, in *Synoptical Flora of North America*, vol. i., part 2, 1884, p. 273). The stems are 3 feet in height, of a purple colour, mottled and scabrous; leaves irregularly toothed. The rays of the flower are 1 inch in length, upwards turned, and of a yellow colour, the disc purplish-black. The plant is well suited for cultivation in sandy soils, and would make an effective plant for the herbaceous perennial border, for grouping on the turf, or naturalising in the "wild garden."

Orchid Notes and Gleanings.

CATTLEYAS FROM TRENTON, NEW JERSEY, U.S.A.

From the collection of C. G. Roebling, Esq. which is one of the most extensive in the United States of America, Mr. H. T. Clinkaberry, the gardener at that place, sends a box of superb forms of Cattleya Trianæi, which, notwithstanding their long journey, have come to hand in a remarkably fresh condition. Taken throughout, they represent by far the best series of fine forms of C. Trianæi which we have seen this season, and each of the named kinds, by its beauty and dissimilarity from ordinary forms, gives a good reason why it should be distinguished and recorded.

Cattleya Trianæi "Miss Emily M. Roebling," and which bears the name of the eldest daughter of the house, is a charming flower, with pure white sepals and petals, and similarly clear white side-lobes to the lip. The base of the lip is light yellow, and the front lobe of a clear amethyst-purple, with a distinct white margin. C. T. "Miss Ellen Roebling" is a very large and handsome variety, with broad white sepals and petals, on which appears the most delicate pearly blush. The lip is pale lilac, edged with white, its disc orange coloured, with a slight purple blotch in the front. C. T. Roeblingiana is unique in the colour of its labellum, and the contrast which it affords to the rest of the flower makes this peculiarity very effective. The sepals and petals are of pure white; the base of the lip white, changing to lavender colour on the side lobes. Up the centre of the lip runs a yellow band, which diverges right and left as it reaches the front, which is of a peculiar light purple-blue—a most extraordinary and attractive flower. C. T. Mrs. Warren-Hook has flowers of the C. T. delicata class. The sepals and petals are whitish-lilac; the lip pale rose, with a broad orange disc.

C. T. Clinkaberryana is a veritable giant, of the

C. T. Leeana type, but even superior to that remarkable variety. The petals, which might be called irregularly orbicular in form, are 3½ inches in width, and all the other parts of the flower are proportionately broad and well-formed. In colour the flower is of a warm light rosy-lilac; the broad lip having a glowing orange disc with lighter lines, and a rich purple-crimson front lobe. C. T. Maiden's Blush No. 1, is nearly as large as the last-named, and is a beautiful, delicately-tinted flower, the whole of it, except the rich orange disc of the lip, being blush-white of the hue seen in the outer petals of the Maiden's Blush Rose.

The whole make a most beautiful, varied, and remarkable set, to obtain out of one species. A fine flower of C. Trianæi alba taken from the Trenton specimen, which bore eighteen flowers this season, also came in the same box.

Orchids at Clare Lawn, East Sheen.

Sir Frederick Wigan's Orchids show the effect of intelligent culture in every department, while some of the more difficult species are in remarkably good condition. A case in point was remarked in the Phalænopsis-house, where many of the plants have been grown for several years (in some instances twelve years) without a check, and their display of flowers annually is always good. The house, which is kept moist and warm, and at an even temperature, has doubtless much to do with these results. The plants, which are suspended from the roof, with an undergrowth of Cypripediums, Fittonias, &c., planted out on the staging, up one side of the house especially, which affords a more genial supply of moisture to the atmosphere, than a surface not so planted would do. But be that as it may, a houseful of such Phalænopsis as these affords sure evidence of unremitting care and close attention on the part of Mr. Young, the Orchid grower. At the present time the front part of the house is a remarkable sight with the numerous beautiful sprays of the rosy-flowered and fragrant Phalænopsis Schilleriana. Among the species and varieties are the oft-noted specimen of the pure white P. Schilleriana vestalis, with fourteen flowers; P. amabilis, P. grandiflora, P. Stuartiana, and the singular P. Boxalli.

Grouped about in the house are some fine Cypripediums in bloom, among which are a noble example of C. Rothschildianum, with a very stout spike, bearing three of its large and extraordinarily-marked flowers; the best coloured C. × Carnusianum we have yet seen; the handsome C. × Wiganianum, raised at Clare Lawn, and which is probably a C. × vernixium cross; the pretty C. Sargentianum, some very handsome C. × Lathamianum, C. × Amesianum, C. × leucorhodum, and a very singular hybrid of the C. × Dauthierii class, in which one of the flowers has half the scape green, and the corresponding half of the flower greenish-yellow; the other half of the scape purple, the corresponding side of the flower being tinged with purple, as the whole of it should be if normal. In the Fern rockery the salient points of rock are capped by large specimens of Cymbidium Lowianum, each of which is showing a large number of flower-spikes; Oncidium metallicum, and a few others are in bud; and some rafts, each planted with thirty or forty Odontoglossum crispum, and suspended near the roof, appear to afford a convenient method of cultivating Odontoglossums—at least in the small stage.

In the new Odontoglossum-house there were in flower a few examples of O. crispum, O. Andersonianum, a very fine piece of O. nebulosum, and some plants of Cypripedium insigne montanum. In the other cool houses, various Odontoglossums, including the violet-coloured O. Edwardii; the pretty Helcia sanguinolenta, Maxillaria lepidota, M. porphyrostele, Trichopilia fragrans, various Masdevallias, among which we remarked M. Mooreana, with large wax-like purple and white flowers; and M. × Chelsoni, Restrepia antennifera, Odontoglossum Rossii majus, many brilliant scarlet Sophronitis, and other compact-growing Orchids of a similar class.

The Cattleyas and Lælias are always good at this place, and in the largest house there was an excellent show of the best varieties of Lælia anceps, of which, however, Mr. Young says (as do most other growers) that the last summer was not favourable for the production of flower-spikes on the otherwise perfectly healthy, strong, and satisfactory plants. Some very handsome C. Trianæi, too, were in bloom, and with them a beautiful blush-white form of C. T. chocoensis, whose only fault is that its varieties do not expand their flowers sufficiently to show them to advantage. Here, too, the true Lælia præstans, with its uniformly purplish-crimson trumpet-shaped lip, was in bloom; also the pretty L. rubescens, L. harpophylla, L. × elegans, a fine variety, the plant having in all borne thirty-four flowers this season; and in the same range in flower were numbers of Dendrobium Wardianum, D. Phalænopsis Schroderianum, and D. nobile, some large D. Findlayanum covered with flowers, Cœlogyne cristata, C. speciosa, Cattleya Schofieldiana, some varieties of Calanthe Regnierii, of Dendrobium × Cassiope, fine plants of Cypripedium concolor, and a plant of Angræcum citratum with thirteen spikes, which has been in cultivation for a number of years, although, as a rule, it is said to be not long lived. We noted some interesting hybrids coming on, one of them, a hybrid with Dendrobium signatum, being especially promising. Sir Frederick grows Orchids solely for the admiration that he and the members of his family have for them, and although the showier species are chiefly cultivated, any pretty species, even although it might be chiefly of botanical interest, find a good home at Clare Lawn.

Odontoglossum crispum, White's Variety.

A flower of this very beautiful blotched form of O. crispum comes from R. Brooman-White, Esq., Arddarroch, Garelochead, N.B. (grower, Mr. G. Roberts). It is said to be the best of many spotted forms which appeared out of an importation made by Mr. Brooman White. The flower is of good shape, the white very clear, and on each sepal are three or four large purplish-chocolate blotches. The petals have the inner halves almost covered with several large purplish blotches run together. It is of the O. c. apiatum class, but at present its flowers are not so large as are those of that variety.

Bulbophyllum auricomum.

This is an elegant and pretty species bearing arching racemes of white flowers in great profusion. Adding not a little to its attractions is the delightful odour of new-mown hay which its flowers emit, and which in a lesser degree is to be found in every part of the plant, the leaves being very fragrant from the time they turn yellow, and long after they have fallen, for it is a deciduous species. Many of the other Indian species such as B. hirtum, B. comosum, &c., are also very sweet. It is flowering with C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan).

Highbury, Birmingham.

There is almost a certainty of seeing some good things in flower at any time in Mr. Chamberlain's collection of Orchids, and on the occasion of a call made at the end of last month, the following species and varieties were in bloom:—Dendrobium Schneiderianum (D. Findleyanum ♀, and D. aureum ♂), a handsome cross, sepals and petals white, tipped with bright purple-tinted lilac, rich orange lip, and dark chocolate markings; D. endocharis (D. japonicum × D. aureum), a very pretty small-growing delicate-coloured hybrid, and very sweet-scented; Dendrobium Cassiope (D. japonicum × D. nobile album), a beautiful hybrid, and very free blooming; D. Owenianum (D. Linawianum × D. Wardianum), a beautiful hybrid, partaking of the character of both parents—a strong grower, with bulbs generally 2 feet long.

There were also a fine lot of plants in bloom of crosses of D. splendidum grandiflorum, also D. Dominianum. Miltonia Bleuana is a striking plant, a hybrid from M. vexillaria × M. Roezlii, so also is Lælia flammea, with its bright colours, a hybrid from L. cinnabarina × L. Pilcheri.

Others in bloom are Dendrobium nobile in variety, including D. nobile Cooksoni, D. Phalænopsis Schroderiana, D. Linawianum, D. bigibbum, D. superbiens; many large masses of D. Wardianum in fine character; D. crassinode, D. crassinode album—very rare, D. fimbriatum, and D. Findleyanum. A fine brilliant coloured variety of Oncidium splendidum was very noticeable at the time, also O. Forbesii. The Phalænopsis are very fine here, and a large batch of well-flowered specimens of P. Schilleriana was in full beauty. Miltonia Roezlii, and large specimens of the varieties of Cœlogyne cristata, Odontoglossum ramosissimum, with fine spikes; O. Edwardi, also with bold fine spikes; O. crispum, a number of plants of O. Cervantesii, and O. Rossii major, were all noted in bloom. A large number of specimen plants of Lælia anceps varieties, including some excellent specimens of L. anceps Sanderiana, and L. anceps Williamsii, were in bloom, and one plant had nearly forty blooms upon it.

Several fine varieties of Cattleya Trianæ were conspicuous, including the Highbury variety, known there as the Columbia variety. *W. D.*

Trees and Shrubs.

Some Choice Trees and Shrubs at Markree Castle.

A choice collection of hardy trees and shrubs is an interesting feature in any garden, and it may be helpful to some readers of the *Gardeners' Chronicle* if I give a list of the various trees and shrubs suitable for garden purposes which exist in the gardens at Markree Castle, Ireland. The locality is not an ideal one for the growth of these subjects, the natural soil being of a cold retentive nature, which demands much labour in forming composts to suit the various species, and our worst trouble is excessive rainfall. The climatic conditions vary greatly in this part of Ireland; for instance, about 17 miles from here is the seat of the Earl of Kingston, in whose gardens Conifers, Rhododendrons, and choice shrubs grow luxuriantly, without any special care being bestowed upon them, the natural soil and elevation being such as favour the growth of vegetation generally. I am therefore able to recommend with confidence any tree or shrub mentioned in these notes as fit to plant in the south and north-midland counties of England. The time is at hand when all planting operations must be brought to a close for the season. I know it is expedient to transplant Conifers and evergreen shrubs during September and October; deciduous trees and shrubs in October and November, and to defer further planting operations till the spring of the following year.

I regard Azara microphylla as one of our choicest evergreens; it is a graceful shrub, thriving in sandy soil, and does best if it be planted under the shelter of a wall, looking also at home on rockery if protected from the rougher winds. Abelia rupestris is a pretty free-flowering plant, which does well at the foot of a wall in sandy soil. Vaccinium corymbosum and pennsylvanicum are plants suitable for a peat bed, and are charming plants in the autumn; as is Andromeda arborea, the last two being not excelled for their autumn beauty. They grow best in sandy peat. Clethra acuminata and C. alnifolia are lovely autumn-flowering plants, and a good sandy peat is suitable for them. Olearia Haastii, an evergreen shrub, producing fine heads of white flowers, which should be cut off when their beauty is past; it requires a good sandy loam and high and dry position, somewhat sheltered. Elæagnus macrophyllus is an evergreen shrub, with glaucous-green leaves, which are retained if the plant has the shelter of a wall, but in the open it is deciduous, and changes its character altogether. Cotoneaster frigida grows into a large tree; it makes a rare and effective display of its crimson berries in the early winter, which grow in clusters—it is a suitable subject for the back rows of the shrubbery. Hippophae rhamnoides is another free berry-bearing half-tree, but care must be taken to cultivate both the male and female plants in

proximity to each other, otherwise no fruit is formed. Exochorda grandiflora is a desirable shrub, producing white flowers plentifully. Nuttalia cerasiformis should be found in every collection on account of its sweet fragrance, it is an early bloomer.

The Cornuses are beautiful always, in leaf, bloom, or colour of the shoots, and should be found in every garden, and the following varieties especially, viz., C. elegantissima aurea, C. Späthii, C. variegata, and C. atrosanguinea purpurea. Corylus purpurea is very effective when planted near to some variegated-leaved shrub or tree, such as Acer negundo variegata; and Prunus Pissardi is equally desirable in such positions. Quercus nigra (aquatica), although termed a waterside subject, thrives well in good loamy soil away from water; it is one of the most effective Oaks I am acquainted with. Aralia japonica, when in full vigour, is a handsome plant if placed amongst dwarf evergreen shrubs, so as to hide its leafless stem in the winter. Desmodium penduliflorum does well in a border at Markree, but it is better adapted for the rockery, where its long racemes of purplish pea-shaped flowers are better seen. Rhus Toxicodendron is an autumn beauty, as also R. radicans, which should have a place near the wall. R. Osbeckii is a rather desirable plant, and the same may be said of Pterocarya caucasica. Eucryphia pinnatifolia is a good dwarf shrub, with leaves that turn of a beautiful tint in the autumn. Hedysarum multijugum is a hardy and effective plant on a rockery. Salix rosmarinifolia, as a standard, I may recommend for intermixing with other shrubs. Spiræa Bumalda is one of our best autumn-flowering shrubs, producing an abundance of pink blossoms. Magnolia stellata is a very nice subject, but our few plants of it are as yet quite small. Sambucus serratifolia is an uncommon species of Elder, and one that I can recommend. Deutzia flore pleno is a choice free-flowering subject, useful for cutting and for ornament. Hamamelis arborea is a curious Witch Hazel, flowering during the winter months. Hypericum Moserianum is a good free-flowering dwarf St. John's Wort, with large yellow flowers. The following species are on trial at Markree, viz., Embothrium coccineum, Sciadopitys verticillata, Actinidia Kolomikta, Nyssa capitata, Diospyros Lotus, Cæsalpinia japonica, Epigæa repens, Lespedeza bicolor, Philesia buxifolia, and Clerodendron trichotomum. The following refuse to grow here:—Styrax japonica, Halesia tetraptera, Cercis japonica, and Daphne Mezereum, which grows badly. *H. May, Markree Castle Gardens, Sligo.*

SIBTHORPIA EUROPÆA VARIEGATA.

The common Sibthorpia is not remarkable for any special qualities as a horticultural plant, though it is curious, and of interest to the botanist. The less common variegated form of the species, however, does lend itself as a decorative subject, as seen by our illustration (fig. 25). Its slender creeping stems and small variegated leaves make it a very pretty trailing plant, and it is used as such, but less often than it might be. It is easily propagated by division or by cuttings, and in a cold frame, planted in light sandy soil, the plant will succeed well. The genus was named after an old professor of botany at Oxford, and belongs to the Scrophulariaceæ order. The European species is known as the Cornish Money-wort, and various other local names, all more or less referring to money.

Fig. 25.—SIBTHORPIA EUROPÆA VARIEGATA.

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS AND VILLA GARDENS (*Continued from p.* 81).—We now come to annuals for summer blooming, which we must divide into two classes, viz., tender annuals, which include such as are raised on a gentle hot-bed or under hand-lights, and hardy annuals which can be sown in the open ground where they are to bloom. Amongst the tender annuals we have the noble German Stocks and Asters, Lobelias, Marigolds of sorts, Phlox Drummondi, Zinnia elegans, Golden Feather, Petunias, Ageratums, Perila nankinensis, Antirrhinums, double Helichrysums, and Salpiglossis. These, besides being valuable for the decoration of the flower-garden, most of them are useful for cut flowers, and the Everlastings, if they are cut before they are quite expanded, and dried with their heads downwards, make bright compact bouquets for the winter. All the hardy annuals may be sown in the open ground where they are to bloom; or they may be sown on a bed by themselves, and afterwards transplanted. But all those annuals known as half-hardy succeed best when they receive the assistance of a little artificial warmth to start them into growth. It is true that some few of our half-hardy annuals may be sown in the open border towards the end of April; the situation, however, must be a warm one, and even then they do not start into growth with much freedom. The question then naturally arises with the villa gardener, how can half-hardy annuals be raised?

How to make a Hot bed.—The best and simplest plan is to make a small hot-bed of fresh tree-leaves, stable litter, or leaves and litter mixed, to give a little bottom-heat, and which will give as much top-heat as required. When dung only is used, it should be prepared for the purpose by turning it over a time or two, to allow the rankness to evaporate; nor is there then so much danger of its burning or otherwise damaging the tender seeds. The size of the bed must be regulated by the size of the frame at command, and the quantity of plants required. A bed 4 feet by 6 would raise a sufficient quantity of half-hardy plants to make any villa garden not only beautiful, but gorgeously gay during the summer. The bed must be made by building it up square, and 6 inches larger all round than the frame that is to be placed upon it. The bed being ready, a wooden box, 10 or 12 inches deep at the front, and 15 or 18 inches at the back, will be the most suitable frame to put upon it, and in it should be placed about 6 inches of rich, fine sandy soil, which must be levelled and pressed tolerably firm, either with a rake or with the hands. If an ordinary frame cannot be secured with a proper glass light, a temporary one may be made by nailing four 11-inch boards together. The best covering for the frame is glass, and the next best is strong canvas, oiled; but when these are not obtainable, then it may be covered with wooden shutters or straw hurdles, only they must be removed every morning and put on at night after the seedlings begin to appear above the surface. Whatever covering is employed, it will be the best to keep the frame in total darkness until the seeds begin to appear above the soil, when they may gradually be exposed to the light. The seed must be sown in drills or rows about 4 inches apart, and care must be taken not to cover it too deeply. In addition to the simplicity of this plan, it affords to the young plants the advantage of being exposed to the sun and air on all favourable occasions, and these agents produce a luxuriant growth, which is a certain forerunner of healthy plants and an abundance of flowers. Many amateurs and villa gardeners who possess small greenhouses, dispense with the simple hot-bed, and sow their half-hardy annuals in pots and pans, where very frequently they are allowed to remain till the batch of young seedlings become drawn and sickly, before time is found to afford them more space and nourishment. When the seed is sown in pots and pans, and the seedlings are large enough to handle, it is a good plan to prick them out on a temporary bed, which considerably increases their sturdiness; and this might have a few stout sticks bent over it and covered with common garden mats, or any kind of material that would afford protection from cold winds and frost. Those plants raised on the hot-bed are also greatly improved by being transplanted either on a very slight hotbed, or in any position where they can receive some slight protection from cold and cutting winds. The great object of the hotbed in the first place is to afford a gentle bottom-heat, to cause tender seeds to vegetate quickly. Besides these subjects mentioned above, all kinds of half-hardy annuals, hardy biennials, and perennials, may be raised with advantage, including Polyanthuses, Carnations, Pinks, Balsams, Delphiniums, single-flowered Dahlias, Phloxes, Pentstemons, Hollyhocks, and Aquilegias. A large multitude of plants—annual, biennial, and perennial—may be raised on a small hotbed, at very little cost, which, during their season of bloom, will make the villa-garden not only gay, but very beautiful.

By the middle or latter end of May, the danger from frost will be getting past, and the plants can be planted where they are to bloom. These tender subjects are liable to the attacks of numerous insects, which must be checked at once, or they will irretrievably injure them. As soon as any insects are discovered they must be destroyed, and this remark applies with equal force to plants of all ages. Only once allow these pests to gain the ascendancy, and you will have no healthy plants and brilliant flowers. Most of the plants mentioned above require good and careful culture. Stocks, Asters, Zinnias, Marigolds, Phlox Drummondi, and other bright-flowering plants, may be planted in clumps in the herbaceous border, and if the land is in pretty good condition, they will add a charm to the border. But to grow Zinnias, Asters, and Stocks to the highest state of perfection, they should be treated to separate beds. The soil should be deep and rich, and when the plants have fairly started into growth, the ground should be mulched with rotten manure, or the materials of a spent Mushroom-bed. In the case of Zinnias we have always found it the safest plan to sow the seed in small pots, for when sown in drills on the hot-bed they are somewhat difficult to transplant. We sow three or four seeds in a 3-inch pot, and finally thin them to one or two plants in each pot. In transplanting on to the beds they should have plenty of space—quite one foot apart, and even at this distance the branches will overlap each other during their season of bloom. Beds of these half-hardy annuals are not only ornaments in the flower-garden, but the flowers are valuable for cutting purposes. *R.*

(To be continued.)

FLORISTS' FLOWERS.

DAHLIAS.

Some of the varieties of Dahlias are apt to die off at the neck, owing to damp mould overspreading them at that point. If any of the stools show this mouldiness, the decaying part should be removed. Dahlias keep best in a cellar or frost-proof shed, dry and partially ventilated. The time will soon arrive when the tubers must be put in boxes and placed in warmth to start them into growth.

The Ranunculus.

This beautiful old florists' flower is still grown in some gardens, and it is a plant so easily managed that everyone should cultivate some of the varieties. I found at one time that the plants did well in peat soil up to a certain point, but to get permanent success a medium sort of clayey loam is a better soil, peat being too loose. Although the tubers are of small size, and the roots do not apparently travel

far, yet they succeed the best in a deeply-worked soil, and with a layer of manure 15 to 18 inches below the surface. One of the most successful growers of Ranunculuses wrote nearly forty years ago: "Do not spare a little trouble or expense in beginning well." I do not forget this advice when making up the Ranunculus beds, and it has been in my mind in all the gardening operations I have had to perform. If we do not begin well, we certainly cannot end well.

About the middle of February is the best time to plant out the tubers; and let me add here, that great care is necessary to plant them at an uniform depth; and also at a certain depth. The crown of the tubers should be 1½ inch below the surface, and they should be planted 5 inches apart, and the same distance between the rows. An uniform depth can be obtained by pressing the edge of a board into the ground, which gives an excellent base to plant upon. Seedling Ranunculuses are easily raised, and although the tubers are small the second year, they grow with more vigour, and flower better than the old tubers of named varieties. We plant the seedlings 6 inches apart, and the same distance between the rows. A favourable day must be chosen to plant, and it may be necessary, failing any dry crumb, to cover in the tubers with fine dry waste soil from the potting-shed.

BELGIUM.

ORCHIDS AT L'HORTICULTURE INTERNATIONALE.

AT my last visit to this well-managed establishment we saw a house half full of imported plants of Odontoglossum cirrosum, noticeable for the size of their flowers, and some of these by the handsome markings of the divisions. Quantities of Cattleya maxima gigantea are now in bloom; the general colouring is lilacy-rose, and one of the varieties has a splendid colour. In addition to many Catasetum are many Cypripedium × Claudi; C. Leemani, with wide standards, three-fourths pure white; C. tragus is flowering abundantly and finely; Phalænopsis leucorrhoda is a beautiful hybrid; Catasetum barbatum spinosum, as unusual as it was well flowered; Aganisia cyanea, with very large flowers, of a beautiful sky-blue colour.

We would further mention a splendid specimen in bloom of Dendrobium Ainsworthii, a very fine variety of Lælia anceps Ballantiniana, and the rare Lælia anceps Hyeana. In addition to some fine imported plants of Odontoglossum Halli should be mentioned an excellent variety of Cattleya Trianæi alba. There is one house entirely filled with importations of a Cattleya, a dried flower of which I have seen; it appears to me to be intermediate between Cattleya maxima and C. labiata Warocqueana; the flower-stem, whence the bloom in question was taken, bore twenty-one flowers. I noticed also some new herbaceous Ferns of great beauty, which I hope to again speak of. *Ch. D. B.*

THE WEEK'S WORK.

THE ORCHID HOUSES

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

TEMPERATURES.—Whilst the present severe weather continues, every effort must be made by those in charge to maintain a proper temperature in the various houses. Young gardeners should bear in mind that an excessively high temperature, maintained solely by artificial means, will sooner or later cause a great deterioration in the health of the plants. It occasionally happens during periods of sharp frost that, owing to the continuous driving of the fires, the temperatures advance beyond what is desirable; and sometimes an inefficient heating apparatus is not capable of keeping the houses at the proper degree of warmth without hard firing. To avoid the use of very hot pipes should be every gardener's aim, and a means to that end is to cover the house with some kind of thick material, or, at least, the lower part of the roofing. The conditions of such a covered house are much better suited to the inmates, and a more equable temperature is possible than would otherwise be the case. The night temperature should for the present be as follows:—East Indian-house, 60° to 65°; Cattleya-house, 55° to 60°; the Mexican-house, a few degrees less; Odontoglossum-house, 45° to 50°, the higher figures being permissible only when the external air is mild, and the lower ones should rule when cold winds or rain prevail; but during severe frosty weather, any of the houses may be allowed to fall even a few degrees lower, but this may usually be done during the early part of the morning, when through unusual external coldness much fire-heat is in use, causing the atmosphere at that time to be more than ordinarily arid. On such cold mornings the temperature should be raised by small, sharp fires, but no watering or damping-down may be done before the heat has begun to advance, and in the afternoon a moderate damping-down should be afforded, particularly of the floor under the hotwater pipes, and in dry corners. After doing this, little or no water will be needed, except in such houses as are apt, from their position or construction, to get very dry. In these cases it will be necessary to slightly sprinkle the floor during the evening, so as to counteract in some degree the dryness of the air. My remarks in this connection are more especially applicable to the warmest divisions. By keeping the temperature of the Cattleya, Intermediate, and Mexican houses moderately cool, very little damping will be necessary or advisable till the plants begin generally to grow. As regards the Odontoglossum or cool-house, the atmospheric conditions should be regulated in accordance with the rise and fall of the outside temperature. The day temperature should be maintained up to the higher figures, so far as fire-heat is concerned, and the more warmth obtainable from the sun's rays the better, provided of course there is as much air and moisture afforded as will balance it.

ONCIDIUM LANCEANUM—This species is very handsome and distinct, but it must be placed in the category of those that are difficult to cultivate; for although large numbers of plants have been imported from time to time, a large healthy specimen is rarely to be met with. The chief difficulty is to keep the foliage free from "spot," for whenever this is observed, the plant seldom regains its former vigour, and usually dwindles away. Whatever causes the large fine-spotted leaves of this beautiful Oncidium to "spot," is, I think, to be found in an unsuitable atmosphere. There is something in the constitution of the plant which has hitherto baffled all efforts to cultivate it well for many years together. I have seen plants maintained in health for a fairly long time, and then, to the chagrin of the cultivator, a leaf would be attacked with "spot," although the rhizome, if examined, would appear to be perfectly sound. No remedy will check the progress of the disease, and leaf after leaf is lost, some of them falling from the plant without a spot being noticed upon them. So far as my experience goes, one of the principal causes is sudden downward fluctuations in the temperature chilling them, especially at a time when they are in a moist state; also by affording too much or too little water at the root whilst the plants are at rest. We have here several healthy specimens which seem to indicate continued vigour. One is growing in a well-drained pot, with crocks and sphagnum moss to root in; several others are fastened to Teak-boards, with a small quantity of sphagnum moss placed under the rhizome, so as to encourage the roots to extend themselves, which they do to the end of the board, and then go up the other side. Those that are on Teak are suspended with the tips of their leaves almost touching the roof of the warmest house. The plant which is in a pot, stands upon the stage in nearly perpetual shade. For several weeks past these plants have had just enough water to keep them from shrivelling; but now that new leaves and roots are making progress, a more generous treatment must be afforded them. One of the chief points to observe in watering them is to prevent the water touching the rhizomes or the base of the leaves. It is a good practice to sponge the foliage with clear rain-water at intervals of a few weeks. A splendid companion plant to Oncidium Lanceanum is the rare O. hæmatochilum, two species which I believe grow together in their native habitat, and require similar treatment. Now that both species are commencing to grow, it is a good time to afford a top-dressing, or for repotting them.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

PRUNING AND TRAINING PEACH TREES.—This should receive attention as soon as the weather is favourable. Assuming that they have been loosened from the walls, and the main shoots only secured, go carefully over them and take out any long useless branches, and regulate those remaining, so that they furnish the wall at the distance of a foot or 15 inches apart, the bearing wood being afterwards distributed thinly and evenly between. Shoots not required for extension may be shortened according to the judgment of the operator, taking care to cut to a good wood-bud, as without wood extension the shoot will be useless for the production of fruit. If the wood is vigorous and well ripened, it is generally safe to cut to a triple-bud, as the centre bud is almost certain to be a wood-bud, and may be easily recognised by its thin, pointed shape; but in the case of weak growths, there is often only one wood-bud, and that at the extremity of the shoot, which in such an instance must not be shortened. If possible, however, take such weak wood out altogether. It sometimes occurs when trees have been too-heavily cropped, that all the bearing-wood is of this description, and if laid in, and a crop taken from the tree, it is sure to be small and of poor quality, and the tree may be expected to go from bad to worse. The best practice in such a case is to cut the shoots back, and let them break afresh, which they will do, and make strong vigorous growth if the roots are in a fairly healthy condition; sufficient may then be selected for the proper furnishing of the tree, rubbing off any badly-placed or fore-right shoots, and pinching others not required to three leaves. When pruning is completed, the trees should be dressed with the water, soft-soap, and petroleum mixture, adding a handful of flowers-of-sulphur to every 2 gal. of liquid if mildew is usually troublesome. If the trees are to be fastened with nails and shreds, let as few be used as is practicable, but making every part secure. Be careful not to fasten tightly, and see that nails do not come into contact with the bark. If the branches are to be tied to wires, take a couple of turns round this with the tying material before passing it round the branch, the tie will thus be kept in the required position without the necessity of tying the branch tightly, and the wood will be also kept from direct contact with the wire, which is frequently injurious. When new galvanised wires are to be used it is advisable to give them a coat of paint. When the training is finished, any glass or other copings that have been removed for the winter may be got into position, but other covering will not be needed until the buds show signs of bursting into flower.

PROTECTION AGAINST RABBITS, ETC.—The best protection for fruit-trees against rabbits is wire netting, of not larger gauge than 1¼ inch, which to be effective should stand 2½ feet high. It must be let into the ground a few inches, turning up the bottom edge to allow of 6 inches of wire laying flat under the surface outside, which will prevent the rabbits scratching their way through. For temporary protection, the stems, or any portions near the ground, may be daubed with a mixture of fresh cowdung and soot, reduced to the consistency of thin mortar, and laid on with an old white-washing brush.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

GARDENIAS.—If the flower-buds are now commencing to swell, the plants should be frequently fed with manure-water, or top-dressed with a compost of loam, peat, and cow-manure, with a good sprinkling of Clay's Fertiliser added. They will soon root into this, and it will materially help them through their flowering period. Throw water about the paths and walks frequently, and syringe the plants well twice a day. If fly has already appeared, a good fumigating at night when the wind is still, and again on the following morning, will be necessary. If mealy-bug is present, a thorough syringing with petroleum and water, mixed and applied as advised last week for Stephanotis, will be efficacious. A little soot-water given to the roots occasionally helps to keep the plants green and healthy. If there is a good stock, and cuttings can be spared conveniently, they should be taken and inserted singly in small 60's, and plunged in a bottom heat of 90°. This will allow of a long season of growth, and should result in fine plants for flowering next winter. If a succession of plants is propagated occasionally, the supply of flowers may be considerably prolonged.

THE STOVE.—Thoroughly cleanse the glass and woodwork of this structure, and make all sweet and clean before potting operations commence. If the soil has been prepared as advised on page 13, it will now be in good condition for use. Should the potting-shed be some distance away, a temporary bench

should be erected in the stove, in order that the plants may not have to be taken in and out during severe weather. The soil should be moderately warmed, either by being placed over the boiler for a short time, or by being taken into the stove some little time previous to using it. Each plant should be carefully examined, and repotted or top-dressed, as may be found necessary. All the plants should be thoroughly clean before finally arranging them in the house. The soil, as advised, will be suitable for the majority of stove plants, but Crotons require quite half as much again of turfy-loam added, with a good sprinkling of half-inch bones and some sand. Old plants of Dracænas which have become leggy, should have their tops taken off and the remaining stems cut into pieces about an inch long, and placed in shallow pans plunged in bottom-heat, where they will soon break, and make nice small plants for next winter. The tops may be put into small pots, and placed in the propagating-case. They will soon root, but they rarely make such good plants as those from eyes. Asparagus plumosus is very useful for cutting purposes, and should be potted in rather large pots, and trained up the pillars. Eulalia japonica variegata should be propagated by division; it is very light and graceful for furnishing. Put in cuttings of Impatiens Sultani, Pilea microphylla (P. muscosa), Tradescantia zebrina, and its varieties; and Panicum variegatum.

FORCING HOUSE.—Keep up a supply of Lily of the Valley, Azaleas, Lilacs, Deutzias, Spiræas, Hyacinths, Narcissus, &c. A few hardy Rhododendrons may be potted up and placed in the early Peach-house. These plants make a good show in the conservatory, and are most useful for decorative purposes. A batch of Hydrangea paniculata and a few plants of Staphylea colchica and Kalmias may be placed in a gentle heat. Pot up a good quantity of Tuberoses, putting three bulbs into a 32-size pot, and plunge in bottom-heat of 75°, affording no water till they have commenced to make root, and keeping all side-growths picked off. Put into heat a few more Roses, and those that have commenced to grow should be fumigated occasionally, and on the first sign of mildew dust the leaves with a little flowers-of-sulphur.

THE FERNERY.—Ferns should be looked over, and a suitable batch of Maidenhair that do not need potting may be placed on one side for present picking. If a larger stock is required, a few old plants may have all their old fronds removed, and then be carefully divided. Use well-drained pots, and soil composed of equal parts of peat, loam, and leaf-soil, with a good sprinkling of sand, finely-broken crocks, and charcoal. This soil will be found suitable for most of the smaller growing species. For those of stronger growth, such as Adiantum concinnum, A. c. latum, A. trapeziforme, and A. Farleyense, Davallia Mooreana, and D. canariensis more loam will be necessary. If specimen plants are required, plenty of root-space must be given, and the balls disturbed as little as possible. Adiantum Farleyense should be placed at the warmest end of the fernery, but the best situation for this plant is over the water-tank in the stove. Keep the temperature of the fernery 5° warmer after the potting is done, and syringe frequently between the pots, also throw plenty of water about the paths to ensure a moist atmosphere. Keep a sharp look-out for slugs, or they will soon damage the young fronds. Basket Ferns should be carefully pricked over with a pointed stick, and a little fresh soil added. If new baskets are required, one of the best Ferns for the purpose is Adiantum amabile.

THE KITCHEN GARDEN

By John Lambert, *Gardener, Powis Castle, Welshpool.*

FROST.—During the continuance of the severe weather at the time of writing, little real work can be accomplished in the kitchen garden. What few Brassicas are left protruding through the snow will be attacked by wood-pigeons in many districts, and it will be necessary to look out for the birds in the early morning, and again at evening, when by means of a gun their number may be soon reduced. The frost will effect but little injury so long as the deep snow remains. Plenty of work will be found in the washing and storing of all dirty pots used by this department, and in sowing seeds and preparing loam and different composts ready for potting on and pricking out seedlings into boxes and frames. New boxes should be made, and old ones repaired. Labels of various sizes should be prepared and tied in bundles according to various requirements. Slating-laths cut into 2 feet lengths, shaved at the top on one side, and pointed, make admirable labels for the kitchen garden, and will last for years if shortened a little each year. Leave the painting of these till required for use. If room can be spared, a dry well-lighted shed will be a good place to store seed Potatos from clamps. They should be carefully examined and spread out upon the floor or on shelves exposed to the light, and kept as dry and cool as possible, short of admitting frost. If left in clamps they would soon begin to grow. In a dry room with good light and secure from frost, they may be left to sprout, until planted out.

SEAKALE CUTTINGS.—Uncover these and select the best pieces for next season's sets. Burn all the remainder, or it will cause a lot of trouble if these small pieces should get into the garden. Make the sets about 5 inches long, cutting the top square across, and the bottom in a slighty oblique direction; tie them in bundles of twenty-five each, and again place them in the soil where frost does not reach. The Lily-white alone should be grown where it does well, but I fear it is not so hardy as the old variety.

FRENCH BEANS.—Make sowings of these as required, and take means to keep red-spider in check, which may prove troublesome, owing to so much fire-heat being required during this severe weather. For fresh sowings, use a good loam, with spent Mushroom-bed manure, a little mortar-rubble, and a sprinkling of soot and bone-meal.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

PEACHES AND NECTARINES.—The earliest trees are now passing out of flower, and although the weather has not been altogether favourable, there has fortunately been a little sun on most days to assist fertilisation, and by maintaining a low night temperature, and a growing heat by day, the trees have made steady progress, and promise a full crop of fruit. Continue to use the greatest care not to excite the trees. Any time that may appear lost now, can be made up later on when the fruit is stoned, and the days are longer and brighter. Spray the trees over on bright mornings with tepid soft-water, unless the flowers are still fresh, when the blooms need to be gone over with the camel's-hair pencil for a few days longer. Inside borders are best for early forcing, but where this is not the case, the roots must be protected. If a bed of litter has been placed over the border, this should be covered if possible with shutters, to keep off snow and rain, or more litter added to keep up a gentle warmth. Any wood that was left at full length at pruning time should be now cut back to a shoot immediately above a fruit, to allow room to tie in new growth. Commence to disbud the trees cautiously, removing in the first place the shoots on the lower side of the branch, and reducing the number on the top side; be careful always to retain one at the base. By selecting the buds on the top side of the branch, the new wood is more evenly tied-in, and a well-balanced tree maintained. In thinning the fruit, it is well to rub off a few daily, always retaining those on the face of the tree which can be exposed to the sun, or the fruit will lack colour. The border, having been kept dry during the flowering period, may now receive a soaking of tepid manure-water, and the surface of the border, near the hot-water pipes, may be syringed frequently. Keep up a growing atmosphere during the day, and let the night temperature range about 60°. If the house is used for forcing Azaleas, &c., the plants should be fumigated and thoroughly cleaned before being brought in, and a slight fumigation once a week afterwards will keep insect-pests in check.

SUCCESSION HOUSE.—With lengthening days and increasing sun, the trees in the second house usually come on quickly, and if there is a proper succession of varieties in the early house, care must be taken that the trees in the second house do not come in before fruit is required. Trees on which the flower-buds are expanding may be brought on very gradually to provide ripe fruit in July, and they can always be hastened in their later stages. Continue to syringe the trees until the blooms open, and give ventilation rather freely on mild and bright days. See that the border does not get dry, and let the night temperature range from 50° to 55°. All trees in the later houses should be pruned, cleaned, and trained at once, or injury may be done to the buds if the work be delayed. The ventilators should be left open at all times, as the severe weather will ensure perfect rest to the trees, and retard the blossoms. To provide against accident, it would be well to empty the hot-water pipes on very severe nights, or allow a slight circulation of warm water in them.

TOMATOS.—Young plants that have been wintered in small pots should be put into 6 inch pots and placed near the glass, and if grown on, these will give good crops by the end of May. To get fruit earlier, we have selected fifty of the stoutest plants which are showing several trusses of bloom, to fruit them in 6 inch pots, and these should give at least 1 lb. of fruit to each plant. Continue to assist the plants carrying fruit with a mild stimulant, keep the foliage thin, fertilize the blooms daily, and maintain a dryish atmosphere.

STRAWBERRIES.—The second batch of plants that were plunged in leaves in a cool pit a month ago, and which have their pots well-lined with new roots, may be brought into a warmer house. The roots being made active from the gentle warmth in the leaves, should be well supplied with weak tepid manure-water, and a night temperature afforded of 50° to 55° until the fruit is set. The earliest batches are generally in small pots, which should be looked over twice a day, and in giving manure-water see that it does not touch the berries or foliage. Give a good brisk heat to those plants that have swelling fruits. Start fresh batches of plants as required.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

THE HERBACEOUS BORDER.—Where re-arrangement and replanting were not completed before the frost set in, no time should be lost in getting to work when the weather permits, and finishing all operations connected with these plants. When making a new border, the front of it should face to any point except to the north, or the tall-growing plants will shade the dwarfer ones too much. Tall-growing subjects, such as Delphiniums, Phloxes, Sunflowers, Solidagos, Verbascums, Lilium auratum and other tall Lilies, should be planted at the back, next to these being clumps of the brilliant Papavers bracteatum and orientale, which are easily increased by divisions of the roots in March, and by seeds sown in that month and April; then can come the tall-growing Pæonies, Lupins, Globe Thistles, Michaelmas Daisies, varieties of Lilium candidum, L. croceum, L. davuricum, and other varieties, with Pyrethrums, Rockets, German, Spanish, and English Iris, Anthericum Liliago, Eryngium amethystinum, with dwarfer species of Liliums, such as L. fulgens, L. Thunbergianum, &c., finishing off the front of the border with Funkias, Brodæas, Tulips, Crocus, Pansies, Wallflowers, Polyanthus, Auriculas, Primulas, &c. Care should be taken not to crowd the plants thickly, and when a succession of flowers is required throughout the summer and autumn months, space should be left for planting annual Sunflowers, Dahlias, Gladiolus, &c., to keep the border gay till the latest period, and to assist this display the Tritoma Uvaria should be planted in some abundance. In borders long planted, a good thinning-out should be made of the stronger-growing plants which may be smothering their weaker growing neighbours, preference being given to the more showy and useful species. The many beautiful varieties of sweet-scented Pæonies, are most useful flowers for cutting, and the fine varieties of Iris, some of which have blooms as beautiful as Orchids, afford a brilliant display in the early summer months, and should not be lost sight of. Space should be found for the Iceland Poppies, which come in many shades of colour, are deliciously fragrant, and very useful for cutting. When portions of the clumps of herbaceous plants are removed, the holes thus made in the soil should be filled with some kind of good soil and rotten manure; and the same sort of material should also be worked into the surface of the border without any disturbance of the roots. If mice should attack Crocuses in the borders, set traps for them without delay.

THE FORMATION OF BEDS FOR EVERGREEN SHRUBS.—Having marked out the position and size of the beds, well trench the soil 2 feet deep, and if it be wet, some kind of draining will be needed. The planting of such species as Laurels, Hollies, Box, Privet, Spurge Laurel, Sweet Bay, Viburnum Tinus, Phillyreas, Arbutus, and Aucubas should be put off till March, or even later if the weather be not favourable for transplanting. Yew may be planted at any time before it starts to make growth, and the month of May is considered a good month in the north for planting large old Yews.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, FEB. 12 — Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster; and Annual Meeting of the Society at 3 P.M., in the Society's Rooms at 117, Victoria Street, Westminster. Hort. Club, Annual Meeting.

SALES.

TUESDAY, FEB. 12 — Imported and Established Orchids, at Protheroe & Morris' Rooms. Sale of Nursery Stock at Frettingham's Nurseries, Stapleford, near Nottingham, by Protheroe & Morris (four days).

WEDNESDAY, FEB. 13 — Lilies, Begonias, Gladioli, Carnations, &c., at Protheroe & Morris' Rooms.

FRIDAY, FEB. 14 — Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.1.

Royal Horticultural Society.

THE Report which will be presented to the Fellows on Tuesday next, does not call for much remark. The Society has got out of its difficulties for the present, and the circumstances are still too recent to allow us to forget the efforts that were made to set the old Society on the right track, and who they were who made those efforts. The fear now seems to be—we trust it is merely imaginary—that a period of apathy and inaction may set in, and that the Council may once more overlook the fact that the promotion of horticulture is its primary object, and while sticking to routine programmes, ignore those elements of variety and progress which are essential to vitality. From this point of view we greatly regret the abolition of the Conferences at Chiswick. No one who reads the records of these Conferences for some years past will question that directly and indirectly they were the means of eliciting and gathering together in a conveniently accessible form a large body of information which was very valuable, and highly creditable to the Society and its officials. We shall be told, doubtless, that they were not financial successes, but success in such matters is not measured by the amount of gate-money received, nor can the lectures at the Drill Hall be considered as by any means adequate substitutes for these conferences.

Again, while Chiswick has been reclaimed from the woeful state of dilapidation into which it had fallen, and whilst excellent work is carried on there in the shape of comparative trials, it cannot be said that the garden, or the work done in it, are abreast of the necessities of the times or adequately represent what should be the work of a National Horticultural Society. To carry out a programme of experimental horticulture up to date, as our American cousins contrive to do, to train the pupils, make them practically appreciate the fact that knowledge as well as skill is required to make a good gardener, and that skill alone will neither promote progress nor enable us to meet new conditions, all this, no doubt, necessitates a permanent endowment. At present the income is a fluctuating and precarious thing, dependent on the pleasure of a large body of Fellows, the majority of whom know nothing and care less for the higher aspects of horticulture. The Society has done, and is doing, such good work that it might fairly claim to receive some outside aid or endowment from the Government or the County Councils.

The enormous increase of horticultural industry during the last quarter of a century, the equally large field open for further development, are points which require to be pressed home, not only on our statesmen, but, we fear, also on the governing bodies of our societies. Councils and governing bodies appear to us not adequately to realise their duties to Horticulture, nor to be aware of the colossal extension of commercial enterprise, nor to gauge the possibilities in the immediate future of a still larger increase. To influence, mould, and direct this to the public advantage would be a noble aim for the Society, and who shall say the idea is chimerical?

Again, foreign competition is bitterly complained of—but is not much of it quite unnecessary? If some of our readers could see, as we do daily, what large quantities of produce come from the Continent which might equally well be grown here, they would think that some, at least, of our agricultural depression was self-inflicted and amply merited, and they would think that a national Horticultural Society ought to exert some influence in arresting so much of our dependence on foreign supplies as is unnatural and unnecessary.

One subject alluded to in the Report demands attention, and that is the preparation of a code of rules for the guidance of judges at flower shows. In principle this is not at all a difficult matter, but in practice—oh, that is indeed a different thing! One thing especially is needed, and that is clearness in the construction of schedules. Many of the difficulties arise from the varied interpretations put upon the terms of the schedules. In case of dispute, a final court of appeal is needed, and no more fitting one could be mentioned than the Society itself.

At present the horticultural press acts as a court of appeal, and this is right enough when no member of the staff has acted as a judge or as a reporter; but very frequently now-a-days a reporter for a paper does not consider himself debarred from acting also as a judge. We do not desire to say anything now about this practice, further than to point out that it is highly undesirable that pressmen, acting in their private capacity as judges, should also act publicly in their respective journals, either as reporters in that particular department, or still more as "judges of appeal."

The appeal for increased support for the Lindley Library has met with only partial success, but no doubt many further donations will be received, as no effort should be spared to make this the finest library of the kind in the kingdom, and to increase its powers of usefulness. A commencement has been made with the catalogue, which will be pushed on more rapidly as funds permit. In the meantime, additional help in money and in books is greatly wanted.

We cannot leave the subject without expressing our sympathy with the energetic Secretary of the Society, who, crippled and restrained by ill-health, has nevertheless not suffered the work of the Society to deteriorate. Moreover, whatever else may happen on Tuesday, we are sure Mr. BARRON, Mr. WEATHERS, and their subordinates will come in for a due share of grateful appreciation.

ONCIDIUM AMPLIATUM MAJUS.—Our illustration (fig. 26), taken from a photograph of a specimen which flowered last summer in the gardens of JOSEPH BROOME, Esq., Sunny Hill, Llandudno, gives a representation of the best form of Oncidium ampliatum majus, which is in every respect a great improvement on the typical plant, and when well grown, as at Sunny Hill, it makes one of the best exhibition Orchids known. Not only when bearing its wealth of bright yellow flower, is O. ampliatum a pleasant object in the Orchid-houses, for even when not in flower its large wrinkled pseudo-bulbs and fleshy, dark green leaves constitute it a handsome plant. Mr. BROOME grows his plants of it in a warm, moist house, and beyond affording a liberal supply of water to them when growing, they give but little trouble. The plant is widely distributed in Central America, and is found mostly at a low elevation, the plants found at great elevation, as a rule, having the smallest flowers.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will take place in the Drill Hall, James Street, Victoria Street, on Tuesday, February 12. The various Committees will assemble at noon as usual, and at 3 o'clock the Annual General Meeting of the Society will be held at the Society's offices, 117, Victoria Street, Westminster.

THE GARDENERS' ROYAL BENEVOLENT AND GARDENERS' ROYAL ORPHANAGE INSTITUTIONS.—The gardeners of Worcestershire, says a well-known gardener, are bestirring themselves in a novel and praiseworthy manner, on behalf of the above excellent institutions. A thoroughly representative and well-attended meeting of the gardeners and nurserymen of the county was held at Worcester on Saturday, February 2, at which the claims and advantages of these charities were pointed out and discussed. It was proved also that these societies paid away in the shape of pensions, to persons residing in the county, considerably more money than the county subscribed, taken by itself, to the funds. It was also shown that the sum of 6*d.* per week, contributed by a member, constituted full membership to both societies, viz, one guinea per annum to the Benevolent and 5*s.* annually to the Orphanage. The result was that several names were promised there and then; furthermore, the meeting resolved itself into a general committee, undertaking to canvass every individual gardener worthy of the name, and nurseryman in the county. Directories were then produced, and a roll-call instituted; each person present undertaking to bring personal influence and acquaintanceship to bear upon those best known to him and resident in his district. It was also proposed and carried that each gardener should respectfully draw the attention of his employer, as well as other patrons of horticulture, to the movement. It was agreed that progress be reported upon that day month. The question of establishing a black-book of absolute refusals for further reference was postponed, and the general details of the scheme were completed, whilst much enthusiasm and unanimity prevailed.

SCIENCE IN AGRICULTURE AND HORTICULTURE.—Professor WARINGTON, the newly-appointed Sibthorpian Professor of Rural Economy in the University of Oxford, delivered his inaugural lecture on February 4. The subject chosen was the "Present Relations of Agricultural Art and Natural Science." After showing the great benefits accruing from the adoption of scientific methods, including the mar-

FIG. 26.—ONCIDIUM AMPLIATUM MAJUS. (SEE P. 172)

vellous cheapening of production, Prof. Warington alluded, by way of illustration, to the introduction of the centrifugal separator in the production of butter, and to the various benefits conferred by chemists and biologists on agriculture. The lecturer contrasted our deplorable condition in the matter of research-stations, of which we have only two or three, in contrast to fifty-four in Germany, as many in the United States, and about 190 in the whole of Europe. England is truly, in many cases, the only country where a man is expected to do things without having first learned how to do them.

Argon is the name given by Lord Rayleigh and Prof. Ramsay to the newly-discovered constituent of the atmosphere. Its existence had indeed been indicated by Cavendish in the last century, but it is to Lord Rayleigh that science is indebted for the first definite information concerning it. A crowded meeting of the Royal Society was held at the University of London on Thursday, when Prof. Ramsay gave a full account of the discovery, and Mr. Crookes supplemented it by some observations on its spectroscopic characters. A doubt exists in the minds of some thinkers as to whether there are not two substances in combination rather than one only, but this will doubtless soon be ascertained. The subject is too technical to be discussed here, so that we will merely state that discrepancies in the results obtained in ascertaining the density of nitrogen gas procured from various sources led to the conclusion that some previously unrecognised element must be present to account for the discrepancies in the calculation. Numerous and varied experiments were made to test the validity of this hypothesis, and the result was the separation of a heretofore unknown gas, whose properties were explained. For one thing, the experimenters have up to the present been unable to make it combine with any other element, and hence they give the name "Argon" (Greek, an ergon), to express this inertness. Henceforth we must look on air as essentially composed of oxygen, nitrogen, and argon, together with other gases in admixture. It is gratifying to our sense of patriotism that this extremely important discovery was not made in Germany. The Presidents of the Royal, of the Chemical, and of the Physical Societies, expressed their general concurrence with the views of Lord Rayleigh, and congratulated him on this in all probability "epoch-making" research.

Flower Show at Cannes.—The annual flower show of Cannes and surrounding districts was held on Jan. 31 and three following days, and notwithstanding the heavy snow and frosts, a good display was made. The greatest feature of the show was the Primulas, exhibited by Messrs. Vilmorin-Andrieux & Co., Paris, which occupied one side of a large kiosque. Each colour was grouped separately, and almost every shade known might be seen, both double and single-flowered varieties. Floral decorations were well represented by local florists, but in most cases the designs were too heavy. The gold medal group well merited the award named, representing amongst others an ordinary wicker basket of Maréchal Niel Roses and sprigs of Bramble; a mirror decorated with Paul Nabonnaud Roses and Lily of the Valley; a wheelbarrow with Maréchal Niels and Chorizema, and several other smaller baskets, which made up an excellent group. Medals offered for seedling Carnations brought several exhibitors, and some excellent groups were shown, but although many varieties were of enormous size, there were but few that would be considered first-class on an English show-table, most of them having the calyx split to the base. The good points of a perpetual flowering Carnation are as well known here as in England, but the freest flowering varieties are sought after, and quantity rather than quality. Two large groups of foliage plants, consisting chiefly of Crotons, Dracænas, Caladiums, and Anthuriums added largely to the show. Freesias, Cinerarias, and Cyclamens were shown, but far below the standard of excellence which one meets with in the Riviera gardens. Paul Nabonnaud exhibited a cut-flower group of Roses and miscellaneous New Holland plants, grown in the open air, which speaks volumes after the heavy snow and continual frosts which have been experienced. The sunny south, although seriously misbehaving itself this year, is still capable of proving its ability in the production of most of our favourite flowers.

Weather in the Riviera.—Our Riviera correspondent, writing on Monday last, alludes to the remarks on the very exaggerated reports respecting the snow which fell there. The weather, nevertheless, has not been so severe since 1865. The western part has suffered mostly, although the temperature is far below the average over the whole length of the Riviera. At Cannes, 3 inches of snow fell on Jan. 6, and was succeeded by severe frosts, 14° Fahr. having been registered. On the 28th from 10 to 12 inches of snow fell, and again in the early morning of February 1, from 6 to 8 inches. At the time of writing it was freezing hard, and every sign of its continuing. The Palms have been broken about by the weight of the snow, and everywhere great damage has been done. Many plants and trees which have never before been frozen are in some places killed.

Frozen Roses from Australia.—A bunch of frozen Roses from the garden of the editor of the New Zealand *Truth*, St. Albans, Christchurch, has recently been an object of some interest at the Royal Aquarium. The bunch was of good size, and appeared to consist of blossoms of rose and red Bourbon varieties, mingled with which were blooms of Gloire de Dijon. The flowers had retained their colours in a very satisfactory manner, but of course soon fell to pieces after the block of ice in which they had been frozen thawed down to the petal edges. The block was brought over by Mr. R. J. Bales, smoke-room steward of the R.M.S. Gothic.

The New Post-card and the Continental Post-offices.—We have received the following note from M. Ernst Benary, Erfurt, about a matter of considerable interest to the continental seed trade:—"Since people have been allowed in England to use post-cards of their own with an adhesive stamp affixed, large numbers of them furnished with a penny stamp have found their way over here. Now, if the words 'Post Card. The address only to be written on this side,' are printed on the address side, our post-office authorities will pass them, but if not, they are treated as insufficiently prepaid letters, and a fine of 3*d*. is inflicted. It is hardly necessary to say that this is a great annoyance and loss to firms who have a large correspondence with Great Britain."

The "British Weather Chart."—This publication by a well-known meteorologist, B. G. Jenkins, is intended to be a forecast of the "probable weather" which we are to experience during 1895. The author ascribes the fluctuations of climate to the "combined influence of the Sun, Moon, and Planets." This year the heavenly bodies are, it is predicted, to arrange for us "a cool, dry spring, a fine early summer, and fairly good harvest prospects." The Publisher of the *British Weather Chart* is R. Morgan, 65, Westow Street, Upper Norwood, S.E.

Gloxinera × Brilliant.—We have received from M. le Comte de Kerchove the following communication relating to this hybrid:—"I have to-day received the Times of Horticulture—the *Gardeners' Chronicle*, and, as ever, to receive it is at once to read it. I noted—being specially interested in bigeneric hybrids—the illustration of Gloxinera × Brilliant, which in every way deserves its name. Mr. Weathers' note which accompanied it struck me much, as it reminded me of a very old incident. In fact, it is nearly half a century ago that Belgian and English horticulturists contended about a Gloxinera with as much fervour as did of old the Trojans and Greeks over the body of Patroclus. I am wrong in saying that they discussed a Gloxinera, since, if the plant existed, the name was not then invented; no one in 1854 thought of the wise rules which now regulate botanical terminology. In 1849 an excellent gardener, Donckelaar, jun., who succeeded his father as head gardener at the Ghent Botanical Garden, fertilised Gesnera discolor, Lindl., with the pollen of Gloxinia rubra. In 1850, plants raised from seeds sown in January bore many flowers. These were shown to Charles Lemaire, and in 1854 he published a figure in the *Jardin Fleuriste* (t. iv., p. 382), under the name of Gesnera Donckelaariana (Hybrida). At that time, when Orchids were hardly known, the appearance of a bigeneric hybrid seemed incredible. The good faith of Donckelaar was questioned; he, a man incapable of falsehood, even of a horticultural falsehood! attached to the Botanic Garden in connection with the University, he could have had no temptation to distort the truth since he obtained no pecuniary reward for the new plant. But M. Decaisne, who was then writing the *Flore des Serres et des Jardins*, published by Louis Van Houtte (glad, perhaps, to challenge the opinions of M. Lemaire, editor of *l'Illustration Horticole*, then published by Ambroise Verschaffelt), refused to acknowledge the new plant as a bigeneric hybrid, and declared that he considered it to be a distinct species, introduced accidentally among specimens of other species of Gesneriaceæ. But sometime after the publication made by Charles Lemaire, Messrs. Veitch flowered in their establishment a plant brought from Columbia, and showing all the characteristics of Gesnera Donckelaariana! He submitted the plant for examination to Sir W. Hooker, and he, noting the characteristics of it, did not hesitate to make of the Ghent hybrid a distinct species, which he called G. Donckelarii (through an orthographic mistake over the name Donckelaar), and of which he gave a portrait and diagnosis in the *Botanical Magazine* in 1858, t. 5070. Is it not curious to note how, forty years later, Mr. Veitch has successfully repeated Donckelaar's experiment, and proved by Gloxinera × Brilliant that among Gesneriads, bigeneric hybrids are as easily produced as among Orchids?"

Curtis, Sandford & Co., Limited.—A prospectus has been issued by this company, which has been formed for the purpose of acquiring and developing the business of rose-growers, nurserymen, and florists, of Messrs. Curtis, Sandford & Co., of the Devon Rosary, Torquay, and the business of fruit and vegetable growers, established by the South Devon Fruit Farm Syndicate at Cockington, near Torquay. The services of Mr. F. W. Sandford, managing partner to Messrs. Curtis, Sandford & Co., for a period of twenty-seven years, of Mr. W. H. Morris, of Mr. A. Chandler, and several other old *employés* of the firm have been retained.

Mr. Stephen Deadman, formerly head gardener to the late J. Whitborne, Esq., J.P., Gorway, Teignmouth, Devonshire, has been appointed instructor in horticulture at the South-Eastern Agricultural College, Wye, Ashford, Kent.

The Extreme Weather.—As our pages are going through the press there is no indication of any immediate relief from the severe weather which has obtained in more or less degree during the last five weeks. On Tuesday night the minimum readings throughout the British Isles were unusually low, and in many places there were 30° of frost registered. At Solihull, near Birmingham, it is reported that the sheltered thermometer, 4 feet from the ground, fell to zero (Fahr.). Even in London a temperature of 16° Fahr. was registered, which gives 16° of frost—a most remarkable experience for February. On Wednesday night, although the actual readings are not yet to hand, it is confidently expected that even greater cold occurred than on the previous evening. Gardeners and garden lovers, whose difficulties are so largely increased by such exceptional weather, may perhaps take hope from the fact that, of all things English, the least constant is our weather, and, present appearances notwithstanding, we may soon witness a decided and welcome change.

A Thomson Memorial Fund.—At a meeting of members of the Royal Caledonian Horticultural Society, held at Edinburgh on January 23, it was agreed that a fund should be instituted, and the interest thereof applied in providing prizes in memory of the late Mr. Wm. Thomson, Clovenfords, such prizes to take the form of medals and sums of money to be awarded for exhibits at various shows in the United Kingdom, in the same manner as the Memorial Prizes already in existence; and Mr. Thomson's family have expressed their approval of the proposal. To carry out the scheme, it is proposed that a general committee should be formed to collect subscriptions; and circulars are being sent out inviting gentlemen to join such committee. When this committee is formed, the members will send out circulars and collect subscriptions from their various districts; but as doubtless there are many who would be willing to subscribe, and who may be overlooked by the committee, or not known by them, and who can only be reached by public announcements in the press, it has been suggested that the gardening papers should be asked to give publicity to the proposed undertaking. Mr. Chas. Stewart, 4, Albyn Place, Edinburgh, has been appointed interim secretary for the committee.

WHAT CHISWICK SHOULD BE.*

We must apologise to Mr. Barker (an old Kewite, if we mistake not), for putting a heading to his article. He spoke of what is being done at Cornell University, in New York State, and as we read, we could not but see, in a measure, realised, what Chiswick should be when people apprehend that horticulture is something more than a recreation. We may expect them to become alive to the importance of a scientific training for gardeners and farmers:—

"A good combination of the practical with the theoretical is most useful in the education of gardeners, and in this regard — in the way of a thoroughly practical education in horticulture and its allied arts and sciences—I can say without hesitation that in Europe or America there is nothing equal to the practice and instruction afforded by the Horticultural Department of Cornell University.

It has been my good fortune to see and know something of all the more important horticultural institutions in England and the United States, and last July, in looking over with Professor Bailey the material for instruction at Cornell, I was much surprised to find that a work of such superior quality had been going on quietly for years quite unknown to a large majority of the gardeners and florists throughout the country. The Horticultural Department of Cornell University has no delusive ancient history with which it might decoy those in search of knowledge to its fold; it is new in conception, modern in appliances and methods, and practical in all its work. The department was established in 1889, and its growth since that time has been healthy and rapid. The students have abundant opportunity to become expert in the general work of the farm, garden and greenhouse. They are expected to do something more than make a compilation of notes in the lecture-halls. In the extensive orchards they have ample experience in planting, spraying, pruning, budding, and grafting. Spraying has of late years become a most important matter in farm and garden work, and, as in all other divisions of instruction, the fullest and best practice and information is given under this head. The collection of spraying machines and contrivances, fungicides, and insecticides, is one of the most complete to be found anywhere, and all new appliances and remedies are added as they appear, and are tested repeatedly. The expert in spraying, Mr. E G. Lodeman, is well known in this country and Europe to be one of the leading authorities on insects and fungi injurious to vegetation, as well as for the facility with which he can prescribe a remedy for any known pest.

Vegetable culture outdoors and under glass is given a large share of attention, and the raising of new and improved forms of our commonest vegetables is pursued in a manner that cannot prove other than of the greatest value to all who may embark on a horticultural career. The students at Cornell do practically all of the work incident to the raising of vegetables under glass, and Lettuce, Cauliflowers, Radishes, Tomatos, Cucumbers, Melons, Mushrooms, &c, are among the crops grown annually. Their work, including the preparation of soils and manures, sowing seeds, and in other ways propagating stock, potting, planting, tying, and training, making and spawning Mushroom-beds, watering, ventilating, &c., is of course, subject to competent direction, and it would surprise many able gardeners to see the excellent crops these beginners produce. Just at this time there is a crop of Tomatos in full bearing, which would be creditable to any expert, and every operation in connection with the same has been performed by regular students.

The leading plants and flowers of the florists, notably Roses, Chrysanthemums, Carnations, and Violets, are similarly grown in quantity, and the work of their propagation (including grafting and budding), potting and planting, staking and training, disbudding and crossing, and treatment for diseases and insects, is likewise relegated to students with very marked success. The merits and defects of various systems of heating, glazing, and ventilation come under their observation daily, and there is much practical work of the most useful character in piping, glazing, the construction of benches, and the application of shading materials, in which they participate all through the college year. This is supplemented by similar work in the greenhouses of the Botanical Department, where there is a large and varied collection of Palms, Ferns, Orchids, Cacti, and other exotics. And the work of the lecture-halls and laboratories cover the fields of agricultural chemistry, botany, horticulture, and floriculture, so far as theory is concerned, as perfectly as the best practice is demonstrated in orchard, garden, and greenhouse.

Library and Herbarium.

The most complete garden-library in this country, so far as I know, is that of the Massachusetts Horticultural Society, and that of Cornell University certainly stands second. But if the present rate of increase in number of volumes continues very long, Cornell will speedily advance to first place. I do not mention this with a desire to convey the impression that any number of books will ever make a gardener; but as much of our advance is due to the faithful records of work done in similar directions by our predecessors, I refer to the matter simply to show that nothing is neglected as Cornell which will tend to promote the interests of the student. And in the same way, I may call attention to the garden herbarium—the most extensive thing of the kind in existence. Speaking in a botanical sense, there are some herbariums of far greater extent and importance; but from a purely horticultural standpoint the Cornell collection of dried specimens of cultivated fruits, flowers, and vegetables, is unrivalled. Many students of garden botany have found this herbarium to be of great service in tracing the origin of numerous forms of cultivated vegetables. The herbarium is one of the many good works of Professor Bailey, and it will perhaps be interesting to record that he regards it as his best assistant. In some investigations of garden Beans, of which, he says, there is a great deal yet to be learned, he has found this herbarium of immense utility. I might go on to speak of many minor collections, among which is one of 3000 photographs, illustrating varied phenomena in the lives of garden plants, but on these points sufficient has been said to indicate that horticultural education on a solid lasting and profitable basis has only begun.

Research and Work.

Aside from the regular work of instruction, all the officers of the department have special experiments and investigations in hand in the interests of horticulturists and floriculturists in general. The students may keep records of the progress made in such investigations, and in that way gain valuable knowledge and experience. All new plants, fruits vegetables, and flowers sent to the department are thoroughly tested, and the results of such tests are printed and distributed gratuitously among interested parties. Novel inventions and appliances, fungicides and insecticides, &c., are treated in the same manner. Efforts are being made to improve our native fruits, and foreign varieties of standard fruits are introduced and tested as to their reliability in our climate. A careful watch is kept on the vegetables imported from foreign countries, and grown in and about immigrant settlements, notably such as are introduced by the Chinese and Japanese. Many of the plants, particularly garden vegetables, which these people of the Orient have brought with them and established around their new homes, are of great importance to the student of economic botany, as in some cases they undoubtedly afford a better clue to the origin of some of the occupants of the kitchen garden than any we now possess. Some of our most valuable vegetables have been in constant cultivation from a period so very remote, that their original types in many cases cannot now be identified, if they exist at all in the earth to-day, and if the more primitive types introduced by the modern generations of Mongolians assume any of the characteristics of our own products, it will be a distinct gain to have these records of their quality and character when first established in this country. Whether any of these imported vegetables ever attain to anything like the high quality of our own produce is a question which we cannot hope to see solved for many years to come. But in any case the records retain their utility, and as at Cornell some of the imported plants have already been crossed with the commoner kinds of Europe and America, it may be that at some time we may find greater light on this interesting subject. An investigation of perhaps more immediate concern to florists is one now being carried on with the common Callas of our greenhouses. It is known that the Calla in its natural state exists under periodical seasons of drought and moisture, and the common practice in cultivation, as you are all aware, has been to imitate the natural conditions by alternating the periods of rest and activity. In this it has been found that Callas under amended treatment will continue to grow luxuriantly throughout the year, and that their physical character is somewhat changed by the novel conditions. That the plants produce a greater or lesser number of flowers under this system is a matter so far undetermined, but one which will be announced in due time.

Begonias.

In like manner it is known that those Begonias which are cultivated for their flowers generally produce a large number of pistillate or female blooms. Ordinarily the female flowers are not so showy as the staminate or pollen blossoms, so that obviously it would be an advantage to influence the plant in such a way as to make it produce more staminate flowers, and fewer or none of the pistillate order. It is generally believed that the application and lack of food produce opposite effects in the development of sex in the flowers of monœcious plants; but the data on the subject is hardly sufficient for practical purposes, and our object is to gain such a knowledge of the matter as may render it serviceable to gardeners and florists. While speaking of Begonias, I should perhaps refer to the nomenclature of the genus. This group of plants, embracing both the foliage and flowering species, hybrids and varieties, is undoubtedly the most popular for indoor cultivation with all grades of gardeners. There is a large number of species, and their attractive qualities have led to the production of a large number of hybrids and varieties. Many of these plants are so much alike, and there are so many synonyms that even now the catalogues have the names badly mixed. It is desirable that the evil should not be allowed to extend, and Mr. E. G. Lodeman has entered upon the task of unravelling the tangle before it becomes too intricate, and in this I would here solicit for

* Extracts from a paper on Horticulture and Floriculture at Cornell. By Mr. Michael Barker.

him the cordial assistance of the fraternity in all parts of the country. At Cornell we have one house devoted exclusively to the cultivation of Begonias, and a list of such kinds as we now possess (which will be mailed to all growers of these plants) is now in preparation. Many kinds, especially hybrids, are still lacking in our collection, and growers are kindly requested to aid in the work by forwarding seeds or cuttings of any uncommon sorts they may be able to spare.

Chrysanthemums.

We are also engaged in a series of investigations touching on the troubles and problems which beset Chrysanthemum growers, and a preliminary bulletin reviewing the present situation in some important Chrysanthemum matters will shortly be issued. There is here a large field for useful work, and with the support of the growers in supplying material, we hope to be able to accomplish some of it. The scope of these investigations is better outlined and discussed in the bulletin already mentioned, and at this time I need only refer to some of the heads under which we feel certain there is plenty of room for improvement. One of the most pressing of these is the classification of varieties. The matter of fungous and insect pests is assuming serious proportions, and needs prompt and effective ventilation. It is also hinted that we are threatened with bacterial troubles, and there is no telling what other plagues may seize upon our plants in years to come. But we must be prepared for all emergencies, and the growers of the United States and Canada can rest fully assured that all questions submitted to us will have our most prompt and careful consideration. We are well equipped with experts in culture, fungology, vegetable pathology, and entomology. The utility of the various commercial fertilisers in Chrysanthemum culture is another matter which requires extensive experiment, and one to which we propose to devote some time during the coming season. Grafting the various weak-growing varieties on a vigorous stock with a view to the production of good specimen plants is an experiment yet to be tried in this country; and the trial of new varieties, all grown under the same conditions, to ascertain the degree of annual progress, demands some of the space at our disposal. The various systems of culture also should be properly compared, but that we shall be able to enter upon this question is doubtful, the greenhouse space at command being now fully occupied. In these matters, again, we must look to the growers for co-operation and assistance, and past experience informs me that our expectations shall be fully realized, as where it has been possible, the patrons of horticulture and floriculture in America have been most generous in supplying needed material.

Violets.

Violet growers are harassed by numerous difficulties, generally traceable to disease in some form. The extent of these troubles may be imagined from the fact that one grower has in five years lost no less a sum than 600 dollars through the diseases to which these plants are subject. We have collected all the varieties of the Violet cultivated in the United States, and these, with new varieties expected from Europe, we propose to propagate and treat systematically to ascertain their respective merits, comparative immunity from disease under the several methods of cultivation, and to experiment with a view to subjugating the disease where it makes its appearance. Considerable space is given to Roses and Carnations, and we are hopeful of being able to secure sufficient funds to enlarge the accommodations for these plants, so as to permit of desirable experiments with them. A good piece of ground has been set apart for a test of all the varieties of the Canna during the coming season, and in this we shall be pleased to include plants of every kind sent to this department.

The Electric Light.

A prominent feature of the place is the experiments with electricity. The electric light is employed principally in forcing vegetables and flowers, and as the work in this direction goes on, it is anticipated that some results of great importance to those who grow plants under glass will be obtained. Some of the advanced students are doing good work in the laboratory greenhouses in demonstrating the effects of fruit bearing upon the mechanical tissue of various plants, and in studies of the physics of greenhouse roofs. The latter experiments, entailing the cultivation of average greenhouse stock under roofs disposed at varied angles, and glazed with all the qualities and colours of glass in the market, employing both the lapped and butted systems of fixing the material, are of peculiar interest to all greenhouse men. Having noticed thus briefly some of the more conspicuous phases of horticulture and floriculture which are given attention at Cornell, I think it may be safely assumed that any young man of ordinary intelligence who observantly goes through the general routine of work which they render necessary, should in a short time become a gardener or a horticulturist of no mean ability. And young as is this department of instruction at Cornell, there are many of her horticultural graduates occupying positions of much importance in all parts of the country."
American Florist.

POT GRAPE VINES *V.* PLANTED CANES.

In a note on the comparative utility of Grape Vines in pots and those planted out, I have no desire to disparage the value of the former, so much depending upon the gardener's resources to produce early crops of Grapes, and the time when the fruit has to be ripe. Each cultivator must, therefore, decide for himself how the crop is to be produced at the required season. Most growers, even those who do not force their Vines much, will recognise the usefulness of a small vinery planted with permanent Vines, which can be fruited at the end of the month of May, or early in June, as contrasted with pot Vines. The planted-out Vines break with greater regularity, and show more bunches; moreover, there is usually less risk in regard to the fruit finishing properly, and, taken altogether, the results afforded are better in every way than those obtained from Vines grown in pots, although it cannot be disputed that very fine fruit is obtained from the latter, but it is an exception to get better results from them than from permanent Vines. I do not mean that pot Vines, if forced slowly, and specially prepared for fruiting, do not give splendid returns, but many gardeners are unable to purchase the best canes, and others have not suitable places in which to grow them. Two seasons' growth is required for a fruiting-Vine, and every encouragement afforded the second season to ripen the wood thoroughly, for unless this be done, the plants cannot be forced satisfactorily; hence, the importance of purchasing well-prepared canes where practicable from sources which may be relied upon. Pot Vines are still grown by the trade in great quantities, but on the whole, I do not think they are forced in pots so largely as formerly; indeed, I have remarked larger canes being used for planting, more planting being now done than formerly, so that a great number of strong Vines grown in pots are required. There is another use to which pot-grown Vines are put, viz, for intercropping, as it were, between the newly-planted permanent Vines—a valuable method, the strong fruiting Vines in the pots producing a crop the first season, whilst the planted canes are not interfered with, or their growth hampered. The gardener who prepares his forcing canes at home for pot-culture is heavily handicapped, unless he have modern-built vineries, and the necessary time to devote to the work.

At Syon better results are secured from the planted-out Vines, although we have pot Vines as well, much better crops being obtained from the Vines which have the greater rooting space. The latter have done so well that this season we have three small low pits devoted to planted-out canes. The method of culture pursued is similar to that which is usual with pot Vines, with this exception that the Vines remain in one position from the time they are planted. I make no claim to any credit for this mode of growing the Vine, as my predecessor had adopted it, finding that he could thereby get stronger canes and larger crops, and I merely follow his example, only varying it to the extent of having smaller borders and fewer varieties. The Vines are struck in the month of February, and grown on in pots one season, coming into 8-inch pots by the middle of the month of July, and rested after making their growth. They are cut down at the fall of the leaf to two eyes above the top of the pots (as if cut at starting times they bleed badly), and restarted in January. By the middle of the following month the growth is 2 or 3 inches long; the weakest shoot is then nipped off, and the plants are in a condition to be planted out in the low pits previously alluded to, in a border made inside, which is 2 feet deep and 2 feet wide; some are a little wider where a clear depth of 2 feet of soil cannot be obtained. The planting is done in February, the soil being first made warm, and I should remark that but little manure is used in the soil, which consists of good loam, some mortar rubble and wood-ashes, and if the loam is of poor quality, Thomson's Vine Manure is employed in preference to any animal manure. A solid, short-jointed growth is thus ensured. The soil is made firm all over at planting time, and the house kept close for a time. By midsummer the canes have reached their required length; the lateral growth is stopped at the second joint, and by the early autumn the Vines are in a suitable condition for forcing, having well-ripened stout canes, the pits having been ventilated freely, and artificial warmth afforded to mature the canes. Some may say, why not expedite matters, and plant young Vines which have just been struck from eyes? For this reason: the Vines planted as I advise are much stronger than those would be, and one cannot get too rapid a growth, as the Vines which are to produce ripe fruit in April must be started on November 1, or even earlier, and every opportunity must be taken to ripen the canes as early in the previous season as possible. We have several houses, so that some of them are planted every year, and others are fruiting; by this means there is a constant supply. I have planted as soon as the fruits have been cut, but there is little gained, it being impossible to plant in May and fruit the next; although one may do it by using strong planting canes, but I do not advise it. I should add that we let the Vines carry one crop only, as the utmost is taken out of them. They carry about eight bunches each, and being forced hard, they get exhausted. I have cropped twice and oftener, but the bunches were smaller, and the Vines do not pay so well as young plants. The advantages over pot-culture are—there is less trouble, a greater weight of fruit, and the rods break more evenly. I can always ripen these canes much better than in the case of pot Vines, and there is less trouble in growing them in their earlier stages.

We formerly grew a lot of Vines in pots, but now have only a few, and this for the simple reason that they can be removed from one house to another, and we have at times a demand for fruiting Vines in pots, for the sake of the decorative effect. When the Vines are started it is an easy matter to assist the roots with warm litter, and in some gardens the Vines may be afforded bottom heat by means of hot-water pipes; and the Vine-roots taking up but a small space, other plants can be used to fill up vacant spaces; also warm leaves and litter in which to plunge pots of Figs in front of the Vines, these being removed as soon as the Vines are tied up to the rafters. There is, therefore, no loss of space, as the houses or pits may be used for a variety of purposes when the Vines are growing, if due attention be paid to cleanliness. At the end of the growing or fruiting season the pits come in most usefully for autumn-blooming plants after the Vines are cleared out. In May Tomatos and Melons are grown in them, and some of them are filled with plants till the end of January or planting time. I

should add, that the best varieties for this purpose are the Black Hamburgh and Foster's Seedling; Madresfield Court forces well, but as time is important it is well to plant the best of those which ripen quickly. The last-named and Muscat of Alexandria would do well if time were not an object. *G. Wythes.*

THE ROSARY.

THE RELATION OF STOCK AND SOIL AS REGARDS ROSES.

What is the best stock for Roses? I was asked this question a few days ago, and my querist informed me that the gardening press afforded no certain information. He said that all stocks were spoken highly of by one or another grower, and concluded by declaring it was like the differences between doctors, and difficult to decide. Let me say that from several years' experience, and upon various soils, I have come to the conclusion that it is unwise to use any one stock in preference to another, without having regard to the soil in which the Roses are to grow. We can seldom grow the Briar stock upon a light and sandy soil, nor will the Manetti do satisfactorily on a stiff clayey loam. Now, it is very evident that if we intend working our Roses upon foster roots or stocks, we must pay due regard to the requirements of the latter, for to attempt to grow them on soil unsuited to our stock will not afford satisfaction. If growers would bear this in mind they would have fewer failures, and not be so ready to condemn any stock because it did not succeed with them; nor would they express the same surprise at apparent differences of opinion. I greatly wish that all writers would give the class of soil they find any particular stock to thrive in, when recommending one over another. Too often they simply advise a stock, and say nothing of their soil; consequently, when a reader tries this upon another description of soil, he gets more or less disappointed, and also discredits the practical knowledge of the writer. That more than one stock is good for Roses goes without saying, otherwise we should hardly find such grand stands of blooms both from the Manetti, Briar in various forms, the de la Grifferae, Polyantha, and others. It is quite as much, if not more, a question of soil than of stock, for unless the latter does well, it is utterly impossible for the Rose to derive sufficient support. A little consideration in this direction will save many disappointments, and also check slighting remarks upon the advice of really practical and competent growers, whose only fault was the omission to describe their soil. Look around you, and see where Roses are doing well in the same soil as yours, then plant upon a similar stock, independent of any outside advice. At the same time, note the varieties or sections that thrive best on any one stock if two are being used. Roses are so universally grown that if the tyro would but take this simple precaution, he would find the most reliable guide close to him in nineteen cases out of twenty. *A. P.*

ROYAL BOTANIC GARDEN, EDINBURGH.

Brachyglottis repanda. — The members of this genus of Compositæ are but seldom found in our gardens, and although they cannot be said to possess claim to much beauty from a florist's point of view, yet they are decidedly worthy of a place in collections of greenhouse plants The plant in question is of spreading habit, with large foliage, the under surface of which is covered with silvery pubescence. The inflorescence is a terminal compound panicle, and the flowers resemble those of Senecio, under which they are sometimes placed. They are white in colour with yellow anthers, and possess a powerful fragrance somewhat resembling that of Violets. The plant flowering here is about 3 feet in height; and a well-flowered specimen should be an attractive object. It is a native of New Zealand, introduced about 1830.

Vaccinium erythrinum.—This winter-flowering species is a native of Java, and is of a shrubby habit, with rather dense foliage, which, when young, is of a reddish colour, and as the petioles and younger wood retain this colour for some time, it has always a conspicuous appearance. The flowers are borne in terminal racemes, the corollas are of a deep coral-red, and contain a large quantity of nectar. Its cultivation is fairly easy, a compost of equal portions of peat and loam with firm potting, being essential points. A greenhouse temperature is requisite. The plant now flowering here is about 7 feet in height.

Napoleona cuspidata.—A few flowers of this remarkable plant have already been produced in the Palm-house, where, along with the better-known species N. imperialis, it occupies a light position in one of the beds. N. cuspidata was at first grown under the name of N. imperialis, but when these plants are seen growing together, it is easy to note that it is a distinct species in flowers, foliage, and habit. For a description and figure of both species, I may refer your readers to p. 656 of the twenty-fifth volume of the *Gardeners' Chronicle*, new series, May 22, 1886. They are natives of Calabar, and require a brisk tropical heat, the flowers appearing over a very long period. These are axillary, and Sir W. Hooker, in the *Botanical Magazine*, says regarding them:—"The genus has, since their introduction, attracted the attention of botanists in no ordinary degree, on account of the extraordinary structure of their flowers, and scarcely two of them have described it in the same way." The species under notice has the larger flowers and foliage, but both are deserving of cultivation, not only on account of their peculiarity, but of their beauty, and the length of time during which flowers are produced.

Calliandra hæmatocephala.—This is certainly one of the most showy of our winter-flowering stove-plants, and will, with its numerous inflorescences, which are produced in stalked globose heads, do much to add brightness to the stove at this season. The plant is of a shrubby habit, with dark evergreen leaves, and numerous flowers, which appear mostly near the apex of the branches. The filaments of the numerous stamens are scarlet in colour, capped with dark pin-head-like anthers. The cultivation is extremely easy, and a free use of the pruning-knife is required after flowering, to insure compactness of habit and floriferousness. Plants were received at Kew from the Mauritius in 1857, but it is even now very rarely to be met with. *R. L. Harrow, Royal Botanic Garden, Edinburgh.*

HOME CORRESPONDENCE.

THE COWTHORPE OAK.—I daresay your readers generally regret the absence of any record of the year this venerable tree was planted. As there is no way of ascertaining its exact age, allow me to suggest a method for arriving at an approximation. Supposing the forester in charge knows the number of annular rings per foot in Oaks generally grown in the neighbourhood, of large diameter, then I think the number of circles in such timber might be taken as a criterion of the number in the old tree. Or perhaps, to make the data more reliable, a limb might be cut, so that the rings could be counted. Then all that is required is to make these the multiplier of the annular rings concentrating towards the centre. Thus the circumference of the tree at 3 feet from the ground being 48 feet, i.e., 16 feet in diameter, take the half of this, or 8 feet, as the depth to the centre, and multiply, say 10 by 12, and we have 120 as the number of annular rings in each foot. By then making this the multiplicand of the factor 8, we reach an age of 960 years. Or should we take one-eighth of an inch instead of one-tenth, as the annular growth (although this, considering the compression which takes place as trees mature, appears to be excessive), we have still an age of 742 years. *P. R. L.*

HILL'S "EDEN."—Mr. Douglas (p. 114) is quite right in his surmise that I was not aware of the existence of an edition of Hill's *Eden* dated 1773. It is not mentioned by Pritzel, Dryander, Johnson, Jackson, or any other bibliographical authorities I have consulted. The fact that the Appendix consists of figures of plants first raised at Kew, makes it specially interesting to us, and we should be glad to get a copy for the library. Hill's exact connection with the gardens is uncertain, for although he compiled the first *Hortus Kewensis*, and Thornton styles him the first Superintendent of Kew Gardens, no other evidence of his having held such a post has come under my notice. Doubtless he had close relations with the Earl of Bute, and he may have exercised a kind of honorary superintendence of the gardens, as Banks did at a later period. However, I have not yet had an opportunity of consulting the accounts of his life and works, published in the *Gentleman's Magazine* and elsewhere, which may possibly contain more precise information on this and other points. Mr. Douglas states that the engravings in *Eden* are well executed; yet he repeats some of the extraordinary statements concerning the unprincipled way in which Hill is alleged to have compiled his works. No doubt he wrote much rubbish, and he probably pirated as freely as many of his contemporaries. Certain it is that he was an unpopular man in botanical circles, but many of the unfavourable criticisms of his work seem to have been undeserved, and to have originated in ill-nature and dislike of the man rather than from an impartial examination of his work. The extract Mr. Douglas makes respecting wooden plates from some old *Herbal*, having a branch or leaf cut out to disguise them, is probably unfounded, because, so far as my knowledge goes, he used no woodcut figures. That he quarreled, and got the worst of it, is proved by the following extracts from Johnson's *History of English Gardening*:—"He had a dispute with Garrick, having published a pamphlet in 1759, entitled "To David Garrick, Esq, the petition of I, in behalf of herself and sister," in which he charged that actor with pronouncing many words spelt with I as if the vowel U was made use of. The pamphlet is sunk into oblivion, but the epigram with which Garrick replied to him is one of the best in the English language:—

"If 'tis true, as you say, that I 've injured a letter,
I 'll change my notes soon, and I hope for the better;
May the just rights of letters, as well as of men,
Hereafter be fixed by the tongue and the pen!
Most devoutly I wish that they both have their due,
And that I may never be mistaken for U."

Hill was ambitious of becoming a Fellow of the Royal Society, but was rejected; and he took his revenge in a clever and scathing criticism of some of the papers published by the Society. *W. Botting Hemsley.*

A FINE PINUS EXCELSA.—Seeing some correspondence on the above in the *Gardeners' Chronicle*, p. 114, it may interest you to have the following record of the growth of this species of Conifer in the north of Ireland. In the storm of December 22 last a fine specimen of this Pine was blown down in the grounds of Abbeylands, Whiteabbey, which measured 74 feet in height, and 9 feet 6 inches in circumference at some feet above ground. These details were given me by Mr. Caithness, the gardener at Abbeylands, who planted the tree in October, 1851, when it was only 18 inches high. *J. H. B., Carnmoney.*

THE COLOURING OF APPLES.—I am not a believer in the notion that it is the constituents of the soil which influence the colouring of Apples, and from these the colouring matter is obtained irrespective of the influence of sunlight falling. I do hold the opinion, though, that in conjunction with sun, air, wind and light generally, the constituent properties of the soil have something to do with the colouring process of the fruit. As for the soil being the colouring agent alone, I do not believe it a jot. If this were so, how is it that where Apples are covered with netting as a protection from the birds, the lines of the meshes are so plainly visible upon the fruit? These lines are undoubtedly directly caused by the netting excluding sunlight from those particular parts of the fruit. Cultivators of Apples for exhibition know quite well how to "put on" colour in ordinary seasons, and in localities where the conditions are favourable to high colour. The plan adopted is to keep the fruit covered with leaves as growing until a very short time previous to the show, and then to remove the overhanging leaves all at once, and suddenly expose the fruit to full sunlight. This is the method of many of the leading

hardy-fruit growers, and the results obtained should be sufficient to convince the most sceptical. If the soil were the influencing agent, why does not the fruit colour while overshadowed with leaves? and why does it not colour as it increases in size by the direct and continuous action of the colouring-matter which the soil contains? *E. M.*

—— I venture to differ from Herr Leichtlin in his opinion that "soil has only an influence on the flavour of fruits and not on their colouring," p. 144. The presence of iron in the soil has a great deal to do with it. Apples and Pears grown on the ferruginous soil of Sussex are always remarkable for their high colour and keeping qualities, and these I attribute to the abundance of iron in the soil. Some Pears and Apples are always green when grown on certain soils, and the same varieties are highly coloured in the same season from ferruginous and calcareous formations. No doubt, Herr Leichtlin has correctly described Nature's method of effecting the colouring, but the texture of the skin affected by the soil fits it less or more to take a higher or lower degree of colouring. I have observed that a showery and dewy autumn gives a brighter colour to some kinds of fruit, and that a very hot and dry autumn makes Apples especially assume a bronzy-red or russety appearance; but where all other conditions are equal, Apples and Pears will always put on more colour on soils where iron or lime are present in abundance, than when grown on ground where they are deficient. If your correspondent will lift his trees and replant them in fresh ferruginous loam, I am sure that Worcester Pearmain and the other varieties named will put on colour. I have found soot useful in this way. *W. R., Streatham Hill.*

AMERICAN GRAPES IN ENGLAND.—My experience with these varieties is confined to the Strawberry Grape and Isabella or American Fox Grape. A Vine of the first named occupies a space in each of the early and late vineries here. It is very easy to cultivate, and its large woolly foliage is not attacked by either red-spider or thrips. It is very prolific, for the smallest eye produces a bunch; the bunches are usually small, not much shouldered, and the berries, which set very thickly, are round, and of a sooty blackness; the flesh very pulpy, and with a peculiar flavour, partaking of the Strawberry more than the Grape. Some persons are very fond of them, others say they are foxy. It is not a good keeper, and soon shrivels when thoroughly ripe, and the bunches require a considerable time to ripen. I do not think these American Grapes would prove satisfactory for planting out-of-doors in this country, and I have found them unsaleable in our markets when at their best. The late Mr. J. R. Pearson, Chilwell, Nottingham, some thirty years ago paid great attention to their cultivation, crossing and hybridising them with well-known varieties in almost every possible way. I believe the best of his acquisitions from them was the variety Ferdinand de Lesseps, a cross with Royal Muscadine and the Strawberry, a golden-berried variety, small in bunch and berry, of exquisite flavour, but with more of the Muscadine than the Strawberry, and without the foxy flavour. The plant proved of delicate constitution, and I think it is now nearly lost to cultivation. I may add, that the Strawberry Grape is thought highly of here. *Bailey Wadds, Birdsall.*

—— I am sorry I can throw no light on the subject of Messrs. J. Carter & Co.'s enquiry respecting American Grapes out of doors in this country. Some years since I received cuttings of thirty or forty varieties of American Grape-vines from a correspondent in Florida, with a request to try them in the open air vineyards here. I was successful in striking two or three of each variety, and after growing them in pots for one year they were planted in the vineyard at St. Quentin and Swanbridge, but after five or six years' trial not one of them was found to be suitable for open-air culture in this country, and the limited space at my disposal prevented me from giving them a trial under glass. *A. Pettigrew, Castle Gardens, Cardiff.*

NARCISSUS INCOMPARABILIS (Miller).—In the recent notes which have appeared on this species, no reference has been made to its identification with the "Hornsey Daffodil" of Buddle and Petiver. In Messrs. Trimen & Dyer's *Flora of Middlesex*, p. 276, is the following note:—"N. incomparabilis, Miller. *Cyb. Br.*, ii., 446; iii., 513. *Syme E. B.*, ix., t. 1502. N. pallido-luteus anglicus alter calice magno brevi aureo. I found this (1711) in some orchards and closes adjoining near Hornsey Church; *Budd. Herb.*, cxxiv., fol. 30. We are indebted to Mr. Boswell-Syme for the determination of Buddle's specimen. The plant was figured in *Pet. H. B. Cat.*, lxvii, p. 8, as the 'Hornsey Daffodil;' and this figure has been thought to represent various species, e.g., N. amplus, Salisb.; N. pallidus, St.; N. lætus, &c. This old garden flower has been found semi-wild in many other places in England." It is only necessary to explain that the references here are to Hewett Watson's *Cybele Britannica*, where, of course, the species is not treated as indigenous; to Syme's *English Botany*, where it is figured; to the herbarium of Rev. Adam Buddle, the contemporary and friend of Ray, Petiver, and Dale, which herbarium now forms part of that of Sloane at the Natural History Museum; and to James Petiver's *Herbarii Britannici Clariss. D. Raii Catalogus*, *London*, 1713—15. *G. S. Boulger.*

GRAFTED CHRYSANTHEMUMS.—As the growing season is again close upon us, I wish to relate my experience in the matter of grafted Chrysanthemums. Having long cultivated these plants in the south of England, I found that some varieties required on the north-east coast a treatment that differed from what I had been accustomed to afford them. As an experiment, I grafted the variety Princess Teck and her sports on to stronger and earlier varieties, viz., Prince Alfred, John Lambert, Alfred Salter, &c. The varieties worked were as follows:

Scion.	Stock.	Date.
Charles Gibson ...	Emily Dale	March 6.
Princess Teck... ...	Prince Alfred ...	March 6.
Mrs. N. Davis... ...	John Lambert ...	March 6.
Hero of S. Newington	Alfred Sutton ...	March 6.

I also employed several other varieties as stocks. Now, there is nothing new in grafting the Chrysanthemum, and my object was to try to obtain late-flowering varieties in time to exhibit them together with earlier ones at our local flower-shows. The results were, so far, satisfactory, but they would have been better had the stocks been rather stronger, or earlier propagated, the cutting back of the stock being a great check to cuttings that are late struck. In proof of the success of my operations, it may be mentioned that at the autumn Lincoln Chrysanthemum exhibition my blooms were 1st in a class for six incurved varieties, the lot containing three blooms of Princess Teck and sports from her, these being from grafted plants. The method pursued is simply to head back some strong cuttings struck in the early winter, and put the scions on these stocks by ordinary cleft grafting, keeping them close under hand-glasses till a union took place. The hand-glasses were kept in the house in which the bulk of cuttings were rooted, in a temperature ranging from 45° to 55°. *R. Watson, Elkington Hall Gardens, Louth.*

A LILY EXHIBITION.—At last I am gratified by seeing a chance for the Lily; we have Rose shows, Chrysanthemum shows, Carnation shows, &c., and now at last there is to be a Lily show. All honour to the Royal Botanic Society of Manchester for being the first in this respect, as I see by a notice in your pp. 110, 111; and I hope all Lily growers and Lily lovers will strive to make this, the first Lily show ever held, of such interest that no future year will go by without giving due honour to the Lily, my especial favourite among the flowers. *Alex. Wallace.*

THE LATE WILLIAM THOMSON, OF CLOVENFORDS.—"Howl, Fir tree, for the Cedar is fallen." During the last thirty years it was my privilege, on many occasions, to come in contact with the above-named gentleman, whose loss the horticultural world is now deploring. In many respects our departed friend occupied the "pride of place" as a gardener, and on this ground I think that some effort should be made to perpetuate his memory. Another (and perhaps a more important reason) why I think this suggestion should be carried out is in consequence of those higher qualities which our departed friend possessed in an eminent degree. No one could be in the company of William Thomson for any length of time without coming to the conclusion that he was a man of integrity and uprightness; there was a tone, an atmosphere, if I may use the figure, which one inhaled, and so became the better and the stronger. On several occasions I was struck with his conduct to those under him. He beheld them as fellow creatures, and knew that they had as much right to happiness as himself. Disdainful looks, proud, snappish, severe speech which some can make use of upon any supposed offence, were seldom seen or heard from him. From the best of principles, therefore, his servants were bound to serve him. I sincerely trust that some one more capable than myself will take this matter up; if so, I will do all in my power to assist. *Bruce Findlay, Manchester.*

THE WEATHER IN WEST CHESHIRE.—It is worth recording that in the Daily Weather Report of the Meteorological Office for January 31, the highest recorded temperatures in Europe were, at Leith, 41° and Bodo (within the Arctic circle), 40°. Lisbon came next with 38°. In West Cheshire, the weather has been on several occasions colder than at any of the recorded British stations. The minima here taken from a self-registering thermometer exposed to the air at 4 feet from the ground have been January 9, 10°; January 10, 11°; January 26 to 31, 14°, 12°, 12°, 18°, 5°, 6°. It is probably more than thirty years since there has been so low a temperature on six consecutive nights. Several other minima were below 20°. Luckily, the coldest nights have been calm, so that the damage to shrubs has been far less than if the frost had been accompanied by high wind. Choisya ternata, and the hybrid Cistus known as C. cyprius, seem at present uninjured. The flower borders are well protected by 6 inches of snow. *C. Wolley Dod, Edge Hall, Malpas.*

SOCIETY.

BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

January 28.—At the fortnightly meeting of this society, held at the Athletic Institute, Mr. A. W. Wills, F.C.S. (the President), delivered a lecture on "Welcome and Unwelcome Guests." Mr. Wills said he wished to draw attention to the manner in which the structure and disposition of other parts of a plant are arranged for the protection of its flowers, and in which the structure of the flowers themselves conduces to the encouragement of the visits of creatures whose access is desirable, and to the discouragement of those whose access is disadvantageous. the lecturer's remarks, as he himself desired to be intimate, being chiefly based upon a charming book by Dr. Kerner, Professor of Botany at Innsbruck, entitled *Flowers, and their Unbidden Guests.* Mr. Wills designated as "unwelcome" guests such insects or other creatures as would attack the flower itself, or abstract its nectar without assisting fertilisation; and "welcome" guests those that assist fertilisation. Of these, wingless and crawling creatures are specially disadvantageous, because in passing from flower to flower they would generally steal the nectar which is at once the inducement to and the reward of those winged insects which are chiefly concerned in the processes of fertilisation, and would remove the pollen without transferring it to the stigma; and also because they are rovers, not confining their visits to one species at a time. Of all these wingless creatures, perhaps ants are the worst and most dangerous enemies. Mention was also made of the almost innumerable protective appliances corresponding to the endless variety of possible visitors, great or small, soft or hard, winged or wingless; also that often one flower is guarded by several distinct means, which fall into definite types of defence, either direct or indirect in their action, such as hairs, prickles, and viscid secretions. Special reference was made to water as an impediment to the access of insects and creeping creatures to some flowers, as in some of the Bromeliaceæ, Dipsacus, the alpine Gentians, &c.; whilst plants which grow in water, such as Water Lilies, Sagittaria, Alisma, &c., are absolutely protected, and for this reason the stems of all these are free from hairs, bristles, or opposing processes of any kind. In connection with this matter, it was pointed out as a remarkable fact, that at least one water-plant, the common Polygonum amphibium, which, as its name implies, continues to live when the water is drained from around it, adapts itself to its new environment by developing, as soon as the necessity of protection has arisen, innumerable glandular hairs on leaves and stem, from which a sticky substance is exuded, upon which if a creeping insect steps, he is at once effectually fixed. This plant

will flourish for years on dried-up ground, but if this becomes again flooded, the glandular hairs at once disappear, being no longer of use to the plant, and by alternate floodings and drying-up, the two conditions of stem and leaves may be reproduced in turn over and over again on the same plant. This mode of protection is especially frequent, and is an excellent defence to the nectar; the viscid matter being secreted either from the ordinary cells of the stem, or from glandular hairs. Conspicuous examples are afforded by the extensive order, Caryophyllaceæ, e.g., Silene muscipula, Silene viscosa, Holosteum glutinosum, &c, the inflorescence of Lychnis viscaria being especially provided with viscuous matter, thereby affording a most efficient death-trap to insects. Again, in Pinguicula (Butter-nut), and in some of the Primulaceæ, there are radical rosettes of leaves, spread out on the ground, coated over with tenacious viscid slime, secreted by small glandular hairs, of which 2500 are crowded into each square inch in some species. No small animal which ever comes into contact with this ever escapes alive, but its body is dissolved by the secretions, and the dissolved nitrogenous constituents digested by the plants. Many plants which secrete a milky juice are protected by this secretion, e.g., several species of Lactuca, for ants and other small creatures having their feet terminating in sharp hooks, lacerate the tissues, producing a flow of juice, and if in their efforts to extricate themselves they struggle and bite, their position becomes worse every moment, and as the viscuous secretion is more and more effectually exposed to the air, so it hardens the more rapidly, until their movements become weaker and weaker, and they die.

Regarding flowers which possess hairs or prickles in their interior, and which act as barriers to some insects, and to some, such as bees and the larger flies, as path-finders, the lecturer said that in some of the labiates, and in the genus Cypripedium, there is a special contrivance; and this arrangement seems not to have been noticed by Dr. Kerner. Having adverted at considerable length to the conformation of certain flowers and their nectary organisation, and especially of that remarkably long caudate nectar-containing appendage of the beautiful Orchid Angræcum sesquipedale, which can be only reached by the equally long proboscis of certain moths, natives of this Orchid's habitat in Madagascar; reference was made to day-closing and night-closing flowers, in association with day-flying and night-flying insects; also to the odours and colours of flowers which serve as attractions to invited guests.

The lecture throughout was listened to with rapt attention, and it was rendered further instructive by the display of a series of large pencil drawings, beautifully executed for the occasion by Mr. Wills himself. At the close of the lecture, Mr. W. Gardiner drew attention to such plants as the Ivy and Aucuba, the flowers of which are mainly fertilised by the agency of insects.

Obituary.

Mr. M. T. Broomhead.—We regret to record the death of Mr. M. T. Broomhead, one of the office staff at 171, Fleet Street, E.C., on Thursday, January 31, at the age of forty-eight years. He had for a long period been editor of a journal entitled *Poultry*.

Variorum.

Fruit-Growing Trial.—A curious experiment in fruit growing is being tried in the United States, says the *Manchester Courier*, which may be valuable if it proves successful. Its originator is a professor at a New England agricultural college, where gardening forms a branch of the instruction. He found young Peach trees peculiarly liable to be killed by frost, nor were any of the ordinary remedies, such as matting and screens, of much avail. Accordingly he conceived the idea of bending them down and covering them with a thin layer of earth. A beginning has been made with some young standards which had been carefully planted, and their roots widely spread. Several hundreds were covered with earth in about four hours, at the cost of about one cent apiece. The upshot remains to be seen, but the Professor calculates that two years' burial should suffice to render the trees strong enough to stand the rigours of an American winter. Unfortunately Nature sometimes disarranges the calculations of professors.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending February 2.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	10 —	0	90	— 36	+ 174	8 —	25	4·0	24	17
1	10 —	0	102	— 39	+ 213	2 —	22	3·2	13	17
2	8 —	0	81	— 38	+ 144	3 +	20	4·7	13	18
3	12 —	0	106	— 37	+ 128	1 —	26	3·5	18	16
4	12 —	0	109	— 46	+ 153	1 —	21	3·5	19	19
5	12 —	0	100	— 46	+ 135	4 —	22	2·9	21	22
6	10 —	0	87	— 48	+ 174	11 —	20	1·9	28	28
7	10 —	0	81	— 41	+ 131	4 —	24	3·0	22	22
8	13 —	0	93	— 61	+ 148	5 —	25	4·6	32	29
9	8 —	0	67	— 69	+ 133	4 —	24	3·1	34	22
10	9 —	0	87	— 99	+ 100	7 —	24	4·5	33	25
*	10 —	0	83	— 57	+ 74	2 —	20	4·5	43	31

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending February 2, is furnished from the Meteorological Office:—

"The *weather* continued very unsettled and wintry in all parts of our Islands; considerable quantities of snow occurred in 'England, N.E.,' but elsewhere, the falls, although frequent, were generally slight.

"The *temperature* was greatly below the mean, the deficit ranging from 5° in 'Ireland, N. and England, N.E.,' to 12° over 'England, E., S., and central,' and to 13° in 'England, S.W.' The highest of the maxima, which were registered during the earlier part of the week in 'Ireland,' and towards its close over 'Great Britain,' ranged from 49° in 'Ireland, N. and the Channel Islands,' to 36° in 'England, S.' The absolute minima were extremely low generally, and were recorded at most stations either on the 28th or 29th. In 'England, S.W. (at Llandovery), the thermometer in the screen fell to —2°, in 'Scotland, E.' (at Braemar) to 1°, and in 'England, E.' (at Hillington) to 2°. Elsewhere the minima varied from 5° in 'Scotland, N.,' and 9° in the 'Midland Counties,' to 15° in 'Ireland, S.,' and to 22° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in 'England, N.E.,' but was less in all other districts; the deficit being large in 'Scotland, N. and W. and in Ireland, S.'

"The *bright sunshine* did not differ materially from the mean in the 'Wheat-producing' districts, but exceeded it in the 'Grazing' districts and in 'Scotland, N.' The percentage of the possible duration ranged from between 13 and 21 in the eastern and south-eastern districts, to 34 in 'Ireland, N.,' and to 42 in the 'Channel Islands.'"

Markets.

COVENT GARDEN, February 7.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	5 0	6 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches ...	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun. ...	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	5 0	6 0
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	6 0
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	7 6
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ficus elastica, each	1 0	7 6
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	10 0	18 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	4 0	6 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, per lb. ...	1 0	1 6
Cauliflowers, per dozen	2 0	3 0
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb.	1 3	1 6
Onions, per bush. ...	2 0	2 6
Potatos, Channel Islands, per lb. ...	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 6
Seakale, p. punnet	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

Potatos.

The continuance of severe weather keeps the trade exceedingly short of supply, and very high prices are being made. Best Samples, 120*s.* to 140*s.*; Ordinary, 85*s.* to 100*s.*

New Potatos.

Trade at present not developed. Plenty of Canary growth are ready to come forward directly there is an opening. *J. B. Thomas.*

FRUITS AND VEGETABLES.

Borough: *February* 5.—Quotations:—Savoys, 2*s.* 6*d.* to 5*s.* per tally; Cauliflowers, 2*s.* to 2*s.* 6*d.* per dozen; Sprouts, 1*s.* to 1*s.* 6*d.* per half-sieve; Carrots, 1*s.* 6*d.*; Turnips, 1*s* 6*d.* per bag, and 1*s.* 6*d.* to 2*s.* per dozen bunches; Parsnips, 8*d.* to 10*d.* per score, and 2*s.* per bag; Celery, 6*s.* to 12*s.*; Rhubarb, 1*s.* 6*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.; do., foreign, 1*s.* 6*d.* to 2*s.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 13*s.* to 18*s.* and other sorts, 8*s.* to 10*s.* per barrel.

Stratford: *February* 5.—The supply to this market during the past week has been good; and, with plenty of buyers, a brisk trade was done at the undermentioned prices:—Brussels Sprouts, 1*s.* to 1*s.* 6*d.* per half-sieve; ditto, 2*s.* to 2*s.* 6*d.* per bushel; Savoys, 2*s.* to 5*s.* per tally; Greens, 1*s.* 9*d.* to 2*s.* 6*d.* per loose; do., 3*s.* to 4*s.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen; ditto, 7*s.* to 12*s.* per tally; Celery, 6*d.* to 1*s.* per roll; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Parsley, 2*s.* to 2*s.* 6*d.* per flat; Turnips, 2*s.* to 3*s.* 6*d.* per dozen bunches; ditto, 40*s.* to 50*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* per ton; do., cattle-feeding, 15*s.* to 20*s.* per ton; Parsnips, 6*d.* to 9*d.* per score; Mangolds, 12*s.* to 14*s.* per ton; Swedes, 12*s.* to 20*s.* per ton; Onions, English, 80*s.* to 100*s.* per ton; do., Dutch, 2*s.* to 2*s.* 9*d.* per bag; do., German, 4*s.* to 4*s.* 3*d.* per bag; Apples, English, 2*s.* 6*d.* to 6*s.* per bushel; do., American, 15*s.* to 20*s.* per barrel.

FARRINGDON: *February 7.*—Quotations:—Savoys, 3*s.* 6*d.* per tally; Sprouts, 1*s.* 6*d.* per half sieve; Rhubarb, 1*s.* 6*d.* to 1*s.* 9*d.* per dozen bunches; Carrots, 4*s.* per dozen bunches; Turnips, 3*s.* per dozen bunches; Parsnips, 2*s.* 6*d.* per cwt.; Seakale, 1*s.* 3*d.* per punnet; Curly Kale, 1*s.* 6*d.* per bag; Grapes, best English black, 1*s.* 3*d.* per pound; Apples, Nova Scotia Baldwins, 12*s.* to 18*s.* per barrel; Greenings, 15*s.* to 20*s* per barrel.

SEEDS.

LONDON: *February* 6.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended, with but little business doing. The majority of country buyers, on account of the continued severe weather, are postponing their purchases. Meantime, holders ask former rates for Clover-seeds, grasses, and Tares. Haricot Beans are in improved request at the recent advance. Lower prices are now accepted for Blue Peas than have ever before been known. Canary-seed is steady at the late decline. Rape-seed keeps firm. There is no change in Mustard. Linseed strong.

POTATOS.

BOROUGH: *February* 5.—Quotations ranged from 70*s.* to 110*s.* per ton.

STRATFORD: *February* 5.—Quotations:—Dark soil Magnums, 75*s.* to 80*s.*; light do., 75*s.* to 90*s.*; light soil Bruces, 80*s.* to 90*s.*; Main Crop Kidneys, 80*s.* to 95*s.*; Sutton's Abundance, 80*s.* to 100*s*; Scotch Magnums, 80*s.* to 90*s.*; do., Bruces, 85*s.* to 95*s.*; do., Main Crop Kidneys, 90*s.* to 105*s.* per ton.

FARRINGDON: *February* 7.—Quotations:—Main Crop, 100*s.* to 114*s.*; Sutton's Abundance, 90*s.* to 110*s.*; Colossals, 90*s.* to 100*s.*; Reading Giant, 90*s.* to 100*s.*; Magnums, 80*s.* to 90*s.*; Bruces, 80*s.* to 90*s.* per ton.

LONDON AVERAGES: *February* 6.—Main Crop, 90*s.* to 125*s.*; Snowdrops, 90*s.* to 110*s.*; Hebrons, 90*s.* to 110*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Magnums, 75*s.* to 100*s.*; Kidneys, 60*s.* to 70*s*; Blacklands, 75*s.* to 90*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending February 2, and for the corresponding period in 1894:—1895: Wheat, 20*s.* 6*d.*; Barley, 21*s.* 5*d.*; Oats, 15*s.* 10*d.* 1894: Wheat, 25*s.* 7*d.*; Barley, 28*s.* 11*d.*; Oats, 18*s.* 1*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, best, 76*s.* to 115*s.*; do., inferior, 46*s.* to 90*s.*; hay, best, 60*s.* to 89*s.*; inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 100*s*; and straw, 20*s.* to 36*s.* per load.

VEGETABLES.

POTATO SUTTON'S SUPREME.

THIS variety has proved with me the best cropping Potato for the past two years, and it possesses the merit of good flavour when cooked. I obtained it when first sent out; and in the dry summer of 1893, from 7 lb. of sets I lifted 120 lb. of tubers. Last summer I planted half a bushel of sets, and dug four sackfuls of tubers. The entire produce is fit for table, which cannot be said of that other valuable Potato Magnum Bonum. I had always relied on the latter variety as my main crop; but I intend planting Supreme largely in the future. The haulm is subject to disease, but the tubers, like those of Magnum Bonum, are but little affected by it. *W. J. Grace, Bickton, Fordingbridge.*

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

ACTINIDIA POLYGAMA.—I have had a plant of this here (Perthshire) for five or six years against a west wall, but it has never fruited or even borne flowers. What has been the experience of others? *Munchee.*

Answers to Correspondents.

**** Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

**** PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BEAN LEAF: *X.* The spots might be caused by anything which would check root-action while they were being forced; or by hot steam or direct dry heat from the pipes.

BOOKS: *Physiology of Plants. J. J.* We do not know the price of the book, the publishers would inform you of that. Address Messrs. Longmans, Green & Co., Publishers, Paternoster Row, London, E.C.—*Discipulus. The Orchid Growers' Manual*, by B. S. Williams, 7th ed. Published at Victoria and Paradise Nurseries, Upper Holloway, London, N.

BROCCOLI AND CAULIFLOWER: *A. P. C.* They are both cultivated varieties of the wild Cabbage (Brassica oleracea). Broccoli has a longer season of growth, and the plants differ in appearance from those of Cauliflowers, the leaves being more numerous, narrower, and stiffer; and the leaf-veining stouter and whiter. The seed of both is identical in size and colour.

CANDIDATE FOR A SITUATION ON A TEA PLANTATION: *M. D.* A Tea plantation is as much a private venture as a market garden in this country. There is no limit of age, but it is not likely that any person over forty years of age would be engaged by the manager of a plantation. A gardener with a fair education stands a good chance of obtaining a post. The engagement is usually for a term of years, passage usually being paid. Salaries range from £150 to £500 per annum. You should be able to get the *Planters' Gazette* from a newsagent. It is published in London by Mr. Keppel Jones, 32, Fenchurch Street, E.C.

CARNATION FUNGUS: *J. F.* Your Carnations are attacked by a fungus called Helminthosporium echinulatum. This fungus vegetates between the two membranes of the leaf, and no manner of sulphuring is any use. Burn all leaves affected.

CATTLEYAS IN BAD HEALTH: *H. M.* Take them out of the compost, cut away all decayed parts, dusting the wounded surfaces with charcoal, and treat them in the manner described at p. 106 of our issue of January 26 last, for newly-imported Orchids.

CHALK AND ANTHRACITE COAL: *W. P.* We are unable to understand what damage could accrue to the boiler by the burning of this mixture. Combustion would be assisted by having a pan of water fixed a few inches below the fire bars.

CORRECTION: *Seed-growing Industry in Germany* in our last issue. Mr. Ernest Larsson desires to say that "the figures given in reference to Sugar-beets, Cabbages, &c., in the paragraph commencing 'The following figures give some idea of the extent in hectares, &c.,' apply only to Messrs. Dippe Bros., and not to the whole town of Quedlinburg.

DISBUDDING CHRYSANTHEMUMS: *R. H. S.* The so-called crown-bud is the terminal bud of a shoot formed after the plant has been "stopped." This crown-bud is reserved in some cases as likely to give the best flowers, and all the others are removed. In other cases the crown-bud is removed at an early stage; the result is the production of a number of side-shoots, which in their turn produce a crown of buds at the top, the central and largest of which is called the "terminal bud," and is selected to produce the flower, all the others being removed. It would be better to call the crown-bud the primary crown-bud, and the others the secondary crown-buds, as then no confusion could arise.

FREESIAS: *F. B.* The bulbs were most likely neglected after forcing, and before they came into your hands.

LAND TAKEN FOR ALLOTMENTS: *J. K.* If the purchaser does not take to the nurseryman's way-going stock, it is customary for the latter to have a fixed term, either six or twelve months, according to the time of year when the purchase is effected, in which to clear the land. You would do wisely to consult a solicitor.

NAMES OF PLANTS: *L. M., Erfurt.* Probably Asparagus falcatus, a fine form of which is figured as A. æthiopicus var. ternifolius in *Saunders' Refugium* and in the *Gardeners' Chronicle*, 1872, p. 1588.—*Hugh Dixon, Sydney.* Dendrobium Fairfaxii, Rolfe, in *Gardeners' Chronicle*, 1889, vol. i., p. 798.—*H. Garnet.* Oncidium luridum.—*J. M.* The Phaius is a good form of P. grandifolius; the other is Catasetum Christyanum. The double-flowered Odontoglossum is very singular.—*A. F.* 1, Begonia metallica; 2, Alonsoa incisa; 3, Iresine Herbstii; 4, if dwarf, is Alternanthera amœna; 5, Cineraria maritima; 6, specimen insufficient; 7, Coronilla glauca.—*F. W., Lichfield.* 1, Apple next week; 2, Pandanus utilis var.; 3, Nephrolepis exaltata; 4, Adiantum Waltonii; 5, Croton angustifolium aureum maculatum; 6, Adiantum pubescens.—*T. C., North Hill.* Your Pumpkin is a variety of Cucurbita maxima.—*A. B.* The Odontoglossum, with white flower spotted red, is O. Andersonianum; the yellow one is a very unusual form of the same. Both would come under O. lanceans, Rchb. f.—*J. S., Worthing.* The Dendrobium nobile Wallichianum is the best in colour which we have seen; the other is D. × Ainsworthii. The two Cypripediums, very fine forms of C. × Leeanum.

ODONTOGLOSSUMS INJURED: *E. J. T.* The injury to the Odontoglossum is evidently caused by frost. The temperature must have fallen lower than you think. It will not injure the plants much.

ORCHIDS DISEASED: *M. L. S.* The results of either an unsuitable house, or improper culture, we are not sure which is the cause.

SPELLING OF TRIANÆ: *W. D.* The latest and best authority adds a final *i*; we must, therefore, assume that that is the more correct way of spelling the word. Hitherto, writers on Cattleyas have mostly omitted this letter.

VINE ROOTS: *J. F. M.* The appearance of the roots point to a soil which has been in a bad condition for some long time. The Vines will do no more good in it, and you should make a new border at once, replanting the Vines, if they are not too old, or planting strong new canes, which would doubtless be the better plan. By growing Vines in pots between these, there is no need to lose a season.

VINES: *Saxoning.* You may move the Vines, providing you do not intend to force at once those in the house to which they are to be removed. Under such circumstances it would be better policy to postpone the operation until the autumn, as it is unwise to apply heat immediately to Vines that have been lifted. Your treatment of the border is correct.

COMMUNICATIONS RECEIVED.—W. Hadfield.—Ed. Webb & Sons.—Joyes, London.—H. H. D'Ombrain.—A. F. U.—P. W.—J. P.—A. K.—A. C. F.—R. D.—H. C. P.—E. M.—D. D.—A. D. W.—G. W. E.—H. J. C.—W. J. C.—J. D.—J. A.—W. S.—W. J. Williams.—W. C. & Sons.—J. Maeers.—J. B. Davy.—M. T. M.—W. J. W.—S. C.—E. J.—A. Balleine.

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IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

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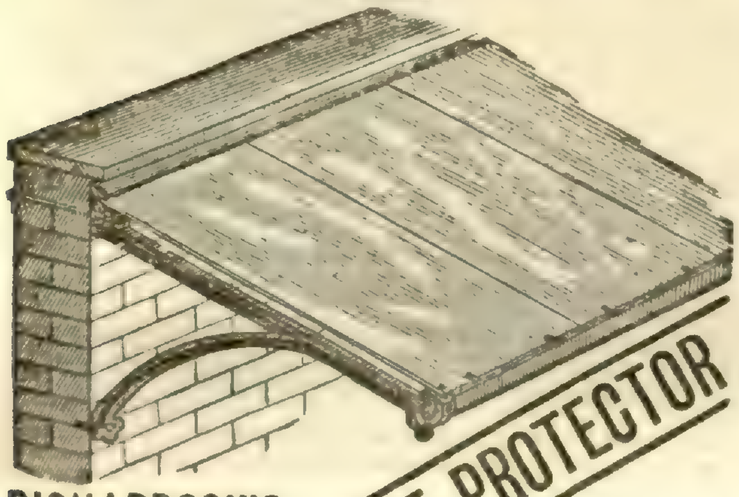

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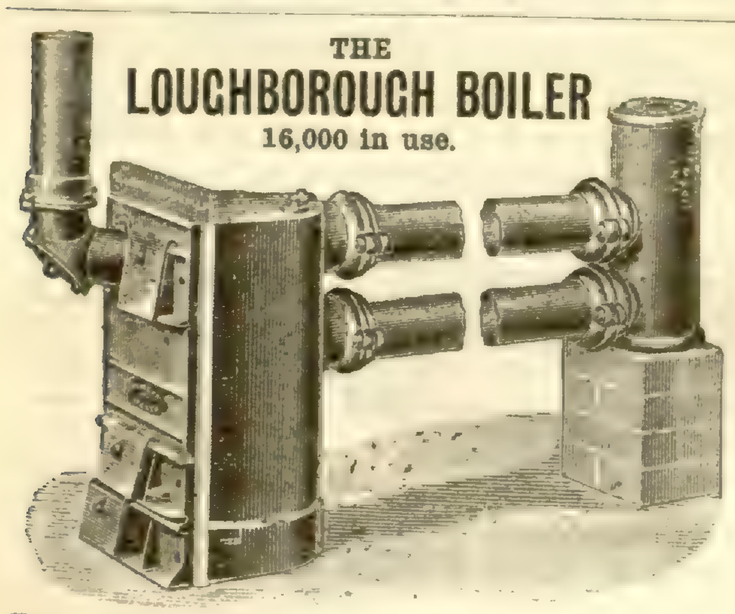

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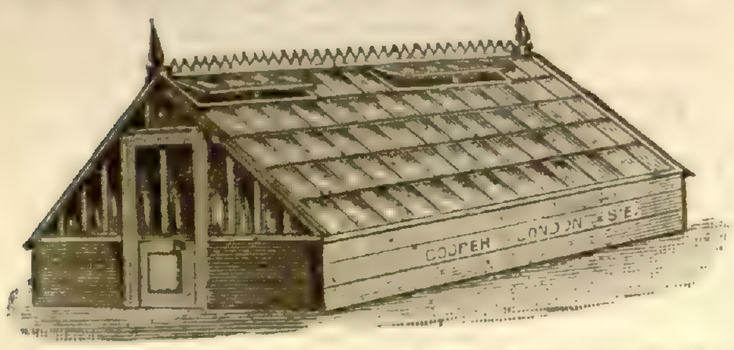

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15 to 17	12ft.	8ft.	5 10 0
18 to 19	15ft.	10ft.	7 15 0
20 to 24	20ft.	10ft.	10 15 0
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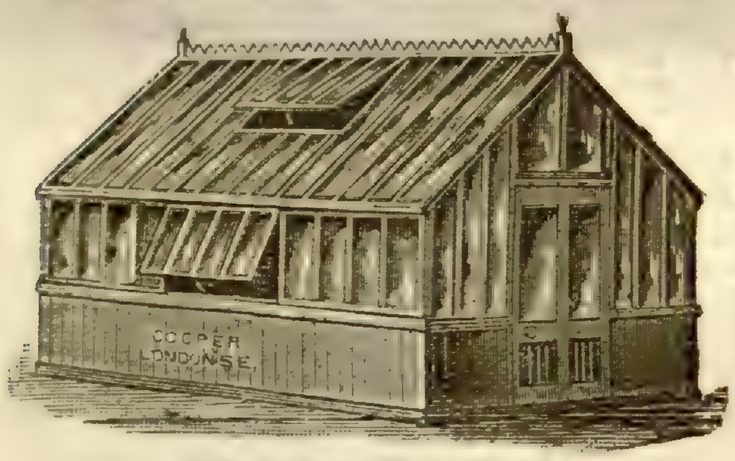

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42 to 44	15ft.	10ft.	8 10 0
45 to 46	20ft.	10ft.	12 0 0
47 to 48	25ft.	10ft.	17 0 0
49	50ft.	10ft.	30 0 0
50	100ft.	10 ft.	50 0 0
51 to 52	30ft.	10.t.	20 0 0
	Lean-to		
53 to 55	7ft.	5ft.	2 8 0
56 to 57	9ft.	6ft.	3 10 0
58	12ft.	8ft.	5 10 0
59	15ft.	10ft.	8 0 0
60 to 61	20ft.	10ft.	11 10 0
62	25ft.	10ft.	16 10 0
63	50ft.	10ft.	28 0 0

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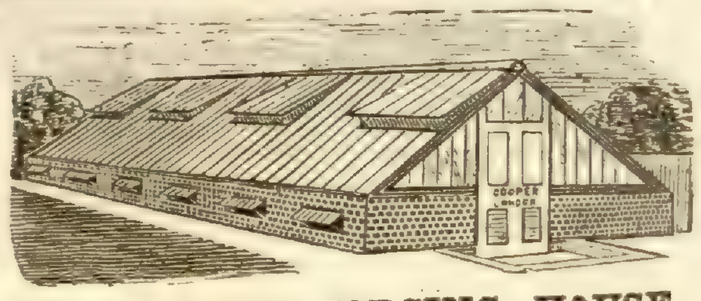

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84 to 87	20 by 9	£9 0 0
88 to 89	20 by 12	11 0 0
90 to 92	20 by 14	14 0 0
93 to 94	40 by 9	17 0 0
95	40 by 12	21 0 0
96 to 97	40 by 14	25 0 0
98	100 by 9	40 0 0
99	100 by 12	48 0 0
100	100 by 14	55 0 0
	Lean-to.	
101 to 103	20 by 9	7 10 0
104 to 105	20 by 12	9 10 0
106 to 107	20 by 14	12 10 0
108	40 by 9	14 0 0
109	40 by 12	18 0 0
110 to 111	40 by 14	21 10 0
112	100 by 9	33 0 0
113	100 by 12	40 0 0
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139 to 141	20ft.	9 t.	16 16 0
143 to 143	25ft.	9ft.	21 0 0
144	50ft.	9ft.	40 0 0

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157 to 158	2	2 5
159 to 160	3	3 5
161 to 163	4	3 10
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198 to 199	16 in. by 16 in.	9 0 "
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203 to 204	20 in. by 20 in.	11 0 "
205	22 in. by 22 in.	12 0 "
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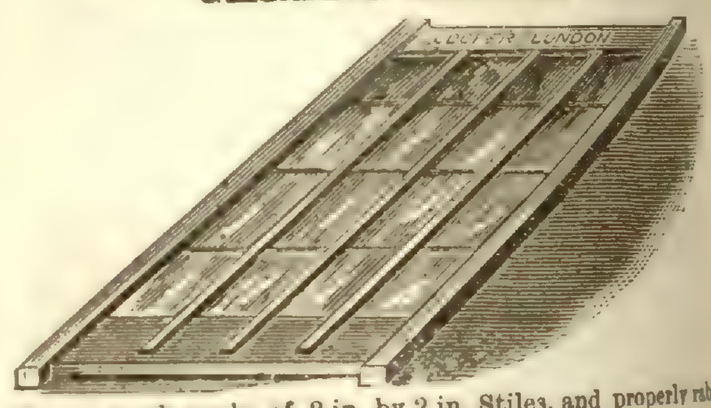
LOT 166 — Handsome Portable Lantern Roof Conservatory, everything complete, 18 ft. by 9 ft., with 3 ft. pits each side. This house was made for exhibition purposes, and is now erected in our Show Ground. £65

GARDEN LIGHTS.



Frame work made of 2 in. by 2 in. Stiles, and properly rabbetted for the glass, with good 2 in. sash-bars. The Glazed Lights are nailed and bedded in good oiled putty.

Lot.	Usual Price.
167 to 173.—3 ft. by 2 ft., Painted and Glazed	5/-
174 to 176.—4 ft. by 3 ft., Painted and Glazed, with 21 oz.	7/6
177 to 180.—6 ft. by 3 ft. 8½ in., Painted and Glazed with 21 oz.	1 /6
181 to 186.—Good sound light, 6 ft. by 3 ft. 9 in., Glazed, 21 oz., nearly new, Stiles 2½ ft. by 1¾ ft.	10/-
187 to 189.—Unglazed Lights, 6 ft. by 3 ft. 8½ in.; Stiles, 2 in. by 2 in.	4/-

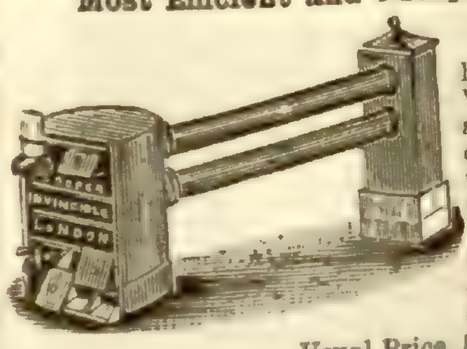
Lot 190. ODD UNGLAZED LIGHTS.

Ft.	In.		Ft.	In.		Ft.	In.
1	4	0 by	3	0	1	6	8½ by 3 0
1	4	0 by	4	9	1	4	10 by 3 8½
1	4	0 by	4	0	2	6	0 by 2 3
1	6	9 by	3	0	2	5	0 by 2 3
2	3	3 by	5	0	1	5	6 by 4 3
1	3	2 by	3	6½	7	2	0 by 5 6
1	3	3½ by	6	0	1	4	1 by 3 8
1	5	0 by	5	6	2	2	0 by 3 10
1	4	0 by	6	0	1	3	0 by 3 2
1	6	8½ by	3	5	1	3	8 by 2 0

32 in all.—Usual Price, £8.

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.

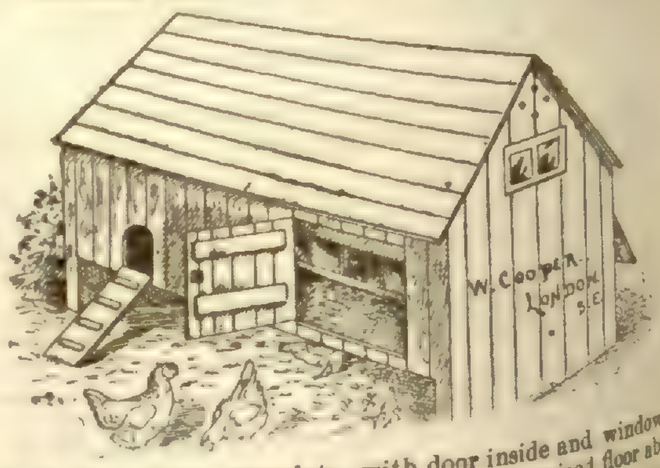


Requires no sunk stoke-hole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Any-one can fix it. A child can stoke it. Success guaranteed. No. 1 Boilers only, capable of heating 75 ft. 4-in. piping.

Usual Price, 55s.

Estimates for Complete Apparatus Free on Application.

SPAN-ROOF POULTRY HOUSES.



Made in sections, complete, with door inside and window at end, a flap, a back for access to nest-boxes, a raised floor about 2 ft. from ground so as to form dry run underneath; nest, perch, ladder, &c.; painted one coat outside.

Lot.	Length.	Width.	Height of Ridge.	Usual Price.
218 to 222	4 ft.	4 ft.	6 ft.	£1 10 0
223 to 225	4 ft.	4 ft.	6 ft.	1 13 0
226 to 227	6 ft.	4 ft.	6 ft.	1 18 0
228 to 230	7 ft.	5 ft.	6 ft. 6 in.	2 5 0
231 to 232	8 ft.	6 ft.	7 ft.	3 0 0

(CONTINUED ON NEXT PAGE)

W. COOPER'S SALE BY TENDER—(*continued*).

MOVABLE POULTRY HOUSES.

(SPAN ROOF.)

These houses are pretty in appearance. They are substantially constructed in sections.

Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
207 to 211	5 ft.	4 ft.	6 ft.	3 ft. 6 in.	£1 5 0
212 to 214	6 ft.	4 ft.	6 ft.	3 ft. 9 in.	1 10 0
215 to 216	7 ft.	5 ft.	6 ft. 6 in.	4 ft.	1 16 0
217	9 ft.	6 ft.	7 ft.	4 ft. 3 in.	2 2 0

SPAN-ROOF IMPROVED POULTRY HOUSE.

These houses are very roomy and well ventilated, and are specially constructed so that they may be easily taken to pieces or erected.

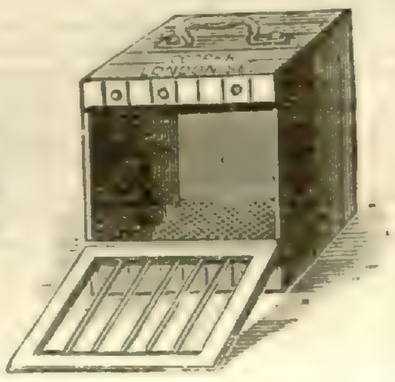
Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
233 to 235	5 ft.	4 ft.	8 ft.	5 ft. 6 in.	45*s.*
236 to 237	6 ft.	4 ft.	8 ft.	5 ft. 9 in.	50*s.*
238 to 239	7 ft.	5 ft.	8 ft. 6 in.	6 ft.	55*s.*
240	9 ft.	6 ft.	9 ft.	6 ft. 3 in.	63*s.*

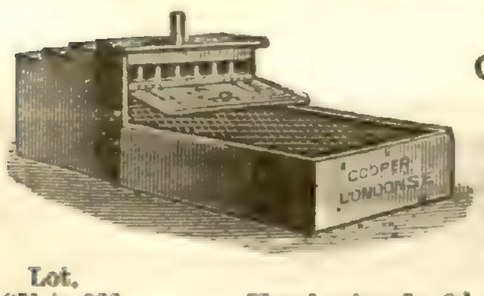
NEST BOXES.

Lots 241 to 250.

This is a popular method of sitting hens, and should be universally adopted.

Usual price, 4*s.* each.





SAFETY CHICKEN COOP

These Coops are constructed upon the most improved principles, and are very neat in appearance.

Lot.
251 to 266 Usual price, 5*s.* 6*d.* each.
267 to 282 3 ft. movable wire run, usual price, 4*s.* each extra.

Roofing Felt.

Lot. Patent Asphaltic Rolls 25 yards, 32 in. wide.
283 to 296 Usual price 4*s.* 6*d.* per Roll.
297 to 310 Better quality, 5*s.* ,,

Lot 311. **Galvanised Corrugated Iron Roofing.**
Best Quality. Perfect Sheets, 27 in. wide: Usual Price, 3 ft. long, 1*s.* 1*d.*; 4 ft. long, 1*s.* 5*d.*; 5 ft. long, 1*s.* 8*d.*; 6 ft. long, 1*s.* 11*d.*; 7 ft. long, 2*s.* 2*d.*; 8 ft. long, 2*s.* 6*d.*; 9 ft. long, 2*s.* 11*d.*; 10 ft. long, 3*s.* 6*d.*

Materials required for Span-roof 100 ft. by 12 ft. Lot 311 Cucumber House

Best Red deal, all planed, rabbeted, &c., ready for use. Door and Ventilators made. 105 ft. 1½ by 6 Ridge. 105 ft. 1½ by 4 Capping. 230 ft. 3 by 3½ Plate. 210 ft. ¾ by 3 Drip. 4—8 ft. 2½ by 3 End Rafters. 120 8 ft. 1½ by 3 Bars. 15 Ventilators about 4 ft. by 2 ft., 15 Ventilators, Seats about 60 ft., 1 Door and Frame, 6 ft. by 2 ft. 6 in. Usual Price, £9 10*s.*

Lot.				Usual Price. *s.*	*d.*
313	8,000 ft. Run.	No. 1 Sashbar, per 100 ft. Run	...	3	0
314	37,000 ,,	No. 2 ,, ,, ,,	...	3	9
315	6 000 ,,	No. 3 ,, ,, ,,	...	5	0
316	7,000 ,,	No. 4 ,, ,, ,,	...	6	6
317	75 Top and Side Ventilators. 2 ft. by 2 ft. 4 in.		...	2	0
318	70 Marginal Light Doors, 6 ft. 6 in. by 2 ft 6 in.		...	12	0
319	50 Squares ½ in. Tongued, Grooved, and Beaded Matchboard		...	7	6
320	75 Squares 6 in. Feather Edge Boards		...	7	6
321	70 Squares 1 in. Floor Boards		...	14	0
322	45 Machine-Turned Finials, per dozen		...	6	0
323	25 Dozen Casement Stays for opening Ventilators			6	0
324	9,000 ft. Run Slating Battens, ¾ in. by 2 in. per 100 ft.		...	1	3

Planed Extended Trellis.
MADE OF BEST YELLOW DEAL.

Lot 325.—12 ft. by 1½ ft., Open, usual price, 2*s.* 8*d.*; 12 ft. by 2 ft., 4*s.*; 12 ft by 2½ ft, 4*s.* 6*d.*; 12 ft. by 3 ft., 5*s.* 6*d.*; 12 ft. by 3½ ft., 6*s.*; 12 ft. by 4 ft., 7*s.* 6*d.*; 12 ft. by 5 ft. 8*s.* 9*d.*; 12 ft. by 6 ft., 10*s.* 6*d.*; 60 pieces Unplaned Trellis, 14 ft. by 4 ft., Open, 5*s.*

Loam—Surrey.

Lot.
326 Splendid Quality, full of Yellow Fibre.
Usual Price, 2*s.* 6*d.* per sack; 5 for 12*s*; 10 for 20*s.*

General Potting Compost.

327 Specially prepared.
Usual Price. 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*

Celebrated Chrysanthemum Compost.

328 Usual Price, 3*s.* per bushel.

Prepared Compost for Potting Ferns.

329 Specially Prepared.
Usual Price, 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*

Prepared Compost for Potting Bulbs.

Lot.
330 Specially Prepared.
Usual Price, 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*

Leaf Soil, Beech and Oak, well Decayed.

331 Usual Price, 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*

The Original Celebrated Orchid Peat.

332 ALL RICH BROWN PURE BRACKEN FIBRE.
SELECTED IN TURVES, with Dust and Roots taken out.
Usual price, 6*s.* per sack; 5 for 25*s.*; 10 for 45*s.*

333 Best Brown Fibrous Peat

FOR HARDWOOD AND STOVE PLANTS.
Usual Price, 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*

334 Good General Peat. FOR FERNS, &c.

Usual Price, 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*

335 Rhododendron Peat.

Usual Price, 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*

Special Offer of Rich Brown Loose Peat.

336 Of the very best quality. All waste extracted. Ready for use. Usual Price, 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*

337 William Cooper's Sunshade.

Supersedes all other preparations of the kind.
Usual Price. in tins, 1 lb. 1*s.*; 2 lb. 2*s.*; 7 lb. 5*s.*

338 New Mushroom Spawn.

Usual Price, 4*s.* per bushel.

339 Cooper's General Fertilizer.

FOR FLORISTS, GARDENERS, AND AMATEURS.
Suitable for all crops; Potatoes, Kitchen Garden Produce, Vines, Fruit Trees, Roses, Pot Plants, &c., &c. Usual Price, Tins, 4*d.*; 7 lb. bags, 1*s.*; 14 lb. bags, 2*s.*; 28 lb. 4*s.*; ¼ cwt. 7*s.*; 1 cwt. 13*s.*

340 Silver Sand (COARSE OR FINE).

2 cwt. sacks. Usual Price, 3*s.* 3*d.*

341 Best Cocoa-Nut Fibre Refuse.

(FRESH AND CLEAN.)
Usual Price, 1*s* per sack; 10 sacks, 9*s.*; 15 sacks, 12*s.*; 20 sacks, 15*s.*; 30 sacks, 21*s.* Sacks included.

342 Wood Labels. (Per 1000.)

Size	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	12 in.
Usual Price	1/5	1/8	2/-	2/9	3/6	4/1	5/6	6/	10/-

343 Flower Sticks (Per 1000.)

Size	1 ft.	1½ ft.	2 ft.	2½ ft.	3 ft.	3½ ft.	4 ft.	4½ ft.	5 ft.
Usual Price	2/3	3/9	6/-	8/-	10/-	14/-	17/-	23/-	29/-

344 **Virgin Cork.** About 7 tons. Usual price, 17*s.* per cwt.

345 Bamboo Canes.

150,000 4 ft. Usual price, 25*s.* per 1000.

346 Tobacco Paper.

About 2 tons, best quality. Usual price, 35*s.* per cwt.

347 **Pure Wood Charcoal.** 287 sacks. Usual price, 4*s.*

348 Peat Moss Litter.

107 sacks. Usual Price, 2*s* 3*d.* per sack.

Odd Greenhouses.

ALL HOUSES COMPLETE AS PER LIST. Usual Price.

349	Lean-to Conservatory, Door and Two Ventilators in Front. 19 ft. by 8 ft.	£15 10 0
351	Lean-to Conservatory, Door and Two Ventilators in Front. 18 ft. by 9 ft.	15 10 0
353	Span Roof Conservatory, for Brickwork, 25 feet by 10 feet.	20 10 0
354	Span Roof Forcing House, for 2 ft. 6 in. Brickwork, with 1 ft. of Woodwork above Brick, with Half Glass Partition and Door. 30 ft. by 9 ft.	16 0 0
355	Span Roof Greenhouse, 45 ft. by 10 ft.	28 0 0
356	Span Roof Greenhouse, for Brickwork, with 2 ft. 6 in. Side Light, 50 ft. by 12 ft.	38 0 0
357	¾-Span Roof Greenhouse, for Brickwork, 25 ft. by 10 feet.	17 0 0
358	Span Roof Conservatory, 9 ft. by 6 ft. Glazed all complete	9 0 0
359	Span Roof Conservatory. 15 ft. by 8 ft. Glazed all complete	15 10 0
360	Lean-to Shed. 10 ft. by 4 ft., with Wood Back Door each end, also Wood Floor	6 10 0
361	Span Roof Circular Light Conservatory, 12 ft. by 8 ft.	12 10 0
362	Handsome Rustic Summer House, made for Exhibition Purposes, about 10 ft. square and 26 ft. high, complete with Seats, Table, Curtains, &c. Erected in our Show Ground	100 0 0

Steps and Ladders.

Lot.				Usual Price.	
363	9 pairs steps, 4 Treads, per pair		...	4	0
364	7 ,, ,, 5 ,, ,,		...	5	0
365	20 ,, ,, 6 ,, ,,		...	6	0
366	5 ,, ,, 7 ,, ,,		...	7	0
367	6 ,, ,, 8 ,, ,,		...	8	9
368	7 ,, ,, 9 ,, ,,		...	10	6
369	3 ,, ,, 10 ,, ,,		...	12	6
370	5 ,, ,, 12 ,, ,,		...	14	0
371	2 ,, ,, 14 ,, ,,		...	16	0
372	7 ,, ,, 30 Round Ladders, each		...	15	0
373	5 ,, ,, 45 ,, ,,		...	27	0
374	3 ,, ,, 55 ,, ,,		...	32	2
375	2 ,, ,, 60 ,, ,,		...	43	0

Wrought Welded Saddle Boilers.

SOCKETS 6*s* 6*d.* EACH EXTRA.

Lot.	in.	in.	in.	Usual Price.
376—2	18 by	12 by	12	each £2 9 0
377—1	27 ,,	14 ,,	14	3 12 3
378—1	37 ,,	14 ,,	14	4 11 6
379—1	42 ,,	18 ,,	18	7 13 0
380—1	48 ,,	21 ,,	18	9 3 0
381—1	54 ,,	21 ,,	21	11 11 0
382—1	60 ,,	24 ,,	21	13 10 0

The above Sizes are inside Arch.

25 Casks Best Paraffin Oil.

383 42 Gallons, each ... ... Usual price, £1 5*s.*

10 Casks Best Tar. Suitable for Iron Fences, Wood Palings, Farm Buildings, &c

384 Per Cask of 42 Gallons. ... ... Usual price, £1 14*s.*
385 11 GLAZIER'S DIAMOND (Sheet) ea,, ... Usual price, 15*s.*

NURSERY, SEED AND BULBS DEPARTMENTS.

Flowering and Ornamental Foliage Plants for Window, House and Conservatory Decorations; also Cuttings of small plants of same for growing on.

	Usual Price. *s.*	*d.*
Arum Lilies, lovely spikes of flowers, 5-in. pots, per doz.	7	0
Marguerites, large plants in flower and bud, in 5-in. pots per doz.	7	6
,, fine, bushy plants, 5-in. pots ... per doz.	5	0
,, strong, healthy plants, 2½-in pots, per doz.	3	0
,, strong, healthy rooted cuttings, per doz.	1	6
Ivy-leaf Geraniums (pink), immense, strong, healthy plants, 5-in. pots, ... per doz.	6	0
,, ,, 2½-in. pots, ... per doz.	3	0
,, (strong-rooted cuttings) ... per doz.	1	6
Heliotrope, light and dark, healthy plants, 2-in. pots, per doz.	3	0
,, ,, (strong-rooted cuttings), per doz.	1	6
Fuchsias, all the very best varieties, healthy plants, 2½-in pots, per doz.	3	0
,, (strong-rooted cuttings) ... ... per doz.	1	6
Coleus, lovely colours, 2½ in. pots ... ... per doz.	3	0
,, strong-rooted cuttings ... ... per doz.	1	6
Genistas, in bud, pretty yellow flowers, 5-in. pots, per doz.	6	0
Alternanthera, Iresine, Petunias (double), Verbenas, Calceolarias, Geraniums, &c., all fine healthy-rooted cuttings ... per doz	1	6
Palms, Kentias, well-furnished plants, 5-in. pots, 2*s.*, extra large ... ... each	2	6
Pandanus Veitchi, very ornamental, 5-in. pots, 2*s.* 3*d.* each to	5	0
Asparagus plumosus, 5-in. pots ... ... each	2	0
,, ,, nanus, 5-in. pots ... ... each	2	0
Grevillea robusta, Fern-like foliage, 5-in. pots per doz.	6	0
Cyperus alternifolius (Umbrella Fern), 5-in. pots per doz.	5	0
Pteris, ribbon and crested Ferns in variety, grand plants, 5-in. pots ... ... per doz.	8	0
Pteris tremula, handsome graceful Fern, 5-inch pots, per doz.	8	0
Polypodiums, grand plants, 5-inch pots ... per doz.	8	0
Gold and Silver Ferns, grand plants, in 5-inch pots, per doz.	8	6
Asplenium, grand plants, in 5-inch pots ... per doz.	7	6
Nephrolepis ... ... per doz.	8	6
Small Ferns, in about 30 best varieties, in 2½-inch pots per 100	10	0
Small Ferns, in about 30 best varieties, out of pots per 100	6	0
Passion Flowers, in variety, out of 3-in. pots, 2 to 3 ft. ... ... per doz.	5	0
Passion Flowers, in variety, out of 5-in. pots, 4 to 5 ft. ... ... per doz.	10	
Ampelopsis Veitchii (small Virginian Creeper), out of 3-in. pots ... ... per doz.	4	0
Ampelopsis Veitchii (small Virginian Creeper), out of 5-in. pots ... ... per doz.	8	0
Maréchal Niel, magnificent plants, throwing an abundance of bloom during spring and summer, about 3 ft., 1*s.* 6*d.* each; 4 to 5 ft., 2*s.* 6*d.* each; 8 to 9 ft, 4*s.* each; 10 to 12 ft., ... each	6	0
Grape Vines. 3 ft. to 4 ft., 2*s.*; 4 ft. to 5 ft, ...	3	0
Apples, Pears, Plums, Cherries, Damsons, &c., robust trees, very healthy, best varieties ... ... each	1	9
Do. do. do. do. fan, dwarf, and horizontal trained ... ... each 1*s.* 6*d.*, 2*s.* 6*d.*,	3	6
Do. do. do. do. standards and pyramids, each 1*s.* 6*d.* to	2	6
Apricots, Peaches, and Nectarines, extra grand, clean and healthy, best varieties, fan and dwarf trained, each 3*s.* 6*d.* to	7	6
Strawberries, very finest var. in cultivation, per 100 ...	2	6
Rhubarb, good forcing var., extra strong crowns, each...	1	0
Asparagus, for planting or forcing ... ... per 100	12	6
Sea Kale, for planting or forcing... ... ... per 100	12	6
Wallflowers, very bushy, transplanted stuff, Harbinger, Belvoir Castle, double; double German, ... per 100	6	0
Double Daisies, Foxgloves, Sweet Williams, Canterbury Bells, Geums ... ... per 100	5	0
Pansies, splendid strain, transplanted ... ... ,,	9	0
Sweet Williams, extra bushy, transplanted ... ,,	10	0
Pink, Fimbriata alba fl.-pl. ... ... ,,	7	6
Pentstemons, extra large, transplanted ... per doz.	3	0
Lilium candidum ,, ,, ... ,,	4	0
Chrysanthemum Lacustre ,, ... ,,	3	6
Aquilegias ,, ... ,,	2	0

ROSES.

40 000 Dwarf Roses, strong and healthy bushes, all the leading varieties, which will give grand displays of bloom. Usual Price, 7*s.* per doz, 25*s.* for 50, £2 5*s.* for 100, £20 for 1000.

CHRYSANTHEMUMS.

Catalogues on Application. Post Free.
Finest collection in the Kingdom, over 1000 varieties more than are catalogued even Merit of every variety proved by ourselves before offering.
Our Selection Plants, 1*s.* 9*d.* dozen. Cuttings, 1*s.* 3*d.* doz

BULBS.

	Usual Price. *s.*	*d.*
Named Hyacinths, for Pots or Glasses ... per doz	2	6
Hyacinths, mixed, all Colours, for Pots or Beds ,,	2	3
Freesia major, very sweetly-scented ... per 100	6	0
Narcissus, Pheasant's Eye, scented ... ... ,,	4	0
,, Double White, splendid... ... ... ,,	7	0
Iris hispanica, large roots ... ... ,,	2	6
Tulips, named sorts, mixed, Single or Double ... ,,	3	6
,, Scarlet, Duc Van Thol ... ... ,,	4	6
,, Yellow White ,, ... ,,	10	0
,, Double White, large ... ... ,,	5	0
,, ,, Red and Yellow ... ... ,,	5	0
,, Parrot's, mixed ... ... ,,	3	9
Spiræa japonica ... ... per doz.	8	6
Lily of the Valley, Strong Clumps ... ... ,,	15	0
,, ,, German Crowns... ... per 100	8	0

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING

HEAD LINE CHARGED AS TWO.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
5	„ ..	0	3	6	16	„ ..	0	9	0
6	„ ..	0	4	0	17	„ ..	0	9	6
7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

If set across three Columns the lowest charge will be 30*s.*

Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line* (*about nine words*) *or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

Births, Deaths, and Marriages, 5*s. each insertion.*

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

GARDENING APPOINTMENTS.

Mr. J. BARLEYCORN, as Gardener and Bailiff to the Rev. A. BRAMWELL, Barrow Hills, Chertsey, Surrey.

Mr. J. MILBURN, for about two years Head Gardener and Orchid Grower at Hoyland Hall, Barnsley, has taken a similar post with F. M. BURTON, Esq., Highfield, Gainsborough.

CATALOGUES RECEIVED.

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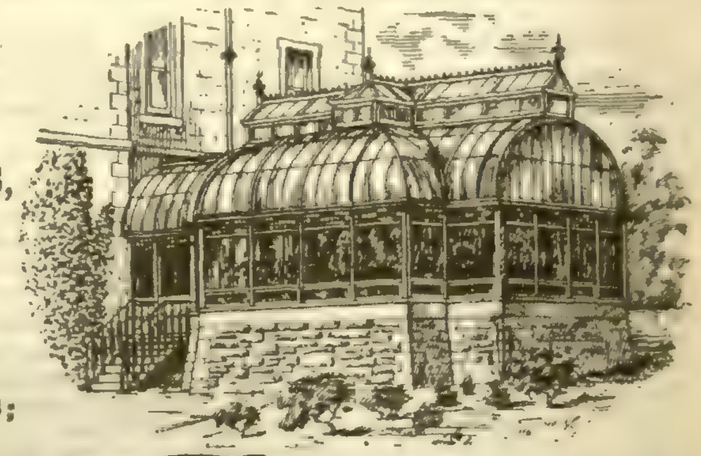

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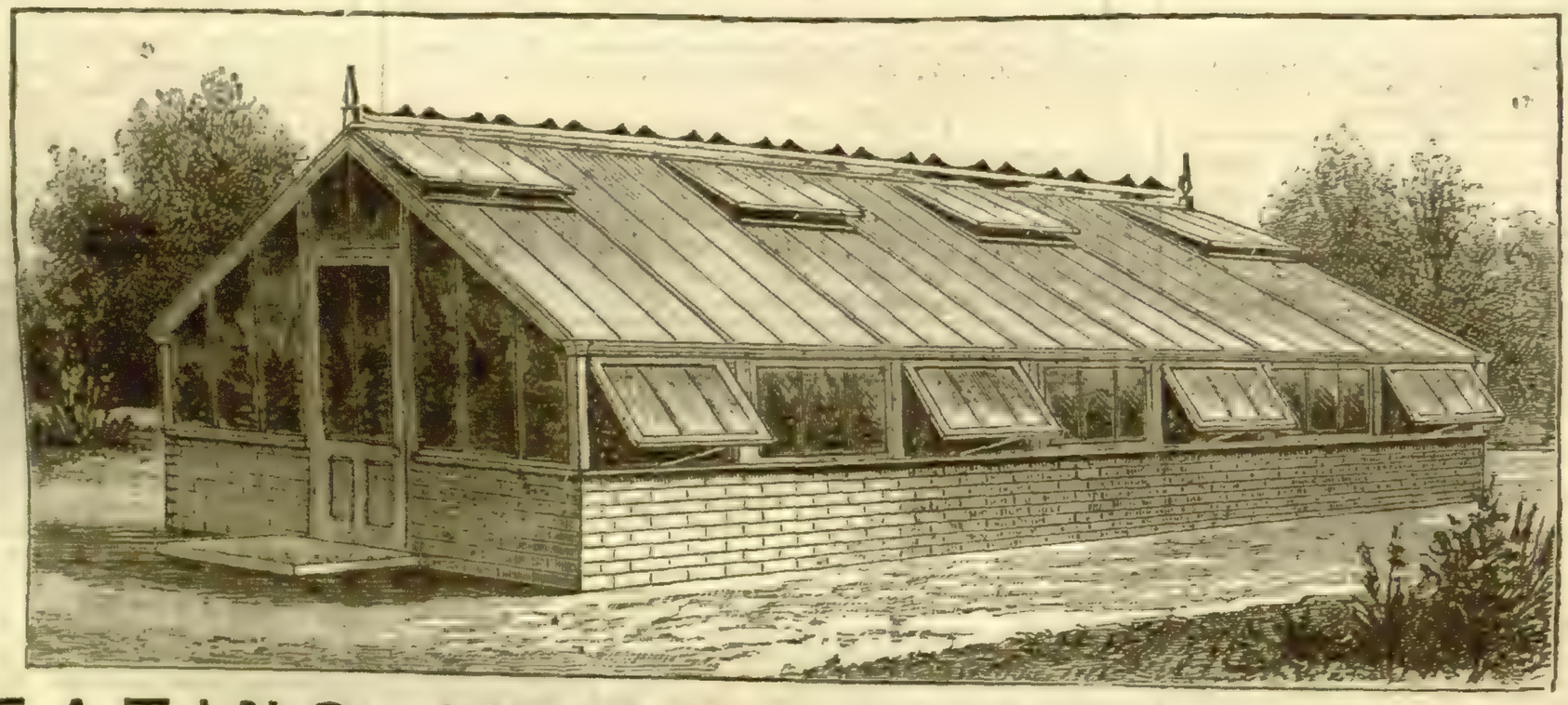

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SALES BY AUCTION.

Wednesday Next (weather permitting).

1000 Standard, Dwarf, and Climbing ROSES, FRUIT TREES, in variety; BORDER PLANTS; a Collection of LILIUMS from Japan; Cases of ARAUCARIAS as received; HARDY BULBS; a large Collection of ORNAMENTAL SHRUBS and EVERGREENS; English grown LILIES, DUTCH BULBS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 20, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Tuesday Next.—By order of Messrs. F. Horsman & Co.

1000 GRAND MASSES of *ODONTOGLOSSUM CRISPUM*, Collected by the famous Odontoglossum hunter, Mr. Carder, and guaranteed by the vendors to be of the true Pacho type. Among them will be found masses with upwards of 40 large bulbs, all in perfect condition.

Also LÆLIA PURPURATA in Cases,
CATTLEYA INTERMEDIA, ORCHIDS in FLOWER, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 19, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

LILIUM AURATUM, L. speciosums in variety; and other JAPANESE LILIES, 5000 BEGONIAS, 15,000 AMERICAN PEARL TUBEROSES (weather permitting); KELWAY'S GLADIOLI, G. GANDAVENSIS HYBRIDS, Home-grown LILIES, CALOCHORTI, 200 "MRS. REYNOLDS HOLE," TIGRIDIAS, 1000 SEAKALE, DAHLIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 20, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.—Special Sale.

10,000 AMERICAN PEARL TUBEROSES (weather permitting), 7000 JAPANESE LILIES, including auratum, Melpomene, Batemanniæ, pictum, rubrum, and others; 8000 choice GLADIOLI, Exhibition BEGONIAS, GLOXINIAS, SPIRÆAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY NEXT, February 21, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, February 22.

GREAT SALE of ORCHIDS.

WITHOUT THE LEAST RESERVE.

Comprising 1000 Plants of

LÆLIA ANCEPS,

in the best possible condition; bulbs firm, eyes plump and dormant. The whole importation will be offered, and many new and rare varieties may be expected to flower from amongst them. Some novel and splendid varieties were in bloom in the cases when received.

500 Plants of the lovely

VANDA CŒRULEA,

The largest, darkest blue, and finest known type.

Also splendid masses of a

PHALÆNOPSIS,

an Eastern species, having many characteristics in common with P. Lowii. Not seen in flower.

VANDA KIMBALLIANA,

in wonderful condition.

Also magnificent imported plants of

LYCASTE DEPPEI,
LYCASTE AROMATICA MAJUS,
LYCASTE CRUENTA,

in superb condition; bulbs large and plump, in every way grand, and will soon flower.

CYPRIPEDIUM NIVEUM,

a magnificent lot, in splendid condition. The entire lot will be offered. This plant is now becoming very scarce.

Also grand lots of

CYPRIPEDIUM BELLATULUM, and
CYPRIPEDIUM EXUL,

all in fine condition, being well leaved, and showing every sign of flowering well.

Splendid imported plants of the rare

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Also grand importations of the following:—LÆLIA MAJALIS, LÆLIA, new species; ODONTOGLOSSUM CITROSMUM, SACCOLABIUM GUTTATUM, ODONTOGLOSSUM REICHENHEIMI, ONCIDIUM CARTHAGINENSE, CYPRIPEDIUM PARISHII, DENDROBIUM FINDLAYANUM, D. FALCONERII, D. FIMBRIATUM OCULATUM, D. THYRSIFLORUM, D. CRETACEUM, D. PIERARDII, D. CHRYSANTHUM, D. FORMOSUM GIGANTEUM, CATTLEYA INTERMEDIA, PERISTERIA ASPERSA, &c., &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 22, at half-past 12 o'Clock, by order of Messrs. F. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

Friday Next.

The ENTIRE STOCK, consisting of Four Plants of ANTHURIUM CRYSTALLINUM FOLIUM VARIEGATUM. Awarded F.C.C., Great Temple Show, 1893.

MESSRS. PROTHEROE & MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, February 22.

WANTED, to RENT, about 2000 feet of GLASS for Cucumbers and Tomatos. No stock.—W. N., 5, Littler's Cottages, Tottenham.

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PLANTING TREES, and SHRUBS THIS SEASON.
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BEST NEW
CHRYSANTHEMUMS.

Sixty of the leading Prize-takers have been asked by the Editor of the *Journal of Horticulture*, to give, in their order of Merit, a list of the Twelve best new Japanese Varieties for Exhibition. This list appeared in that paper on January 24. Out of the Twelve Best, I have the honour of introducing Nos. 1, 2, 3, 7, and 12. I do not boast of those I send out, neither do I cast a slur on other Growers' Varieties, but the above Golden Testimony speaks for itself. Here we have a body of independent Growers, who, unbiased by any trade consideration, have placed "The Ryecroft Collection" in the premier position of the world. The following are the Twelve in their order of Merit, with price for good plants in March:—1, Duchess of York, 6*s.*; 2, Mrs. W. H. Lees, 3*s.* 6*d.*; 3, Miss Maggie Blenkiron, 2*s.* 6*d.*; 4, Madame Carnot, 3*s.* 6*d.*; 5, Niveus, 1*s.* 6*d.*; 6, H. L. Sunderbruch, 2*s.* 6*d.*; 7, Duchess of Wellington, 5*s.*; 8, Mrs. E. F. Trafford, 4*s.*; 9, Louise, 1*s.* 6*d.*; 10, Mons. Panckoucke, 1*s.* 6*d.*; 11, Rose Wynne, 2*s.* 6*d.*; 12, Hairy Wonder, 3*s.* 6*d.*

My CATALOGUE gives full description of these and many other sterling varieties. Post-free 8 stamps.

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The FELTHAM Collection of Vegetable and Flower Seeds.

Sent post-free for 5/-. Contains large Packets of the following Seeds—

2 Packets each of Early Peas, Medium Crop, Late Crop; 1 Packet each of Longpod Beans, Windsor Beans, Runner Beans, French Beans, Cooper's Beet, Chilian Beet, Dwarf Borecole, Cottager's Borecole, Early Broccoli, Brussels Sprouts, Cauliflower, Cooper's Early Cabbage, Cooper's Late Cabbage, Cos Lettuce, Cabbage Lettuce, Early Carrot, Main Crop Carrot, Early Onion, Keeping Onion, Elcombe's Parsnip, Long Radish, Turnips, Parsley, Vegetable Marrow, German Stock, German Aster, Sweet Peas, Candytuft, Virginian Stock, Tall Nasturtium, Dwarf Nasturtium, Convolvulus, Godetia.

The Villa Collection of Vegetable and Flower Seeds.

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1 Pint each of Peas, Cooper's Earliest of All, Ringleader, Best of All, Perpetual Bearer, Cooper's Main Crop; 1 Pint each of Beans, Cooper's Longpod, Broad Windsor, Mammoth Runners; ½-Pint Dwarf French, Ne Plus Ultra; 1 Packet each of Beet, Cooper's Selected Red and Pine Apple; ½-Oz. each of Borecole (Cottagers), Tall Green Curled, Dwarf Green Curled; ½-Oz. Brussels Sprouts; 1 Packet each of Cabbage, Cooper's All Heart, Perfection, Early York; 1 Packet each of Early Carrot, Intermediate, Main Crop; 1 Packet each of Early Cauliflowers and Late Cauliflower; 1 Packet each of Crimson Celery, White Celery; ½ Pint Cress; 1 Packet each of Frame Cucumber and Cooper's Ridge; 1 Packet each of Green Curled Endive, White Curled; 1 Packet Cooper's Giant Leek; 1 Packet each of Giant White Cos Lettuce, Drumhead Cabbage; 1 Packet each of Nuneham Park Onion, Spanish, Keeping; 1 Packet Cooper's Superb Parsley; 1 Packet each of Student Parsnip, Hollow Crown; 1½ Oz. each of Turnip Radish, Long Scarlet; ½-Pint each of Summer Spinach, Round; 1 Oz. Six Weeks White Turnip; 1 Packet Vegetable Marrow; 1 Packet of Herbs. FLOWER SEEDS—1 Packet each of Asters, Delphiniums, Dianthus, Everlastings, Stock, Sweet Peas, Petunia, Nasturtium, Tall; Nasturtium, Dwarf; Chrysanthemum, Nemophila, Convolvulus, Sunflower, Mignonette, Candytuft.

A Complete Collection of Vegetable and Flower Seeds, 15/-.

Carriage Paid. Contains—

8 Pints Peas, best for succession; 2 Pints Broad Beans, 1 Pint Champion Runners, 1 Pint French Beans, 3 Packets Beet, 2 Ozs. Borecole, three sorts; 2 Packets Brussels Sprouts, two sorts; 4 Sorts Cabbage, 4 Sorts Carrot, 3 Sorts Cauliflower, 3 Sorts Celery, 1 Pint Cress, 2 Sorts Cucumber, 3 Sorts Endive, 2 Sorts Leek, 3 Sorts Lettuce, 4 Sorts Onion, 2 Sorts Parsley, 3 Sorts Parsnip, 4 Ozs. Radish, four sorts; 1½ Pint Spinach, two sorts; 3 Ozs. Turnips, three sorts; 2 Packets Vegetable Marrow, 2 Packets Tomatos, 2 Packets Herbs; 30 Packets Choice Flower Seeds, including Aster, Candytuft, Clarkia, Convolvulus, Larkspur, Balsam, Everlastings, Mimulus, Silene, Marigold, Petunia, Golden Feather, Lobelia, Lupinus, Mignonette, Nasturtium, Sweet William, Nemophila, Phlox, Sweet Pea, Stock, Wallflower.

A Complete Collection of Vegetable, Flower Seeds, and Potatos, 21/-. Carriage Paid. Contains—

10 Pints Peas, for succession; 3 Pints Broad Beans, 2 Pints Runner Beans, 2 Pints French Beans, 2 Ozs. Beet, two sorts; 2 Ozs. Borecole, three sorts; 1 Packet Borecole, variegated; 1 Oz. Brussels Sprouts, three sorts; 3 Ozs. Cabbage, for succession; 2 Ozs. Carrot, for succession; 3 Packets Cauliflower, 4 Packets Celery, 3 Packets Cucumber, 1½ Pint Cress, 3 Sorts Endive, 3 Sorts Leek, 4 Sorts Lettuce, 4 Sorts Onion, 3 Sorts Parsley, ½ Pint and 2 Ozs. Radish, 2 Pints Spinach, two sorts; 6 Ozs. Turnip, three sorts; 2 Ozs. Parsnip, two sorts; 2 Packets Tomatos, two sorts; 2 Packets Cream Vegetable Marrow; 4 Packets Herbs; 25 Packets Choice Flower Seeds, including Antirrhinum, Aster, Delphinium, Dianthus, Everlastings, Leptosiphon, Lobelia, Nasturtium, Perilla, Stock, Nemophila, Sweet Pea, Wallflowers, Zinnia, &c.; and 4 lb. each three Choice Varieties of Potatos.

Box of Vegetable, Flower Seeds, and Potatos for 30/-.

Carriage Free. Contains—

12 Pints Peas, for succession; 4 Pints Broad Beans, 3 Pints Runner Beans, 3 Pints French Beans, 3 Sorts Beet, 3 Sorts Borecole, 2 Ozs. Brussels Sprouts, 4 Ozs. Cabbage, four sorts; 3 Ozs. Carrots, three sorts; 4 Packets Cauliflower, 4 Packets Celery, 3 Packets Cucumbers and Cress, 2 Ozs. Endive, 2 Ozs. Leek, 2 Ozs. Lettuce, 4 Ozs. Onion, 2 Ozs. Parsley, 1 Pint Radish, two sorts; 1 Quart Spinach, two sorts; 8 Ozs. Turnip, 3 Ozs. Parsnip, 3 Packets Tomatos, 6 Packets Herbs, 2 Packets Vegetable Marrows, Cream; 8 Ozs. Turnips, best sorts; 30 Packets Choice Flower Seeds, including Aster, Balsam, Everlastings, Lobelia, Mignonette, Mimulus, Nasturtium, Silene, Petunia, Stock, Sweet Pea, Sweet William, Wallflower, Zinnia, Linum, Leptosiphon, Lupinus, Larkspur, Gaillardia, &c.

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The following Collections will be found to be the most liberal ever offered, and, combined with quality and quantity, cannot be equalled. Sent to any address, post-free, 1/3.

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Two Packets put in this Collection usually priced 6*d.* each.

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No. 2 contains— Sent to any address, post-free, 2/6.

Aster, Double, German; Balsam, Candytuft, Clarkia, Convolvulus, Tall; Convolvulus, Dwarf; Dianthus (Indian Pink), Erysimum, Gilia tricolor; Godetia, Larkspur, Linum grandiflorum, Marigold, Mignonette, Nasturtium, Tall; Nasturtium, Dwarf; Nemophila insignis, Nocotiana (Tobacco), Petunia, Perilla Nankinensis, Phlox Drummondi, Pyrethrum (Golden Feather), Poppy, Double; Malope grandiflora, Love Lies Bleeding, Musk, Sweet Peas, Mixed; Stock, German; Stock, Virginian; Sunflower, Giant.

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No. 3 contains— Sent to any address, post-free, 3/6.

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These selections of Seeds contain the finest varieties of each class obtainable, and are saved either at our own establishment from selected stocks, or from the most noted raisers both here and on the Continent. Sent post free to any address, price 5/-. Contains—

Asters, Mixed Varieties, Imported. *For the Greenhouse or Frame:* Balsam, Mixed Varieties, Finest Double; Cineraria, our Special Strain; Calceolaria, finest colours; Cockscomb, Crimson. Stock, Mixed Varieties, Imported; 2 Everlastings, Rhodanthe, Helichrysum, 4 Climbers, Sweet Peas, Mixed; Tropæolum Canariense; Nasturtiums, Mixed; Convolvulus, Mixed; 6 Hardy Varieties, Candytuft, Dianthus, Cornflower, Mignonette, Giant; Marigold, Dwarf; Sunflower, 6 Half-hardy Varieties, Ageratum, Blue; Tobacco, Phlox Drummondii, Lobelia speciosa, Pyrethrum, Golden; Zinnia elegans.

The Palace Collection of Choice Flower Seeds, price 7/6. Contains—

Acacia lophantha, Asters in Varieties, Imported; Balsam in Varieties, Calceolaria, our own strain; Carnation, Grand Varieties; Cineraria, Splendid Mixed; Stocks, Imported, in Varieties; Pansies, Large, French Varieties; Primula sinensis, Mixed; 3 Everlastings, Rhodanthe, Rose; Rhodanthe, White; Helichrysum, Mixed; 6 Climbers, Eccremocarpus, Tropæolum, Fireball; Tropæolum Canariense, Sweet Peas, Convolvulus, Nasturtiums, 9 Hardy Varieties, Candytuft, Coreopsis, Eschscholtzia, Chrysanthemum, Beet, Ornamental; Lupinus, Cornflower, Indian Pink, Marigold, 9 Half-hardy Varieties, Ageratum, Imperial Blue; Petunia, Single Mixed; Poppy, the Shirley; Poppy, the Mikado; Mimulus, Spotted; Nicotiana affinis, Lobelia Blue; Pyrethrum, Zinnia elegans.

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TO BUY VEGETABLE and FLOWER SEEDS at low prices is unwise, as, evidently, the seller must buy or produce those Seeds cheaply, although doing so involves a poor quality. Cheap Seeds are not rogued and picked to the extent those are for high-class trade, and plants producing high-class strains are seldom free-seeders like ordinary types. To buy Seeds at high prices, in very many cases, is not only paying for undoubted good quality, but also for reputation, or expensively illustrated and printed catalogues, with their temptations of so-called Novelties, which so often disappoint us. Considering the reduced rentals from estates, and profits from trade, Common-sense condemns either plan, and urges buyers to trade with firms whose standing is high enough to ensure quality with moderate prices. Few retail firms go to the trouble and expense we do in testing seeds. We test the percentage of growths of all the seeds we sell before we put any in packets; those not satisfactory are destroyed. We also every summer, at our Seed-trial Grounds, test many hundreds of kinds of seeds, to see they are true to name, and it is these efforts to ensure quality, combined with moderate prices, which have increased our business started twenty-five years ago with about £50 wages per annum for one labourer, to its present extent of about 200 men and boys, with a labour account annually of £8000. The following can all be depended upon as being thoroughly good either for the Exhibitor or Non-exhibitor. Better cannot be bought:—

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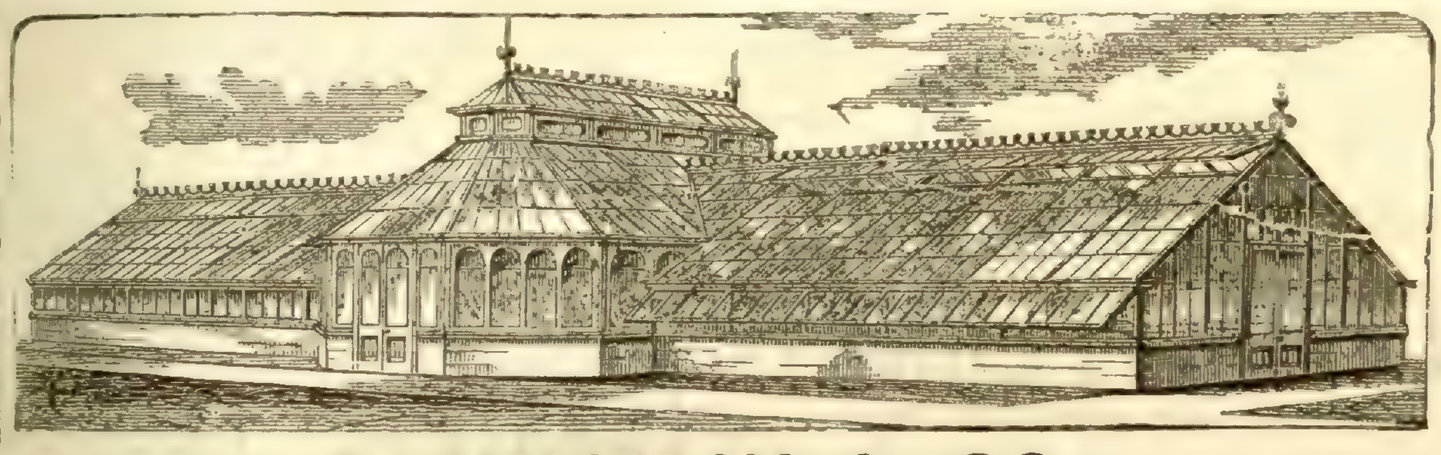

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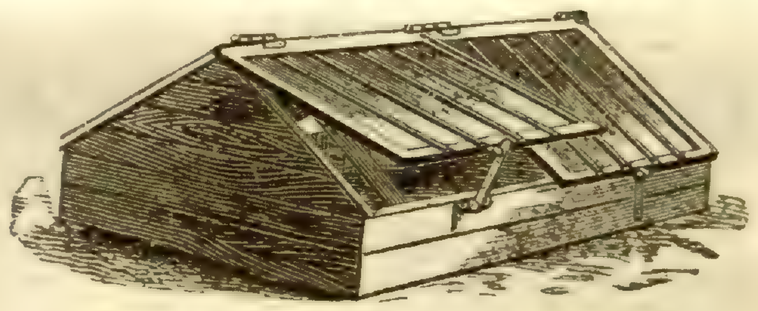

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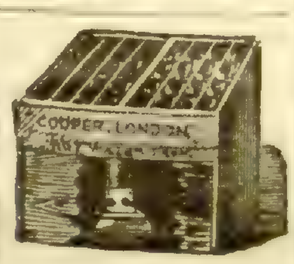

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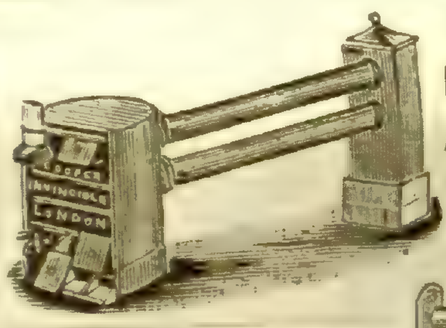

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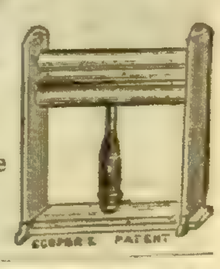

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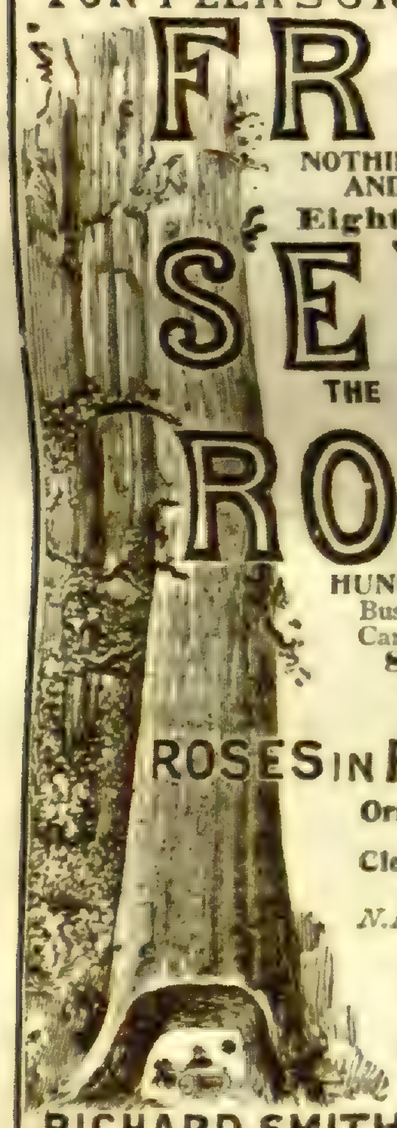

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THE
Gardeners' Chronicle.
SATURDAY, FEBRUARY 16, 1895.

THE ROMANCE OF FLOWERS.

THE motive of all science is the attainment of truth; the only merit of fairy tales is, that they are the image of the truth, a simulacrum invented to stimulate the intellects of children, not yet robust enough to sift truth from error; yet of the thousands of grown persons in this country who are not obliged to toil or spin, how great a proportion seek their mental amusement in fairy tales of fiction, which is the same thing; how few ever think of turning to science as a source of recreation! Some titillate their ambition by the collection of old postage-stamps, others by field-sports and competitive games, and these may be held as harmless palliatives of much leisure, the last-named indeed being valuable, inasmuch as they develop the limbs and brace the constitution.

But many a man's life might be turned to better account, many people would become conscious of a motive for living, were they to turn their faculties to unravelling the secrets of Nature. To the majority—far the greater majority of educated persons—Nature is a closed book, but a book which anyone who has leisure may learn to open. Some of its pages, indeed, have never yet been traversed by mortal eye; but patient hands are at work, year after year, opening new pages; anybody who chooses to turn his hand resolutely to the work may live in good hope of prevailing to open a new chapter, and some of these chapters are far more wonder-stirring and exciting than any artificial fairy tale.

Let us glance at a few that have been deciphered already. We will take the volume of botany first, being, perhaps, that in which the ordinary mind would least expect any stirring passages. You cannot spend a quarter of an hour in a country lane or on a bleak hillside without being surrounded by plants of many kinds, each of which has a story for him who has ears to hear and eyes to see. We will go to the very bottom of the scale first, if you please, among the humblest of all vegetation, the Cryptogams—those plants which are destitute of the chief attractions in most plants, flowers and leaves. In this group are contained the different species of fungus, lichen and algæ, or seaweeds. A humble family, you will admit, yet has it a dignity of its own, for it is among them that the nearest approach to an animal is made by any vegetable. Indeed, one order of the group, called Myxomycetes so closely resembles certain animal organisms in its habit of life that, though classed as a vegetable at present, many biologists hold their judgment as to its true nature in suspense.

Now, if there is one characteristic which, more than any other, in the popular view, distinguishes the fungus from other plants, it is its sudden appearance and rapid decay. A "Mushroom growth" is proverbial for all that is

evanescent. Yet it is in this family of Cryptogams, among the lichens which are near relations of the fungi, that probably the most enduring of all vegetables are to be found. Some of those organisms which look like mere grey or orange stains upon the rocks, have a vitality which puts to shame the majestic growth of the forest. Man's life is so fleeting, that we can only guess at their age; the progress of some lichens to maturity is so slow that it would require many generations of botanists to record it. In the year 1836, Dr. Thayer, of Philadelphia, happened to examine some patches of a certain lichen, Physcia parietina, growing on a wall under circumstances favourable to its development. He made careful descriptive notes and drawings of the plants, and forty-five years later, in 1881, he revisited the same wall, and found that, although certainly progress had been made, fructification had not yet begun—the plant had not yet reached maturity. It is, of course, impossible to hazard any guess how old the plants were when he first saw them. They may have sprung from spores deposited in the days of Queen Elizabeth, but at all events, the half century during which they were under observation had only brought them some degrees nearer the principal function of all life—reproduction. In a similar lapse of years, an Oak, which we look on as the type of enduring life, would have become a vigorous acorn-bearing tree.

In olden time, when books were few and readers not over-critical, travellers and would-be philosophers stuffed their pages with prodigies. The appetite for eye-openers was insatiable, and the grossest falsehoods were copied from one writer to another and accepted with wonder, indeed, but without doubt. But it is your patient plodding student of science who is the true eye-opener, in the better sense, revealing to his fellows the wonders of the world in which we have our being. It is not very many years since the true meaning of flowers was made plain to us. Formerly they were supposed to have been prepared for the glory of God and the pleasure of man. That they contribute to both, no one will care to deny; but how greatly both these functions are enhanced when their primary function is understood. Flowers are no more than local modifications of leaves, closely associated with the reproductive organs. Just as the faculties of all animals are exerted to their highest pitch in provision for and defence of their young, so the whole economy of a plant is directed to the perpetuation of its species. Now, it is essential to the vigour of the offspring of most plants, as it is to that of young animals, that the parents shall not be too closely related; but inasmuch as animals can move about and choose their mates, some other provision had to be made for plants, which are stationary. One such provision has been found in the action of insects flying from flower to flower, and carrying the pollen, or fertilising agent, of one to the receptacle of the other, thus securing cross-fertilisation. Plants have been enabled to make it worth the while of insects to visit them, by the power of secreting honey in their blossoms. But the presence of honey must be advertised, and a large volume might be filled with the description of the various devices of advertisement. Another, equally large, would be required to describe the varieties of mechanism intended to prevent the removal of honey without disturbance of pollen-cells, and to ensure the visitor carrying some of the fertilising dust to the next flower it enters. Showy colours, attractive forms and streaks and convenient shape are some, but not all of the methods of advertisement. The odours of flowers, which men conceitedly suppose to have been devised for their special delectation, are intended to attract insect visitants. Many flowers emit their fragrance only at night, whereby moths and nocturnal beetles may be drawn to them. Such flowers are most commonly white and pale yellow, so that they may be seen in the dark. The odours are not always agreeable. The giant Rafflesia, with flowers fully a yard in diameter, stinks like putrescent meat, and attracts swarms of carrion-loving flies, necessary to its proper fertilisation. That is a tropical plant; but in English gardens some forms of Arum may be grown in the open air, notably Arum Dracunculus and A. crinitum, which practise a similar deception. The last named is probably the most hideous flower in existence, for which reason it is seldom seen. It resembles a gaping wound, lurid with gangrene, nearly a foot long.

Dr. Wallace, has shown how, in those islands of the South Pacific, which possess numerous humming birds and flying insects, the flowers are brilliant and in great variety and profusion; whereas in the Galapagos Islands, where there is a total absence of

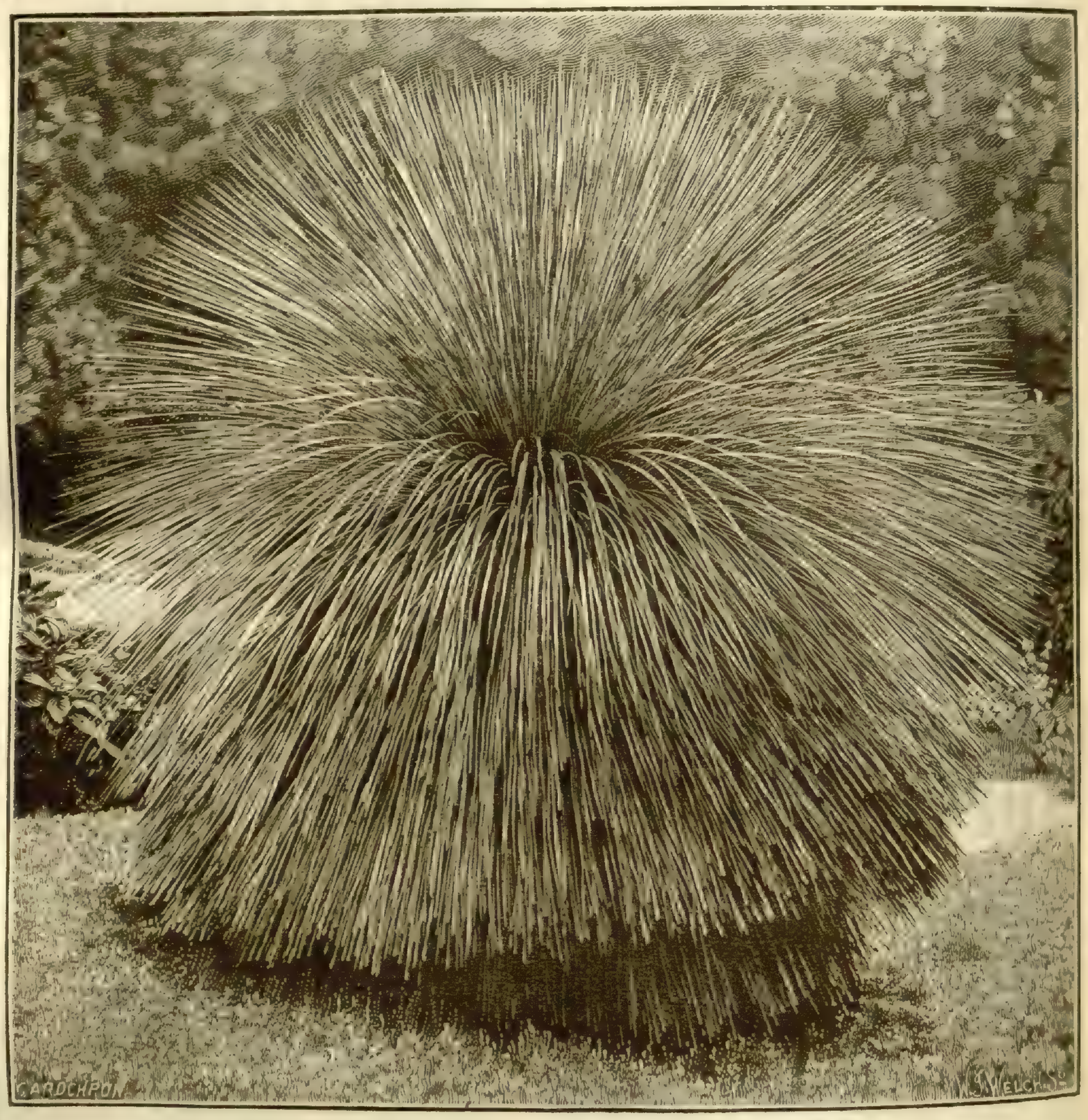

FIG. 27.—GRASS TREE (XANTHORRHÆA HASTILIS), IN THE DURBAN BOTANIC GARDEN, NATAL.
(SEE P. 197.)

humming-birds and insects, all the flowers are inconspicuous, and depend entirely on the winds to waft pollen from one to the other.

But some flowers, on the other hand, form a striking exception to this rule of cross-fertilisation. The Bee and Fly-Orchids, for example, which would be much more commonly seen on our English chalk downs but for the ravages of greedy collectors, fertilise themselves, and do not want to be bothered by buzzing bees and flies. So, look you, what a cunning device has been resorted to. No bee will enter a flower in which another bee is already at work; therefore, to protect the entrance, the lip is enlarged into a process exactly resembling the hind-quarters of a bee (in the Fly-Orchid it resembles a large fly). To the Spider Orchis, another British species, it seems to have occurred how a still more trying shock might be administered to the nerves of troublesome insects, so it displays in its orifice the likeness of a large spider.

It is difficult to account for such an ingenious defence. Plants, we must believe, have no intelligence. Can the Ruler of the Universe occupy himself in imitating the humblest of his own creatures? or is it really the sportive work of fairies? It is the obvious duties of those who deny the existence of an intelligent will directing the universe, to explain the origin of the unmistakable imitative design in these flowers. It can scarcely be no more than an accident that the presence of mock-bees and spiders, protecting the blossoms from the visits indispensable to the vigour of most races of plants, should coincide with an extremely rare property of self-fertilisation. To explain the puzzle in that way is to ask us to accept a belief infinitely more difficult than the one we are told to reject.

Some flowers are so small that, if they appeared singly, they might despair of attracting insects; so instead of enlarging themselves they make us a display by collecting themselves into groups. Of such are those known as the Umbelliferæ, of which family Hemlock, Goutweed, Parsnip, and Angelica are familiar examples. But a still more remarkable development of vegetable communism takes place in the Composite order, of which the Daisy is a good type. In these plants you will find an immense number of perfect, but very small, flowers, united in one head within a common involucre. In the Tansy, these composite heads present the appearance of a yellow button, in the Thistle that of purple tassels. But a strange arrangement is seen in such plants as the Daisy, Corn Marigold, and single Asters. In

these, the outer florets of the head sacrifice themselves in order that all their energy may go to display. They lose their reproductive organs, prolong themselves into simple straps, and assume bright colours so as to attract passing insects to their pollen-bearing brethren in the centre. The flower-head then assumes the familiar aspect of a golden or dark-coloured nucleus of fertile florets, surrounded by flat rays, gaily tinted with yellow, red, or violet, or as in the Daisy, pure white.

Reference is made here, of course, only to flowers, which the art of man has perverted from their natural shape. In double blossoms of the Composite order, like Chrysanthemums, double Daisies, and double Pyrethrums, all the florets have been forced to surrender their fertility, in order to add to the showiness of the flowers. In double flowers of other orders, such as Carnations and garden Roses, cultivation has been directed to alter the organ of reproduction, the stamens and anthers, into petals or sepals. Shakspeare, who knew something about everything, makes *Perdita*, in the *Winter's Tale*, speak her mind about them thus:—

"The fairest flowers o' the season
Are our Carnations, and streak'd Gilliflowers,
Which some call Nature's bastards: of that kind
Our rustic garden's barren; and I care not
To get slips of them. . . .
. . . I'll not put
The dibble in earth to set one slip of them;
No more than, were I painted, I would wish
This youth would say, 'twere well."

In losing their fertility, the flowers are also deprived of honey-gland, for the visits of living insects being solely beneficial to plants from the part they play in cross-fertilisation, there is nothing to be gained by attracting them to flowers incapable of reproduction. It is, however, a remarkable fact, and one lucky for florists, that flowers rendered sterile by doubling, retain, and sometimes increase their fragrance.

Now, in order to show that the truths of science are no whit less strange than the fairy tales recounted by ancient writers, here is one of the latest veritable "eye-openers." Many years ago an Italian botanist discovered in the mountains of Sumatra a gigantic Aroid, a plant of the same family of the Lord-and-Ladies of our hedgerows and the beautiful Ethiopian Lily of our greenhouse. The tuber was so large, measuring many feet in circumference, and emitted such an overpowering odour, that he could hardly persuade men the labour of uprooting them. However, after many days, he succeeded in getting a brace of entire plants, which he directed to be placed on a kind of hand-barrow for transport. The bearers turned sick with the stench, and whether by accident or design, both of the enormous bulbs were lost over a precipice. The botanist sent home a description of the plant, which was so starling as to receive very dubious acceptance among men of science. Traveller's tales, they thought, for the leaf-stalks were said to be 10 feet long, and the leaves nearly 50 feet in circumference. The spadix of the flower, that is the central column rising out of the spathe, measured 6 feet in height. No such Arum was ever known. Luckily for the traveller's reputation, he sent some seeds home to Europe; they were red, and about the size of Olives. Some of these were sent to Kew Gardens, where, about ten years ago, they were sown in a high temperature. They grew and grew, till at last there was only one place capable of holding the plants—the Victoria Regia-house. Finally, great excitement in the scientific world was caused when, in 1892, one of them showed signs of flowering. The signs were fulfilled; the great spathe expanded, revealed the monster spadix, and discharging an overpowering stench. Amorphophallus titanum stood revealed, and the good faith of the Italian botanist was vindicated. *Herbert Maxwell.* [For figures of this plant, see *Gardeners' Chronicle*, Oct. 2, 1886, p. 433.]

Fig. 28.—XANTHOCERAS SORBIFOLIA, IN THE GARDEN OF M. VAN DER RINDERE.

THE GRASS TREE.

We are indebted to our old and valued correspondent, Mr. Medley Wood, of the Natal Botanic Garden, for the opportunity of figuring the beautiful specimen of the Grass tree in the gardens under his charge. The Grass trees form the Australian genus Xanthorrhœa, which belongs to the Liliaceæ. The tall stems are like those of Palms, and thickly covered with the remains of the old leaves cemented together by the brownish resin which exudes from the stem. The stems are often charred and discoloured by bush-fires. The developed leaves are very narrow, forming a thick crown at the top of the stem, gracefully curving downwards, as shown in our illustration. The long sceptre-like flower-spike springs from the centre of the tuft of leaves. The cut (fig. 27, p. 196), will show better than words the ornamental character of the plant. Unfortunately, it is not hardy.

PROPAGATION OF FICUS ELASTICA FROM CUTTINGS.

As the propagation of the above plant will soon be taken in hand, a few remarks as to the best way to obtain sizeable plants in a short space of time, which will be useful for furnishing, will not be out of place.

First of all, if there are plenty of tops to be obtained, cut them clean through with a sharp knife, 12 or even 18 inches long, and just below a leaf; immediately dip them in some dry silver-sand, which should be in readiness. This important point must not be overlooked, otherwise from the loss of the sap, which quickly exudes, the rooting of such large cuttings will not succeed. There is no need to remove any of the lower leaves, and the making or trimming of the cutting is unnecessary, as the leaves will all be wanted for furnishing the bottom of the plant. If proper care be taken, and the work done expeditiously, not a leaf will be lost. The tops should have all the leaves drawn up together with a piece of bass, and the cuttings should be placed altogether in a propagating-case or hand-light placed in the stove, with some Cocoa-nut fibre over the bottom, on which the cuttings should be laid. Here they must remain for a fortnight, looking at them occasionally to see that the leaves do not suffer from damp, by which time they will be well calloused. Some 4½-inch pots should now be crocked, a little rough soil put into the bottom, and on this a good handful of cocoa-nut fibre, on which substance the base of the cutting should be placed, and the pots filled up with soil, finishing off with a little cocoa-nut fibre on the top, it being a material which can be kept moist by syringing. If it is not convenient to put them back into the case or hand-glass, they can be stood on the stage in the same house, and the leaves which were tied together must now be untied, and although they will hang down a little at first, in a very few days they will all get up, which is an unmistakable sign of rooting having taken place. The plants may soon be removed to a slightly lower temperature with safety. Plants thus obtained will be large enough for use in five or six weeks, and as they are much employed for filling small vases, they should be kept in the small pots they were struck in; there is no need to pot them on, unless large specimens are required, for if fed occasionally with a little Clay's Fertiliser, they will keep of a good colour, and attain a height of 3 to 4 feet in one season, when the tops will come in again for the same use in the following season. *W. Sharpe, Highwood.*

XANTHOCERAS SORBIFOLIA.

We have, on various occasions, figured the very beautiful Chinese Sapindaceous shrub, which is still much less known than it should be. It is a good plant for forcing, but its perfect hardihood and beautiful inflorescence give it a place among the most ornamental of our hardy shrubs. For the illustration of the plant as growing and flowering in the open air in Belgium (fig. 28), we are indebted to the kindness of M. Van der Rindere of Uccle.

ORCHID NOTES AND GLEANINGS.

CŒLOGYNE CRISTATA.

THIS plant should be grown in a pot, or it may be equally well grown in a pan or basket suspended from the roof of the house, in a compost of good fibrous peat and sphagnum moss and good drainage, and be placed in the cool house while making its growth; it may also be grown in a warmer temperature with equal success. When grown cool the spikes are very liable to damp and turn black, and the plant should when first showing flower be removed to a warmer temperature. Cœlogyne cristata requires an abundant supply of water during the growing season, and a good period of rest, when a small quantity of water will suffice. It is subject to the attacks of scale, which should be diligently sought for and carefully removed. This plant is propagated by division of the rhizomes, with a few bulbs attached to each portion. "*Orchid Album*," vol. xi., part 126.

PHAJUS GRANDIFOLIUS

should be cultivated in a flower-pot, in a compost consisting of good fibrous loam, leaf-mould, and decayed cow-manure, with a small quantity of sharp sand added. This plant, if allowed plenty of pot-room, will attain large dimensions, while moderate applications of liquid-manure will be found especially beneficial, ensuring not only vigorous growths but also beautiful healthy foliage, thereby greatly increasing its ornamental value. It should be grown in either the Cattleya or East India-house, as it requires an abundance of heat and moisture during the growing period; and care should be taken not to touch the young growths. When at rest a cooler atmosphere will suffice. It is subject to the attacks of scale and thrips, which may be kept in check by steaming tobacco-juice in the thanatophore. It is propagated by division when the blooming season is past. "*Orchid Album*," vol. xi., part 126.

PLEIONE MACULATA

should be grown in a flower-pot, in a mixture of loam, peat, and moss, with a little sand added to keep the compost open; it requires plenty of drainage and a liberal supply of water while in growth, the waterings being gradually reduced until the plants become dry. A season of rest is necessary until they commence to show flower during the autumn and winter months, when water should again be given them. They can either be grown in the Cattleya or East India-house, and are increased by division. "*Orchid Album*," vol. xi., part 126.

SOPHRONITIS GRANDIFLORA

is of easy culture, and should be grown in the cool-house, either on a block of wood, or in a basket suspended from the roof, in a compost of peat and sphagnum moss. It delights in a liberal supply of water during the growing season, but care should be taken not to overdo this, more especially when the plants are showing flower, as they are apt to rot if over-watered. The plants should be propagated by dividing them just as they are starting to grow. "*Orchid Album*," vol. xi., part 126.

CATTLEYA MOSSIÆ VAR. WAGNERI.

A beautiful form of C. labiata, in which the segments are pure white, the throat of the lip alone showing a yellow colour. It flowers in May and June. *Lindenia*, t. CDXLV.

BIFRENARIA TYRIANTHINA, *Rchb. f.*

A species well nigh lost to gardens, but re-introduced by MM. Linden. It was originally described in Reichenbach's *Xenia*, i., pp. 61, 223. The plant has the habit of a Lycaste, and the flowers are of similar shape to those of that genus. The segments are white, deeply tipped with rosy-lilac. The lip, which is of about the same length as the segments, is veined with lilac, and prolonged at the base into a long conical spur. *Lindenia*, t. CDXLVI.

LÆLIO-CATTLEYA LINDENI.

Flowers of a rosy-lilac, the front lobe of the lip rich crimson. *Lindenia*, t. CDXLVII.

ERIA CINNABARINA, *Rolfe*.

A species with loose many-flowered racemes, the flowers measuring about an inch, and being of a deep orange colour, as also are the bracts of the inflorescence, so that, unlike its congeners, it is decidedly an ornamental species. Borneo. *Lindenia*, t. CDXLVIII.

CATTLEYA HARDYANA VAR. LUCIANI.

A noble variety, with the segments rich rosy-lilac, the lip thickly spotted with crimson, and the throat yellow. *Lindenia*, t. CDXLIX.

ODONTOGLOSSUM NEBULOSUM VAR. AMABILE.

Differs from the type in its larger flowers, and in the spots being of a brighter pink colour. *Lindenia*, t. CDL.

ONCIDIUM CRISTATUM, *Rolfe*.

One of the paniculate species, possessing relatively large yellow flowers with only a few brown spots on the base of the lip and crest. Useful for cut flowers and decorative purposes. It flowers in May. *Lindenia*, t. CDLI.

THUNIA WINNIANA, *hort*.

A magnificent species, with large flowers with rosy-lilac segments, and a very deep maroon-coloured plicated lip. *Lindenia*, t. CDLII.

THE EDUCATION OF GARDENERS.

(*Continued from page* 165.)

PRACTICAL HORTICULTURE.—It is no purpose of the present paper to dwell upon this subject. Suffice it to say, that a lad of fourteen or fifteen, grounded in the way above indicated, would soon be very useful in a garden, while he would be beginning the purely practical part of his studies. The use of spade and of pruning-knife, the method of potting plants, and regulating heating and ventilation, can only be acquired in this way; and it is, of course, most important that a lad should be under a competent and experienced gardener till he is eighteen or nineteen. It is, however, possible, with the aid of such an experienced practical man, to teach much of the practice of horticulture in two or three years to lads between sixteen and eighteen or nineteen, and yet to reserve two or three hours a day for indoor study. It will undoubtedly be during these apprenticeship years that the most lasting and valuable lessons of theory and of practice will be learnt, whether by those quartered in a bothy or in a college; and it is important that at this stage every inducement should be held out to the young gardener to continue his scientific studies. As conducive to this end, his hours of outdoor work ought not to be too long; but, if it be only possible to spare two evening hours in summer, the long winter evenings afford an opportunity for making up for lost time.

EVENING CLASSES.

If a lad has learnt something of physiography, elementary biology, and botany, before he enters a horticultural college or the bothy, though he will very probably require further training in surveying, and may be glad to attend a short course of lectures on meteorology, his main subject of study during his evening leisure will be botany. This he will want to consider from many points of view. The geography of plants, their fungoid diseases, the varieties in cultivation, and their special physiological characters, will all demand his attention. He will probably want some insight into entomology, and at least enough of ornithology to distinguish his bird friends from his foes. As to chemistry, he can, of course, occupy a very large portion of the time available for study in its pursuit; but it is doubtful whether it will be worth his while to carry this study so far as to become a competent analyst.

We have been dealing so far only with those trained from childhood on the scheme we have sketched out as ideal. There certainly are many young men entering the gardening world now between the ages of fifteen and nineteen, and many older men fully occupied in the practice of the profession, who have had few or none of the advantages of such a training. These should be able to attend evening classes in physiography, elementary biology, drawing and elementary botany, as well as the more advanced subjects taken only after the completion of the school course.

PRACTICAL SUGGESTIONS.

There are many rural and suburban districts where gardening is now one of the leading industries. Would it not be possible for the school-boards in such districts, or the local or county technical education committees, to obtain (i) duly qualified teachers of physiography and elementary biology for their schools, who might also conduct evening classes in those subjects; (ii), peripatetic occasional lecturers on entomology and meteorology; and (iii), teachers for evening classes in botany. It is important that it should be borne in mind that mere lecturing will be of little use in botany, biology, and physiography, though it may suffice in more subsidiary, i.e., less essential, subjects. Practical teaching, individual contact of teacher with pupil, and of the student with specimens is, in the main subjects, essential. Students should be encouraged by prizes to test their knowledge by the examinations of the Science and Art Department, and the Royal Horticultural Society, and either by the division into day and evening classes, or by a grouping in accordance with ages, it would be desirable that the scope and results of these examinations should in all cases be graduated. *G. S. Boulger*.

CULTURAL MEMORANDA.

BOUVARDIAS.

OLD plants which were cut back in December, and afterwards cut down, will by this time have made some stout cuttings, and propagation may at once commence. Some gardeners take the young shoots with a heel of older growth, but I prefer to let them grow a little longer, in order that they may be cut just below a joint, as if inserted at this season these root quite freely. Having filled a number of small pots with a light sandy soil, stand them in the house in readiness for inserting the cuttings. Place four cuttings round the rim, and one in the middle, and plunge the pots in a propagating-case or hot-bed frame, where the bottom-heat is about 80°, and the top-heat 70°, and keep the frame close till roots form, then gradually afford air. When the pots are filled with roots, instead of potting the plants off singly, shift them into pots a size or two larger without disturbing the ball, and again plunge in a milder hot-bed till again well-rooted. Some strong shoots will emerge from the buds beneath the surface, and by the time the pots are again filled with roots these will have grown several inches long, and should have their points taken out. If the plants are to do well, they should be shifted into 6-inch pots. The shoots that were pinched should be pegged down to the soil, when several more strong growths will push from them, forming altogether potfuls of very bushy plants. These last shoots should not be pinched at the points, and they may be allowed to flower. If, however, extra large plants are wanted, another repotting may be afforded. The plants which supplied the cuttings may be shaken out of the soil, pulled into pieces, each of which may be potted singly into 4-inch pots, and placed in heat till re-established, and as the pots become filled with roots, shifted into others of a larger size, and grown-on in warmth till the end of the month of May, being then gradually inured to the outside air till it is safe to place them in the open. A chief point in cultivating Bouvardias is not to give them any kind of a check from first to last. A light and rich compost is the most suitable; and as the roots are very fine, it should be passed through a small-meshed sieve before being used, and the drainage of the pots should be good. Potting should be done rather firmly. Early in September, the plants should be placed under cover. Bouvardias should be daily syringed, and if mealy-bug appears on them, means must at once be taken to destroy them. *H. C. Prinsep*.

A LIST OF HYBRID CYPRIPEDIUMS.

WE had occasion to notice (January 5, p. 16) the neat little pocket-catalogue of Cypripediums compiled by Mr. H. J. Chapman, gardener to R. I. Measures, Esq., of Camberwell, at whose cost it was published. In this, as in all previous catalogues, the names of the hybrids were placed first, and in alphabetical order, and the names of the species or varieties from which they were obtained afterwards. We suggested that in view of the difficulties in the way of readily ascertaining, by the aid of a list so arranged, whether a certain cross had been made, and the name of the progeny of such cross, it would be advisable to make a supplementary catalogue in which the species and varieties used in obtaining the hybrids should be placed alphabetically in the first column, and the names of the progeny in the second. By such an arrangement the raisers of hybrid Cypripediums, new to them, may at a glance see whether similar crosses have been effected, and what names have been given to them. The re-naming of already known plants may also thus be avoided by those who wish to prevent confusion in this favourite class of garden Orchids. On scanning the list which Mr. H. J. Chapman has prepared at our suggestion, and which we now have the pleasure to publish, two things especially present themselves to the mind. The first is, the seemingly endless field still open to the hybridist, and which is indicated by the absence of the names of such a large number of species from this list of those already worked, and the incalculable number of combinations to be got from them; and the second, and what is perhaps the most important for the present day, the few plants from the same crosses which have received different names, notwithstanding the fact that so many have been working with the same species. And in the few cases where the same crosses have received different names we have generally found that the plants have been in more or less degree distinct, so variable is the progeny, even of the seeds from the same capsule. But we would urge that this variation in the progeny is no excuse for substantially different names, but that the same crosses should always bear the same (the original) names, and that in the case of extraordinary and evidently different varieties, a varietal name should be added.

It would be well if reverse crosses were brought also under the original name given to the progeny of any two species or varieties used; but reverse crosses often show markedly different features, and the name might then be arranged, as it has been already in the case of C. × Lathamianum inversum. What we wish to impress is, that hybrids which have been obtained from the same parents, should be kept under the original and well-known names, no matter how dissimilar they may be, in order to preserve order in a subject which would otherwise soon become beyond the depth of human understanding. Extraordinary varieties must of course be recorded, but let them be kept under their proper heads. We hope occasionally to bring the list we now publish up to date, and also to deal with other Orchids, &c., in a similar manner.

The names of persons given in the right-hand column are those of the raisers or of the introducers. It is not in all cases possible to say whether the introducer was really also the raiser.

Parents.	Offspring.	Raisers, Etc.
Albanense ♀ × reticulatum ♂	= Venus	Sander
Argus × Boxalli	= Dibdin	Tautz
,, × ,,	= Sphinx	Vuylsteke
,, × Dayanum	= Pandora	Joly
,, × Lawrenceanum	= Io	Sander
,, × ,,	= Io grande	Sander
,, × niveum	= Gravesiæ	Graves
,, × philippinense	= burfordense	Sir T. Lawrence
,, × Spicerianum	= Cretheus	Veitch
,, × villosum	= vernixium	Veitch
Arthurianum × Spicerianum	= Minosa	Veitch
Ashburtoniæ × ,,	= Joseph Donat	Sander
,, × vernixium	= Louryanum	Sander
,, expansum × calophyllum	= imperatrix	Sander
barbatum ♀ × Argus ♂	= Turpe	Veitch
,, × Dayanum	= Madeline Gayot	Continental
,, × Drurii	= orphanum	Veitch
,, × Fairieanum	= vexillarium	Veitch
,, × hirsutissimum	= porphyrochlamys	Veitch
,, × Hookeræ	= patens	
,, × insigne	= Ashburtonæ	Cross
,, × ,, amabile	= Laucheanum	Sander
,, × ,, punctatum violaceum	= Laforcadei	Godefroy
,, × javanicum virens	= pleistochlorum	Drewett
,, × Lawrenceanum	= almum	Cookson
,, × philippinense	= selligerum	Veitch
,, × Stonei	= euryandrum	Veitch
,, × superbiens	= superciliare	Veitch
,, × Swanianum	= grandavense	Continental
,, × venustum	= melanophthalmum	Williams
,, × ,,	= calophyllum	Williams
,, × ,,	= chloroneurum	Williams
,, × ,,	= politum	Williams
,, × villosum	= Dauthierii	Van Houtte
Crossii × Spicerianum	= Alector	Veitch
,, × Lawrenceanum	= The Hendre	
grandiflorum × Spicerianum	= Eyermanianum	Sander
,, × Stonei	= The Duke	Winn
nigrum × superbiens	= barbato-Veitchii	Bleu
superbum × Spicerianum	= Eyermanianum var. Diana	R. I. Measures
,, × Argus	= Kaloe	R. I. Measures
,, × bellatulum	= Charles Richman	Richman
Veitchii × Hookeræ	= amethystinum	
Warneri × Fairieanum	= Warocqueanum	Linden
,, × Lowii	= calanthum	Veitch
barbato-Veitchianum × Hookeræ	= amethystinum	
bellatulum ♀ × barbatum Crossii ♂	= Leysenianum	Hye
,, × Dayanum	= Annie Measures	Sander
,, × Stonei	= Paris	Hall
,, × superbiens	= Measuresiæ	Sander
,, × superciliare	= Arnoldiæ	Sander
,, × Swanianum	= William Lloyd	Hollington
Boxalli × Argus	= Horneri	Marwood
,, × barbatum	= apiculatum	Drewett
,, × callosum	= J. Bartals	Sander
,, × calophyllum	= Pluto	Low
,, × Chas. Canham	= Captain Lendy	Ingram
,, × Harrisianum	= Eismannianum	Seeger
,, × hirsutissimum	= Godseffianum	Cookson
,, × insigne	= Sibyrolense	Continental
,, × ,,	= Madame de Curte	Vervaet
,, × ,, Chantini	= Mons. de Curte	Vervaet
,, × ,, Maulei	= Schlesingerianum	Seeger
,, × Leeanum	= Hera	R. H. Measures
,, × Lowii	= Beatrice	Drewett
,, × Morganiæ	= Fredericus-nobilis	Seeger
,, × plunerum	= Burburyanum	Sander
,, × Spicerianum	= Eurydice	Continental
,, × ,,	= Vanderrielianum	Continental
,, × venustum	= dubium	
,, × ,,	= pavonianum	Drewett
,, atratum × Argus	= Cyris	Cookson
,, ,, × ,,	= Davisianum	Sander
,, ,, × hirsutissimum	= Murillo	Vuylsteke
Bullenianum × insigne	= Jupiter	Continental
	= Corbeillense	Continental

Parents.	Offspring.	Raisers, Etc.
callosum × Argus	= Talloso-Argus	
,, × bellatulum	= Southgatense	Lewis
,, × calophyllum	= Pallas	Drewett
,, × ciliolare	= Zeus	R. I. Measures
,, × Harrisianum	= Ledouxiæ	Ledoux
,, × hirsutissimum	= Van Molianum	Linden
,, × Hookeræ	= Poyntzianum	
,, × insigne Chantini	= Van Imschootianum	Continental
,, × Tautzianum	= Nandii	R. I. Measures
,, × villosum	= Indra	R. I. Measures
,, superbum × Godefroyæ	= Mons. Finet	Continental
calophyllum × insigne Maulei	= Northumbrian	Drewett
,, × œnanthum superbum	= Pollettianum	Sander
,, × Spicerianum	= Macfarlanei	Sander
calurum × Sedeni porphyreum	= Lemoinieri	Sander
caricinum × caudatum	= Dominianum	Veitch
,, × ,, Wallisii	= ,, albiflorum	Veitch
,, × ,, ,,	= Clymene	Veitch
,, × Roezlii	= conchiferum	Bowring
cardinale × Sedeni	= Rosy Gem	Ingram
caudatum × conchiferum	= nitidissimum	Veitch
,, Warscewiczii × ,,	= chrysocomes	Seeger
,, ,, × Schlimii	= Saundersianum	Bull
,, ,, × Sedeni	= Schroderæ	Veitch
chloroneuru n × barbatum Warneri	= festum	Seeger
chlorop- × Schlimii	= Baconis	Sander
ciliolare × hirsutissimum	= Eurylochus	Veitch
,, × insigne Chantini	= Alfred Bleu	Bleu
,, × niveum	= Winifred Hollington	Ayling
,, × Stonei	= Georges Truffaut	Sander
,, × Spicerianum	= Bookeri	Lewis
,, × superbiens	= Lachmee	R. I. Measures
conchiferum × caudatum Wallisii	= Clonius	Veitch
,, × grande	= Elstedianum	Ingram
,, × Schlimii albiflorum	= Edithæ	Sander
concolor × Argus	= Grenor	Veitch
,, × almum	= Hollidayanum	Sander
,, × barbatum	= tesselatum	Veitch
,, × ,,	= ,, porphyreum	Veitch
,, × callosum	= conco-callosum	R. H. Measures
,, × insigne	= Orion	R. H. Measures
,, × Lawrenceanum	= conco-Lawre	Sir T. Lawrence
,, × superbiens	= Arnoldianum	Pitcher
,, × ,, ?	= The Pard	Sir T. Lawrence
Crossianum × Harrisianum	= Boyleanum =	Sander
Curtisi × Argus	= Hurrellianum =	Pitcher
,, × barbatum nigrum	= Kerchovianum =	Continental
,, × callosum	= Goultenianum =	Goulten
,, × insigne	= miniatum	Sander
,, × Lawrenceanum	= Sylvia	Bowering
,, × niveum	= Cowleyanum	Tautz
,, × philippinense	= Warnhamense	Lucas
,, × Stonei	= Constance	Drewett
,, × ,, platytænium	= J. H. Veitch	Veitch
,, × superbiens	= Cymatodes	R. H. Measures
,, × ,,	= Beechense	Lee
Dayanum × barbatum	= Swanianum	Swan
,, × ,,	= Siranianum	
,, × ,, Warneri	= delicatulum	Drewett
,, × concolor	= Burbidgeanum	
,, × insigne	= Siebertianum	Seeger
,, × Swanianum	= Artemis	Veitch
,, × virens	= Woodlandense	Sander
,, × superbum × superbiens	= George Kittel	Kittel
Dauthierii × calophyllum	= Fausianum	Sander
,, × insigne	= Berggrenianum	Sander
,, × œnanthum superbum	= Mrs. C. W. Hook	Pitcher
,, × Spicerianum	= Kirckhoffianum	Seeger
Drurii × ciliolare	= Greyanum	Pitcher
,, × ,,	= Merops	Veitch
,, × insigne	= Aeson	Veitch
,, × javanico-superbiens	= Josephianum	Pitcher
,, × Lawrenceanum	= Cybele	Pitcher
,, × ,,	= Basileum	R. H. Measures
,, × Spicerianum	= Buchananianum	Osborne
,, × ,,	= excelsior	Hye

A LIST OF HYBRID CYPRIPEDIUMS—*(Continued)*.

PARENTS.	OFFSPRING.	RAISERS, ETC.
Druri × superbiens	= T. B. Haywood	Veitch
elegans × venustum	= Minerva	R. H. Measures
Fairieanum × calloum	= Juno	Cookson
,, × Dayanum	= Constableanum	Pitcher
,, × Lawrenceanum	= Fairieano-Lawrenceianum	R. H. Measures
,, × superbiens	= Edwardii	Pitcher
Godefroyæ × barbatum	= J. Gurney Fowler	Low
,, × ,, Crossii	= Sirius	Veitch
grande × Sedeni candidulum	= pulchellum	Vanner
,, × Uropedium Lindeni	= macrochilum giganteum	Veitch
Harrisianum × barbatum biflorum	= Ensign	Winn
,, × callosum	= Titanes	R. H. Measures
,, × Godefroyæ	= Harrisi-froyæ	Sir T. Lawrence
,, × insigne	= pulcherrimum	Drewett
,, × ,,	= Alice Gayot	Lebeuf
,, × ,,	= Electra	Veitch
,, × ,, Chantini	= Clement Loury	Continental
,, × ,, ,,	= Felix Jolibois	Continental
,, × ,, ,,	= Emile Gayot	Continental
,, × ,, purpuratum violaceum	= Cambridgeanum	R. I. Measures
,, × ,, ,, ,,	= Josephine Jolibois	Sander
,, × ,, Wottii	= Donatianum	Sander
,, × ,, Maulei	= œnanthum	Veitch
,, × ,, ,,	= Thibautianum	Veitch
,, × ,, ,,	= Galatea	Veitch
,, × Lawrenceanum	= mulus	Sander
,, × ,,	= Amphion	R. H. Measures
,, × Leeanum	= Harrisi-Leeanum	Clarke
,, × Sallieri Hyeanum	= giganteum	Hye
,, × Spicerianum	= Adonis	Williams
,, × ,,	= Pitcherianum	Sander
,, × ,,	= Mauriceanum	Bleu
,, × ,,	= Savageanum	Ebner
,, × superbiens Pemidoffii	= Troyonianum	Tate
,, × venustum	= Lega	Bowring
,, × villosum	= conspicuum	Sander
,, × ,,	= Ianthe	Veitch
,, × ,,	= Prewettii	Hollington
,, × ,,	= claptonense	Low
,, × ,,	= Wallærtianum	Peeters
,, nigrum × concolor	= Watsonianum	Sander
,, ,, × Boxalli atratum	= tenebrosum	Tate
,, superbum × concolor	= J. H. Berry	Sander
,, ,, × œnanthum superbum	= Creon	Veitch
,, ,, × Spicerianum	= Pitcherianum, Williams' var.	Williams
,, ,, × ,,	= Osbornei	Williams
,, ,, × ,,	= Ashburtonioides	Thompson
,, vivicaus × ,,	= Alfred Truffaut	Sander
Hartwegii × caricinum	= Chlorops	Sander
,, × Schlimii	= Weidlichianum	Sander
Haynaldianum × insigne Chantini	= Pelias	Pitcher
,, × Lathamianum	= nobilius	Sander
,, × Spicerianum	= Carnusianum	Carnuse
hirsutissimum × barbatum	= Fraseri	Veitch
,, × Boxallii atratum	= Bragaianum	Linden
,, × callosum	= Doncasterianum	Sander
,, × Curtisii	= Adonis	Ingram
,, × Spicerianum	= Ceres	Drewett
,, × ,,	= Huybrechtianum	Vervaet
,, × ,,	= Sirius	Sander
,, × superbiens	= Castleanum	Sander
,, × villosum	= Germinyanum violaceum	Linden
Hookeræ × Ashburtoniæ	= Wiganianum	Wigan
,, × barbatum	= marmorophyllum	Veitch
,, × ,,	= Fitchianum	Williams
,, × insigne	= Echo	Graves
,, × Mastersianum	= xanthophyllum	R. H. Measures
,, × œnanthum superbum	= Cleopatra	Winn
,, × purpuratum	= gemmiferum	Veitch
,, × Rothschildianum	= Y'mir	R. I. Measures
,, × Stonei	= melanthus	Veitch
,, × superbiens	= Œnone	Sander
,, × ,,	= Hookeræ-Veitchi	Williams
insigne × Ashburtoniæ	= Annæsti	
,, × callosum	= Regnaldianum	
,, × Fairieanum	= Arthurianum	Veitch
,, × hirsutissimum	= Alcides	Sander
,, × ,,	= Pheres	Veitch
,, × Spicerianum	= Leeanum	Sir T. Lawrence
,, × venustum	= amandum	Warner
,, × ,,	= Crossianum	Cross
,, Chantini × barbatum	= Bartetii	Continental
,, ,, × auroreum	= Ephialtes	Pitcher
,, ,, × callosum	= Leoniæ	Leon
,, ,, × Fairieanum	= Arthurianum pulchellum	Veitch
,, ,, × Harrisianum	= Louryi	Continental
,, ,, × ,,	= Madame Gondoin	Continental
,, ,, × Io grande	= Tryanowskyanum	Sander
,, ,, × ,,	= gloriosum	Statter
,, ,, × Lawrenceanum	= Eucharis	
,, ,, × nitens	= Zeno	Veitch
,, ,, × Spicerianum magnificum	= Leeanum illustre	R. I. Measures
,, Maulei × Argus	= Swinburnei	Heath
,, ,, × Dayanum	= pellucidum	Pitcher
,, ,, × Harrisianum superbum	= Themis	Veitch
,, ,, × Lawrenceanum	= Fournierianum	Sander
,, ,, × purpuratum	= regale	Bull
,, ,, × Spicerianum	= Engelhardtæ	Linden
,, ,, × ,,	= Leeanum burfordiense	Sir T. Lawrence
,, ,, × ,,	= ,, superbum	Veitch
,, maximum × ,,	= Vervaeti	Continental
Io grande × Boxalli	= Behrensianum	Continental
,, × ,,	= Ionides	Sander
,, × Spicerianum	= Io-Spicerianum	
javanico-superbiens × ciliolare	= Iris	
,, ,, × Hookeræ	= amabile	Bleu
javanicum × Harrisianum	= Colmanii	Seeger
,, × Spicerianum	= javanico-Spicerianum	Sander
,, × superbiens	= javanico-superbiens	Page
,, × ,,	= Sementa	Bleu
Lathamianum × Harrisianum	= Pryorianum	Bleu
Lawrenceanum × bellatulum	= Lawrebel	Sander
,, × Boxalli atratum	= Thayerianum	Sir T. Lawrence
,, × ciliolare	= Lucie	Sander
,, × ,,	= Smithii	
,, × concolor	= Lawre-concolor	Hollington
,, × Curtisii	= Goweri	Sir T. Lawrence
,, × Harrisianum	= gigas	Sander
,, × ,,	= Æsculapius	Ingram
,, × ,,	= gloriosum	R. I. Measures
,, × hirsutissimum	= T. W. Bond	Hye
		Ingram

PARENTS.	OFFSPRING.	RAISERS, ETC.
Lawrenceanum × Hookeræ	= enfieldense	Hollington
,, × Hookeræ Measuresianum	= enfieldense var. Hele	R. I. Measures
,, × insigne Chantini	= Umlaufianum	Sander
,, × ,, Maulei	= Acis	Veitch
,, × ,, Marshallianum	= Henry Graves	Graves
,, × niveum	= Antigone	Veitch
,, × ,,	= Telemachus	Hollington
,, × œnanthum superbum	= Marshianum	Sander
,, × Parishii	= Elizabethæ	R. H. Measures
,, × Sallierii	= Cobbianum	Cobb
,, × Spicerianum	= radiosum	Veitch
,, × ,,	= Bradshawianum	Lewis
,, × superbiens	= Euryale	Veitch
,, × ,,	= Robinsonianum	Sander
,, tonsum	= Madame Barbery	Jolibois
,, × venustum	= auroreum	
Leeanum × Arthurianum	= Mary Lee	Lee
,, × Boxalli	= Adrastus	Veitch
,, × ,,	= Eryades	Veitch
,, × hirsutissimum	= Weathersianum	Linden
,, × ,,	= Zampa	Vuylsteke
,, × insigne Chantini	= Simoni	Continental
,, × Morganiæ	= Leeanum-Morganiæ	R. I. Measures
,, × œnanthum superbum	= Brunnianum	Sander
,, × venustum	= Beatrice Ashworth	Ashworth
,, × villosum	= Leander	R. H. Measures
,, superbum × Haynaldianum	= Clothilde Moensii	Moens
,, ,, × selligerum majus	= Ashworthæ	Sander
Lindleyanum × Sedeni candidulum	= Phædra	Veitch
,, × Schlimii albiflorum	= l'unique	Ingram
longifolium × Schlimii albiflorum	= Sedeni candidulum	Veitch
,, × Sedeni	= calurum	Veitch
Lowii × barbatum	= Sappho	Veitch
,, × ,, Warneri	= Chelseaense	Bull
,, × Dayanum	= Patersoni	Lewis
,, × Hookeri	= suffusum	Burton
,, × ,,	= Burtoni	Burton
,, × œnanthum superbum	= Daisyæ	Graves
,, × Parishii	= Robinianum	Linden
,, × superbiens	= macropterum	Veitch
,, × ,,	= Lowii-superbiens	Sir T. Lawrence
,, × villosum	= lucidum	R. I. Measures
magniflorum × leucorhodum	= Brownii	Pitcher
marmorophyllum × Hookeri	= fulgens	Sander
,, × insigne Chantini	= The Gem	Ingram
,, × Spicerianum	= Senateur Montefiore	Peeters
Measuresianum × tonsum	= Tacita	Graves
Niobe × Spicerianum	= Norma	Veitch
nitens × niveum	= La France	Seeger
,, magnificum × Lawrenceanum	= Johnsoni	Sander
niveum × barbatum	= Tautzianum	Veitch
,, × ,,	= Madame Van Houtte	Van Houtte
,, × ,, Warneri	= Tautzianum lepidum	Bull
,, × ciliolare	= Aylingii	Ayling
,, × ,,	= niveo-ciliolare	R. H. Measures
,, × Drurii	= microchilum	Veitch
,, × Harrisianum	= Mawoodii	
,, × insigne	= Muriel Hollington	Hollington
,, × ,, Sanderæ	= Venus	
,, × Lawrenceanum	= Aphrodite	Veitch
,, × Lowii	= niveo-Lowii	Drewett
œnanthum × Argus	= Mdm. Josci Descombes	Continental
,, × Boxalli	= rubescens	Statter
,, × Dauthieri	= La Nymphe	Bond
,, × Dayanum	= Tennyson	McArthur
,, × Harrisianum	= Brennus	R. H. Measures
,, × Lawrenceanum	= bijou	Ingram
,, × Sallierii Hyeanum	= triumphans	Hye
,, × Spicerianum	= œno-Spicerianum	R. I. Measures
,, × villosum	= Kramerianum	Sander
,, × superbiens	= œno-superbiens	Sir T. Lawrence
,, superbum × Spicerianum	= Tityus	Veitch
philippinense × Argus	= Bryanianum	Cookson
,, × barbatum	= Peetersianum	Peeters
,, × callosum	= Hobsoni	Hollington
,, × ,,	= Milmani	Hollington
,, × ciliolare	= Finetianum	Seeger
,, × Curtisii	= Clinkaberryanum	Pitcher
,, × Lowii	= Berenice	
,, × niveum	= Vipanii	Vipan
,, × Spicerianum	= Astræ	Veitch
,, × venustum	= Alfred	Drewett
,, × villosum	= Æolus	Veitch
,, × ,,	= Priapus	Veitch
plunerum × Spicerianum	= Ashworthii	Sander
purpuratum × Argus	= Batalinii	Sander
,, × Fairieanum	= Hy. Ballantine	Veitch
,, × Io	= modestum	Sander
,, × Spicerianum	= Maynardi	Sander
,, × ,,	= Rodigasianum	Capart
,, Kimballianum × Spicerianum	= Cecilia	Sander
reticulatum × Sedeni candidulum	= Brysa	Veitch
,, × Schlimii albiflorum	= Cleola	Veitch
Roezlii × caudatum	= grande	Veitch
,, × (Uropedium) caudatum Lindeni	= macrochilum	Veitch
,, × Schlimii albiflorum	= leucorrhodum	Veitch
,, × Sedeni	= Ainsworthii	
Rothschildianum × Harrisianum	= excelsior	Statter
Sallieri × hirsutissimum	= Erato	
,, × villosum aureum	= J. Howes	Cobb
,, Hyeanum × Lawrenceanum	= decorum	Hye
,, ,, × ,, Hyeanum	= Genesa	R. I. Measures
,, ,, × Spicerianum	= aureum	Hye
,, ,, × ,,	= Madame Marguerite Hye	Hye
Sanderianum × superbiens	= Sanderiano-superbiens	Cookson
Schlimii × caricinum	= stenophyllum	Veitch
,, × Dominianum	= albo-purpureum	Veitch
,, × longifolium	= Sedeni	Veitch
,, × ,,	= ,, porphyreum	Veitch
,, × Sedeni	= albanense	Sander
,, × ,,	= rubicundum	R. I. Measures
,, albiflorum × longifolium	= Sedeni albanense	Bull
Sedeni × conchiferum	= Coppinianum	Sander
,, × Lindleyanum	= Thersites	Veitch
,, × longifolium	= robustum	Sander
,, × Schlimii albiflorum	= cardinale	Veitch
,, candidulum × calurum	= compactum	Ingram
,, ,, × candatum	= Mrs. W. A. Roebling	Pitcher
,, porphyreum × Lindleyanum	= Perseus	Veitch
selligerum × Harrisianum	= selligero-Harrisianum	Continental
selligerum majus × ,,	= Paulii	Bowring

A LIST OF HYBRID CYPRIPEDIUMS—*(Continued)*.

PARENTS.	OFFSPRING.	RAISERS, ETC.
selligerum majus×superbiens	=Eleanor	Drewett
,, ,, ×tonsum	=Aspasia	Sander
Spicerianum×Arthurianum	=Minosa	Veitch
,, ×barbatum superbum	=Bosscherianum	Sander
,, ×Boxalli	=Calypso	Veitch
,, × ,, atratum	= ,, superbum	Cookson
,, × ,, ?	=Flora	R. I. Measures
,, ×Crossianum	=Malyanum	Sander
,, ×Curtisii	=Allanianum	Pitcher
,, × ,,	=Uihleinianum	Sander
,, ×Crossianum	=Ashworthianum	Sander
,, × ,,	=Kraussianum	Pitcher
,, ×concolor	=Arete	Veitch
,, ×Dayanum	=Pallens	Pitcher
,, ×Dauthierii	=Madame Cappe	Cappe
,, ×Fairieanum	=Niobe	Veitch
,, ×Harrisianum	=Erycina	R. H. Measures
,, × ,,	=Seegerianum	Seeger
,, ×Haynaldianum	=Cahuzac	Sander
,, ×hirsutissimum	=Medea	Veitch
,, × ,,	=fascinator	Hye
,, × ,,	=Spicero-hirsutissimum	Linden
,, ×Io grande	=Lœwengrenianum	Sander
,, ×insigne Neilsoni	=Vallerandi	Continental
,, × ,, Wallacei	=Albertianum	Hye
,, ×javanicum	=lutescens	Pitcher
,, ×Lawrenceanum	=G. S. Bull	Sander
,, ×Lowii	=Spicero-Lowii	Linden
,, × ,,	=De Witt Smith	Low
,, ×marmarophyllum	=Parksianum	Pollett
,, ×niveum	=Spicero-niveum	Sander
,, ×œnanthum superbum	=Figaro	Seeger
,, ×plunerum	=Vesta	Sander
,, ×purpuratum	=Cythera	R. H. Measures
,, ×Stonei	=Alice	Drewett
,, × ,,	=Hebe	Pitcher
,, ×selligerum majus	=Ariadne	Statter
,, × ,, ,,	=Lynchianum	Sander
,, ×superbiens	=picturatum	Sir T. Lawrence
,, ×tonsum	=Ceres	Low
,, × ,,	=Madame Jules Hye	Hye
,, × ,,	=Spicero-tonsum	Ingram
,, ×vexillarium	=Janus	R. I. Measures
,, × ,, superbum	=Statterianum	Charlesworth
,, ×vernixium	=Claudii	
,, ×villosum	=Lathamianum	Latham
,, × ,,	=Rex	Hye
,, × ,, ?	=Memoria Moensii	Moens
,, magnificum×barbatum superbum	=Eyermanianum var. Diana	R. I. Measures
,, ,, × ,, Warneri	= ,, var. Hermione	Young
,, ,, ×Drurii	=Buchananianum inversum	R. I. Measures
,, superbum×tonsum	=Inspirator	Hye
Stonei×barbatum	=hybridum	Sander
,, ×Lawrenceanum	=Numa	Veitch
,, ×Leeanum	=Harveyanum	Backhouse
,, ×purpuratum	=Edith Winn	Winn
,, ×vexillarium	=Apollo	R. I. Measures
superbiens×bellatulum	=Mrs. F. Hardy	Sander
,, ×Drurii	=T. B. Haywood	Veitch
,, ×Hookeræ	=Pageanum	Sander
,, × ,,	=Cydippe	Veitch
,, ×niveum	=Georgianum	Graves
,, ×philippinense	=Youngianum	Sander
,, × ,,	=Corningianum	Veitch

PARENTS.	OFFSPRING.	RAISERS, ETC.
superbiens×philippinense	=Clovenfordense	Thompson
,, ×Rothschildianum	=W. R. Lee	Lee
,, ×selligerum majus	=Denisianum	Linden
,, ×Spicerianum	=Hornianum	Sander
,, × ,,	=multicolor	Sander
,, ×Stonei	=Morganiæ	Veitch
,, × ,, platytænium	= ,, Langleyense	Veitch
,, ×venustum	=Carrierii	Bauer
,, ×villosum	=Mrs. C. Canham	Veitch
superciliare×niveum	=Madame Octave Opoix	Continental
,, ×Rothschildianum	=Massaianum	Sander
,, ×villosum	=Mrs G. D. Owen	Sander
tonsum×Leeanum	=maculatum	Sander
,, ×villosum	=Theodore Bullier	Continental
,, × ,,	=tonso-villosum	
Uropedium Lindeni×calurum	=Penelaus	Veitch
venustum×barbatum	=Meirax	Williams
,, ×Boxalli	=pavonianum inversum	Pitcher
,, × ,, atratum	=Desboisianum	Vervaet
,, ×callosum	=Orpheus	Sander
,, ×Dayanum	=caligare	Veitch
,, ×Hookeræ	=Cassiope	Seeger
,, × ,,	=rubrum	Lewis
,, ×insigne aureum	=aurantiacum	Sander
,, ×Lowii	=porphyrospilum	Veitch
,, × ,,	=pycnopterum	Veitch
,, ×Spicerianum	=polystigmaticum	R. H Measures
,, × ,,	=venusto-Spicerianum	Drewett
,, ×Stonei	=Doris	Cookson
,, ×villosum	=Gibezianum	Continental
,, pardinum×concolor	=Marsballianum	Veitch
vernixium×Harrisianum	=Wendlandianum	Sander
,, × ,, superbum	=bellinum	Sander
,, ×Spicerianum	=Anton Joly	Joly
vexillarium×Io	=vexil-Io	Cookson
villosum×barbatum	=elegans	
,, × ,,	=Harrisianum	Veitch
,, × ,,	=hybridum	Bull
,, ×Boxalli	=Hero	
,, × ,,	=Reynaldii	
,, ×Drurii	=Winnianum	Veitch
,, ×Harrisianum	=Williamsii	Williams
,, × ,,	=ornatum	Hye
,, × ,,	=villoso-Harrisianum	Continental
,, × ,, superbum	=Masonianum	Sander
,, ×Haynaldianum	=augustum	Pitcher
,, ×hirsutissimum	=Germinyanum	Veitch
,, ×insigne	=Sallierii	Sallier
,, × ,, Maulei	=nitens	Veitch
,, ×punctatum violaceum	=Celeus	R. I. Measures
,, ×purpuratum	=concinnum	Bull
,, ×Spicerianum	=Bellona	R. I. Measures
,, ×superciliare	=Lauræ	R. Le Doux
,, ×superbiens	=Charles Canham	Veitch
,, ×venustum	=Amesianum	Williams
,, × ,,	=Measuresianum	Williams
,, × ,,	=diolare	Cookson
,, × ,,	=Madame Gibez	Continental
,, × ,,	=plunerum	Sander
,, aureum×insigne	=Rowallianum	Fraser
vittatum×Schlimii	=Almos	Ebner
Wallaertianum×insigne Chantini	=Stella	Sander
Warneri×superbiens	=Ridolfianum	Sander
	=Warnero-superbiens	Graves

OUR POULTRY.

By HARRISON WEIR.

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(Continued from p. 135.)

I NOTE there is an error in the first line of p. 135. "The breadth now takes the place of length," should read, "the *length* now takes the place of *breadth*," but this is so not only in our old white-legged fowls, but also in some others, amongst which notably is the Langshan, which is gradually being "improved," from being a high-class, short-legged fowl, into one of "storklike" length of limb, and the short white-fleshed compact body is being lengthened by crossing with the so-called Indian game; but more of this "anon." What we are chiefly concerned about at present is the state of our "table poultry" in relation to the Kent, Sussex, and Surrey farmers' stock of bygone days and the present time. It has already been stated that "the craze" for crossing is in the ascendant, but, like many other ebullitions of a similar character, it is to be hoped it will have its day, and that a short one, and "thought and reason" will once more prevail.

One has only to go to the ordinary poulterer's shop and carefully inspect the fowls there for sale, to realise how poor and defective our poultry supply really is. There will be seen fowls of all kinds of "shape and make;" fowls with "hatchet" breasts and big "leg of mutton" looking legs and thighs, thick coarse skin, with a large quantity of abdominal fat, the hinder being the most bulky, and the fore-part or breast the smallest, and which combined with unusually thick coarse bones, is shown you as "a very fine heavy fowl." This is got by a cross, or more than one cross with either the Shanghai or the so-called Bramah Pootra; there are also a vast number of "all sorts," of no breed or cross at all, excepting that it is of such description that their ancestry of breed is beyond identification. There are black legs, yellow legs, blue legs, "smoky" white legs, pink legs, and these mostly "feathered" as well; and as for "make and shape," it is almost impossible to find two alike in colour of skin, fat, or flesh. Compare this state of things to what used to be seen half a century ago. Compare these "things" to the tier on tier of the old Kent, Sussex, and Surrey fowls, each with a form compact, short, and square, fine in flesh, fine in bone, in skin, and all other good qualities; nice fowls of five to six or seven pounds weight, or less if needful, equally fat, good, and plump. Such being the state of "our poultry" supply, no wonder is it, that where possible, the want is met to a certain extent by the raising of poultry for our home consumption, to say nothing of the advantages of "new-laid eggs," of which the buying often proves to be rather "a doubtful commodity." No wonder then that the Master of the Poulterers' Company, Mr. C. H. Brooke, should complain of, and try to remedy, the inferior quality of our English fowls by organising an exhibition of dead table-poultry. No wonder also that the Board of Agriculture should so far move in the matter as to institute an enquiry as to the rearing and fattening of, chickens, at and about the district of Heathfield in Sussex, once the home of the white-legged, plump, well-fatted fowls that held a world-wide reputation; and the Commissioners' report is anything but cheering. For here again is the same belief in the "cross-bred" to a great extent, and it is from here only too often comes the large-boned, coarse, breastless, big-legged fowls before-mentioned. The report is before me; and as it is very interesting and cheap, it is well worth getting and reading. One thing is fairly well proved, and that is, poultry rearing pays in conjunction with other kinds of farming.

The Assistant-Commissioner has completed his observations and statistics very carefully and creditably. Of the poultry kept, bred, bought, and fattened, he says they are "the Bramah Cross." One witness, Mr. Kenward has tried several pure breeds, and given them up. He does not say why he gave up the pure-breds, nor what they were. It could not be those for which the district was so long celebrated; if not so, it is evident this, now an inferior article, pays best; for the old Kent and Sussex fowls fatted readily, and were of the finest quality. He (Mr. Kenward) stated that he had bought a dozen Orpingtons lately, but "wrung their necks in a few weeks in disgust." But then the so-called Orpington is a black-legged, modern-made mongrel. One breeder alone spoke in favour of pure-breeds, and he said, "The best of the pure-breds was the Langshan, but it would not stand the fatting-coops." Mr. W. A. Haviland, the Secretary of the Hurstmonceux Farmers' Club, writes:—

"I cannot help remarking what a great pity it is that the old Sussex fowl, as it used to be found in the district round Heathfield and Warbleton some fifteen or twenty (longer?) years ago, is being allowed to die out. As a table-bird, and a breeder of birds for the table, it was almost perfect, with small white legs and heavy body, with good breast-meat. It may not have been a prolific laying-bird, but was very hardy, the chickens coming to early maturity, and being easy to rear in the early months of the year. In colour, no doubt, it varied a great

deal, the hens being mostly speckled or brown, and the cocks red or grey, with a long single comb." I have no doubt that it was to this good old breed, that Sussex "owed her reputation for sending good chickens to the London markets." This is indeed cheering, but what follows is more so. "Mr. Haviland and others urged these views for some time past, and it was admitted that the advice had been of good effect, and that at the present time there is considerable attention devoted to the maintenance of a good class of fowls. The cottagers take great pride in their roosters, as the breeding-cocks are commonly termed, and show great keenness in buying a suitable one. . . . The cottager with a dozen hens will be as much concerned in the choice of a rooster, as the owner of a pedigree herd in the purchase of a new bull."

If this really is so, there is hope of something better, and it mainly rests with the public, who should refuse to buy the coarse, big-boned, breastless "stuff" that is daily imposed upon them, or when there is no sale for such—then without any doubt something better will be produced; in the meanwhile, let all who can breed and rear their own table fowls, and let them be of the very best and of the finest quality.

I shall now proceed to describe the kind of fowls that I deem may be kept with profit, and with also much satisfaction.

(To be continued.)

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

GARDEN WALKS.—Walks which have become dirty in districts where pit-gravel is obtainable, should be turned over and made level and firm again by raking and rolling, after which a surfacing of new gravel may be added. If shingle or sea-gravel is the only available material, do not turn the walks, but add frequent sprinklings of new gravel to keep them clean and fresh. A small quantity of sea-gravel is sufficient, for, if too much be used, it becomes very unpleasant to walk on. Roll it well during showery weather to make it firm. The garden hoe should never be used on garden walks, and to keep them free from weeds, a good dressing of Weed-killer in a liquid form about April will usually be effective for one year; but if the Weed-killer cannot be applied on account of Box-edging or other cause, they should be hand-weeded when the weeds are small. Keep the side-drains on hilly walks open and clear from drift; and walks which are partly washed away during heavy rains should be remade with a rough asphalte consisting of broken flints, and rough gravel mixed with boiling tar and bitumen. If this be done during dry weather, and it is well rolled after an application of about 1 inch of sea or other gravel, it will form a path absolutely proof against heavy rains.

SOWING SEEDS, REARING THE SEEDLING, PRICKING-OFF, ETC.—The above conditions are among the fine arts of the gardener's profession, requiring as they do the greatest care and the most sedulous attention to ensure the best results. There are few operations more interesting than the raising of strong seedling plants. The gardener must, in the first place, obtain good seeds from trustworthy sources, a fine rich soil suitable for each kind, and a house or pit free from drip and well lighted in which to place them. Sowings should now be made of Antirrhinums and Pentstemons in gentle heat; the white-flowered Antirrhinum Queen of the North, is a most useful dwarf-growing variety, coming true from seed, and making an effective bed. Seeds of border Carnations, Pinks, and Picotees, may be sown, not forgetting the Marguerite and Grenadin varieties, which are fragrant, and useful for cutting purposes. Seeds of the show, bedding, and Belgian varieties of Pansies, Violas in variety, Petunias, Nicotiana affinis, tuberous-rooted Begonias, Mignonette in small pots for early planting out, good varieties of which are Machet, Miles' Spiral, Golden Queen, and Large Flowering; also successions of Sweet Peas in pots and in outside borders as well; planting out the early sown batch as soon after the frost has departed, and the ground is become somewhat warmed, protecting them well for a time with Spruce boughs. The frost, which was very severe in North Yorkshire, and reached 6° below zero at Birdsall, as shown by a registering thermometer, will have caused much destruction among the border-plants of not extreme hardiness, making the use of seedling plants of much value. Seeds of Asters, Ten-week Stocks, French and African Marigolds, annual Phloxes, Chrysanthemums, Sunflowers, Nasturtiums, Canary Creepers, &c., are very quick in germinating, and may be left till the end of March before sowing them. Successional sowings may be made of Lobelia speciosa, single and double-flowered Dahlias, Hollyhocks, Cannas, and Centaureas. In preparing soil for sowing fine seed, there is nothing better than light rich loam and good fresh leaf-soil—not sour, rotten stuff—sifted fine, and a good addition of silver or sea-sand. The pans or boxes may have as draining material old Mushroom-bed materials, or the like, and a few crocks. The surface of the soil should be pressed with a piece of smooth wood, making it firm and level. After this is done, water the soil in the pans, with a fine-rose water-pot, if for sowing very minute seeds, not covering them after sowing, but sprinkling a little fine sand, and covering with a piece of glass and brown paper; do not water the soil directly after sowing, but damp the paper, and if the soil should become dry underneath, set them carefully in a trough or pan of tepid water for a few minutes, taking care not to let the water swim over the surface to disturb the seeds. Heavy seeds require well covering with soil, and they may be watered with a fine rose-pot as they require it. Young seedlings of small growth are subject to damping off if the undersoil is dry and the surface damp. When germination has taken place, gradually expose the plantlets to the light, and put them in a position as near the glass as is prudent, and shade them for a time from bright sunshine with paper. The pricking-off should be proceeded with as soon as they are large and strong enough to handle, using pots or boxes, and setting them out 2 or 3 inches apart, according to kind. Some fresh soot should be sprinkled on the bed on which the boxes are to be placed, to keep snails and slugs away; and smear phosphorus-paste on slices of Potato, laying these about to destroy cockroaches and woodlice. Care must be taken to keep mice from eating the seeds of Asters, Mignonette, Nasturtiums, &c. In gardens where Mignonette does not come up well when sown in borders, sowings may be made in small pots in succession, as may be required, and planted out when a few inches high. It grows well treated in this way, and there is often a great saving of seeds by so doing.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

MAKING NEW STRAWBERRY PLANTATIONS.—Strawberry planting should be taken in hand as soon as the weather is favourable, and ground in a fit state to be worked. If the plants are in nursery-beds, lift them with a trowel, and they will feel very little of their removal if it be carefully done. Strong vigorous-growing varieties should be planted at a distance of 2 feet apart each way, in beds of three rows each, allowing 2 feet 6 inches for each alley for the better convenience of picking the fruit and securing it with netting from the birds. For varieties of small growths, 18 inches apart will be sufficient, and four rows may be allowed to a bed. In planting, be careful to keep the collar of the plant level with the surface, and to make the soil firm about it. Plants that are put out at this season should not be allowed to carry fruit the first season, and the trusses of flower-buds should be picked off. The spaces between the rows may be utilised by growing those kinds of early vegetables which do not shade the plants or greatly exhaust the soil, viz., Lettuce, autumn-sown Onions, &c., taking care to clear them off in good time.

PLANTING FIG TREES.—Fig trees may be planted in warm sunny situations, and on walls having a south or south-west aspect. In many places in the South of England, on the chalk, the Fig succeeds without there being any special preparation of the soil; and a dry, gravelly subsoil also suits it very well. But in other parts, well-made borders have to be prepared for the Fig, and unless this be done, good crops cannot be expected. A Fig border need not be large or deep, as a somewhat restricted root-run is best for fruitfulness. If fresh compost is necessary, it may consist of two parts good loam, to one of chalk broken up rather finely, and well mixed together, or plenty of old mortar-rubble, and some wood-ashes will do as well as the chalk. The site should be well drained, and when the trees are planted, the soil should be made very firm under and above the roots, which should always be uncoiled if the plant has grown in a flower-pot, planting rather high to allow for the settlement of the soil. The best varieties for outdoors fruiting are Brown Turkey, with large finely-flavoured fruit, and an excellent cropper; White Marseilles, smaller, but free and very good; and Brunswick, also of large size and fairly good quality.

SHELTER FROM WIND.—Efficient shelter from wind is of great importance in the cultivation of hardy fruits in general, and when not naturally provided, endeavours should be made to afford it as far as may be possible. Much may be done by planting hedges of Hornbeam where space is limited, or only dwarf trees and bushes may be grown which may reach to the height of 20 feet, and when these are regularly trimmed they form capital screens against the north and north-east winds; while for forming evergreen hedges, Thuia Lobbii, Lawson's Cypress, or Thuiopsis borealis, planted about 5 feet apart, rapidly form good hedges, and are excellent shelter, bearing cutting-in well, and topping at any desired height.

[Wind-breaks to the south-west of a fruit plantation or orchard are very desirable in most parts of the country, and if these can be made of a plantation of Conifers, interspersed with Maples, Walnut, Sycamore, or Crab, at least 30 yards wide, much loss of fruit will be avoided in the autumn months. ED.]

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

MALMAISON CARNATIONS.—Old plants which are coming into flower require a top-dressing of loam, leaf-soil, sand, and a liberal sprinkling of a good manure. As this section burst their calyx so frequently, they should be tied as soon as fully expanded, or elastic bands may be put over the buds and then drawn up when the flower is open. The latter plan will save a lot of labour, and the flowers are not injured during the process. Syringe between the pots twice a day, and fumigate occasionally with Richard's Compound for green-fly, or this will spoil the appearance of the plants. Young plants showing flower-spikes should be secured to neat green stakes, the surface of the soil picked over, and about a tablespoonful of some kind of fertiliser sprinkled on it. Diseased parts should be cut off with a sharp knife and burnt. If any plants are badly affected, sacrifice them at once, as there is no cure.

CHRYSANTHEMUMS.—Any that have rooted through should be placed on a shelf near the glass. If they have been put singly into small pots, and are full of roots, repot them at once into good fibrous loam, leaf-soil and sand. Keep them close for a few days after potting, and syringe on bright days, but sufficiently early for the plants to get dry before night. Where space is limited, and cuttings are struck five or six in a pot, they should be gradually inured to the air for a few days, and afterwards potted singly into 3-inch pots, and kept close until rooted.

TREE PÆONIES.—A batch of these should be put into a pit or house with a night temperature of about 55°. Remove a little of the old soil from the surface of the plants, and give a top-dressing of rich soil, and when root-action has commenced, afford frequent waterings with liquid manure. Any plants that have become weak through over-flowering should have the old soil shaken from their roots and be repotted. Flower-buds on these that appear should be picked off at once. The plants should be kept in a cool greenhouse or frame until the middle of May, when they may be plunged outside in a bed of coal-ashes to get ripened.

FORCED LILACS.—Imported plants which have finished flowering should have the shoots cut back to about three eyes, and be stood in a late Peach-house or vinery till they break. When growth has commenced, they should receive frequent waterings with manure water. Give all the light and air possible, and frequently syringe them. Towards the middle of May they may be stood outside in a sheltered corner, and at the end of the month be planted out in well-prepared ground in a sunny and exposed position. These should be again cut back in the following spring, and only the strong resultant growths retained. Light and sun will then be admitted, and the wood be thoroughly ripened for late forcing the following year if desired.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

THE POTTING OF ORCHIDS should generally commence about the middle of the present month, but owing to the exceptional frosts, it will be well to postpone this kind of work until we have milder weather. In the meantime, let a sufficient quantity of peat be sorted, sphagnum moss carefully picked over, and a plentiful supply of crocks broken up small, so that all will be ready for use when required.

AËRIDES.—Go carefully over the Aërides, as these species are the first that will require attention, and effect a thorough cleansing, especially if there be any scale upon them. The species of scale which frequently infests these plants, not only estblishes itself on the surface and under the leaves, but low down in the axils, where it is very difficult to eradicate them. Sometimes a few may be found upon the aërial roots. A small brush or pointed stick will be best to remove them, and afterwards carefully sponge the foliage. In cleaning these tender-leaved plants, exceptional care is necessary, as it is not uncommon to see the leaves broken and disfigured during the work, and the damage done in the majority of cases is irreparable. The species which require the temperature of the East Indian-house, and which should be taken in hand first are, A. Houlletianum, A. crispum, A. affine, A. Fieldingi, A. Savageanum, A. odoratum, A. suavissimum, A. Larpentæ, A. Lobbii, A. Lawrenceæ, and its yellow-tinted variety Sanderianum. The ordinary flower-pot is best for these plants, as they are more easily managed, and the roots suffer less injury than when baskets are used. Like other Orchids, they should never be subjected to the root disturbance inseparable from repotting oftener than is really necessary. Only those that from various causes have lost a number of their bottom leaves, or which have insufficient pot room, should be repotted. When removing the plants, first pick out the old material and crocks, and if any roots adhere to the sides of the pots, carefully remove them with a thin-bladed knife. In most cases, plenty of living roots well up the stem will be found, which will allow of a portion of the lower stem being cut off, and so much should be removed that when the plant is placed in the new pot, the lower leaves will be down level with the rim. Put a few large pieces of crocks at the bottom of the pots, and place the plant in the centre of the pot; replace as many of the lower roots as possible, and avoid cracking them more than is unavoidable, and work in amongst them moderate-sized pieces of crock up to within half an inch of the rim. Stake sufficiently to support the plants in an upright position, and surface up to the lower leaves with clean-picked sphagnum-moss and broken crocks, about one-half of each, taking care to press moderately firm. After potting, the plants should be placed together at the warmest end of the growing-house, where they may be conveniently protected from strong sunshine without unnecessarily shading the other inmates. Plants well-furnished to the base with leaves need not be disturbed by repotting, although it sometimes happens that after their so-called period of rest, the material on the surface of the drainage has become so far decomposed as to retain moisture not conducive to the health of the roots. In all such cases it should be removed and re-placed with fresh healthy sphagnum-moss. Do not give more water for a few weeks after potting than is absolutely necessary to keep the sphagnum growing. It is best to pinch off any flower-spikes which appear on plants that have been disturbed by potting before they have become properly re-established, also from those plants which are in poor condition.

ANGRÆCUM SESQUIPEDALE.—The winter-blooming Angræcum sesquipedale should, if required, have immediate attention by potting or re-surfacing as they pass out of flower, for like many other Orchids, they commence to make roots soon afterwards. The potting material and their general treatment should be in every way similar to that for the Aërides. There are two varieties of this plant, one of which flowers in mid-winter, and the other during early spring. This latter variety is now commencing to push its spikes, and should not be disturbed until it has flowered. The above cultural directions are applicable also to Angræcum pertusum.

SOBRALIAS, CALANTHES ETC.—Opportunity should now be taken to remove all the old and useless flowering stems of Sobralia macrantha, cutting them down to the roots, thus making more room for the new growths, which are making considerable progress, and they should be tied out, so that light and air may pass freely between them. Calanthes of the evergreen section, as C. masuca, C. veratrifolia, C. Dominiana, and others, now in full growth, must have liberal and frequent supplies of water, and an occasional application of weak liquid cow-manure will be beneficial if the plants are in a pot-bound condition. Such cool-growing species as Calanthe striata, C. Traceyana, C. curculigoides, and C. natalensis, which require the warmest part of the Odontoglossum-house, must be well supplied with water whilst growth is being made. Cœlogyne cristata and its varieties now coming into bloom will require more water at the root, and a thorough watering of liquid cow-manure before the spikes are open will help the plants. When the flowers are fully expanded, very little or no water must be given, neither any moisture allowed to settle on them, as they are liable to become spotted from these causes.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

BROAD BEANS.—When the weather will permit, a sowing of Beans may be made out-of-doors to form a succession to those sown last autumn, or to those which may have been raised under cover. Beck's Dwarf Green Gem is, I consider, the best variety of all for the employer's table, it being small, of good colour and flavour when cooked. I grow no other for this purpose, but for general consumption other varieties are cultivated. The variety Beck's Gem, if not sown on over-rich land, is not laid by wind and rain, crops heavily and continuously, and stands in no need of topping like tall-growing varieties. Early Mazagan is another good old variety for early podding or standing through the winter. Of the long-pod section of Broad Beans my favourite is Veitch's Improved Longpod, which has a stouter stem than the Seville and Leviathan varieties, a pod of a darker green colour, is a good bearer, and of fine flavour, and very productive.

TURNIPS.—A small quantity of seed of the Early Milan Turnip may be sown when the land is fit, after dressing it with quick-lime. Sow in drills or broad-cast, and when the seedlings appear dust them frequently when damp with finely-sifted burnt garden refuse and soot mixed together.

GLOBE ARTICHOKES.—A great demand will be made for young sets of these plants after the extremely hard frosts experienced, even if well covered up, for it is to be feared that many old stools will be destroyed. Rich top-dressings may serve to assist the Globe Artichoke for several years, but I would advise their not being left for more than three years without replanting; indeed, it is better to plant an equal number of young plants to take the place of those which have stood for three years, and which should be destroyed. The young stock should consist of strong suckers taken off the stools with a few roots. Let the land to be planted be heavily manured and trenched, or, at least, bastard-trenched. Plant them in triangular clumps of three, and these laid out in lines of 6 feet apart, and 4 feet from clump to clump. The land between the rows may be profitably cropped the first year; and afterwards, if the Artichokes do well, they will require the whole of the space. It will be advisable to sow some Artichoke seed in heat, growing the seedlings on in a temperate-house, and hardening them off by planting-out time. I do not recommend seedling Artichokes, as they vary so much, and many are not of good quality; but suckers may be scarce this year. The green variety is the best, and some strains of this one are much better than others.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

PINES.—The earliest batch of Queens are now showing fruit, and the night temperature may be kept at 70°, rising to 80° by day, or 85° with sun. The plants should not be syringed overhead until the flowering stage is past, and even then they may only be lightly dewed over on bright days, or the crowns may become large. Syringe the bed between the plants, but guard against moisture from drip or other causes settling in the hearts of the plants. If the bottom-heat is likely to fall below 85°, add fresh tan, and ram it firmly round the pot, or a slightly-increased circulation in the pipes under the bed may be allowed. If the plunging material be kept moist, less water will be needed by the roots; but when the soil is becoming dry, the plants should be watered freely with weak liquid manure. Too much water and a low temperature very soon cause the roots of Pines to perish. Fruiters for succession from which the earliest ones were selected may now be started, and the plants treated as advised for the early ones. Keep the bottom-heat as near to 80° as possible. If the ball is thoroughly moistened now, water may only be afforded sparingly until the fruit shows. At present a night temperature of 65°, and a rise of 8° or 10° by day may be afforded. The stock of rooted suckers should be prepared for potting. Moisten the ball with warm water, and syringe the surface of the bed to excite root-action. The compost should be prepared and made thoroughly warm before using it. Select good turfy loam, with as much fibre in it as possible, and add a little bone-meal and wood-ashes. A sprinkling of shell-gravel, too, I have found very beneficial, and some of the roughest of this may be put over the crocks. Divide the plants into batches according to their size and strength. The strongest may be placed at once into the fruiting-pots. For Queens, 9-inch pots will be large enough, and Smooth Cayennes a size or two larger. Keep the ball well down when potting, so that the soil may be brought up round the collar—and make the former quite firm round the latter. Plunge in a bottom-heat of 75° to 80°, and keep the house close; but defer watering the plants until roots commence to push into the new soil. A night temperature of 65° will be sufficient at present.

MELONS.—Pot the plants on immediately they are ready, or they will have a starved appearance. The beds prepared a fortnight ago having now become of moderate heat, hillocks may be formed of good loam, and the plants put out. It is a good practice to place slates, or thick turves, under the hillocks of soil, to prevent the roots entering the dung. Keep the plants high, so that fresh soil may be added at the sides of the mounds as the roots appear on the surface. Top-dressing will not be necessary until the spaces between the mounds are filled. It is best to form narrow borders only for the earliest batch of plants. Those that are to fruit in pots should be kept near the glass to encourage sturdy growth, and dewed over on bright mornings. Pot off seedlings after the first rough leaf appears; make other sowings.

CUCUMBERS.—Pot on these plants, or plant them out as advised for Melons, and keep up a brisk top heat. Where possible, cover the roof at night with canvas during severe weather, to retain the heat and moisture. Keep male blooms picked off the winter fruiters, and encourage growth.

BEGONIA SOCOTRANA.—Mr. Slade, gr. to the Duke of Newcastle, Clumber, sends us, through Messrs. James Veitch & Sons, cut spikes and foliage of this remarkable and very interesting species. The blooms had suffered a little from frost when we received them, but the specimens were remarkable for the number and beauty of the lilacy-rose flowers, and the boldness of the peltate leaves. Male and female flowers are borne in the same cyme, the males are rather the larger, about 1½ inch across, and have four segments surrounding a central boss of stamens. The female flowers are rather smaller, with six segments, surrounding three bifid styles. The triangular ovary is rather small for the genus, and one of its wings is larger than the other. The pedicels are covered thinly with glandular hairs, which may be a provision to prevent access of undesirable insect visitors. It will be remembered that this was an unexpected discovery in the Island of Socotra by Professor Bayley Balfour. The beauty and abundance of the flowers, and their production at this season, render it highly desirable. Messrs. Veitch have availed themselves of these properties in producing some new hybrids. Mr. Slade grew the plant in a 5-inch pot in a Pine-stove.

GOLFE JUAN.—We learn that a temperature of —6° C. has been experienced in this locality (corresponding to 21° F.), with a fall of snow of 25 centimètres (12 inches). Our correspondent apologising for using the French terms, adds, "Why do not you obstinate Britons adopt the metric system, so much more simple and convenient than your own?" We are obliged to answer because we are too Chinese in our habits. Our correspondent must, however, remember that in all scientific work the more rational system is employed even by obstinate Britons.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

THURSDAY, FEB. 21—Linnean Society

SALES.

TUESDAY, FEB. 19 { Imported Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, FEB. 20 { Gladioli, Tuberoses, Begonias, &c., at Protheroe & Morris' Rooms.

THURSDAY, FEB. 21 { Lilies, Tuberoses, Gloxinias, &c., at Protheroe & Morris' Rooms.

FRIDAY, FEB. 22 { Orchids, at Protheroe & Morris Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.5.

Phenological Observations.

IN the April number of the *Quarterly Journal of the Royal Meteorological Society for* 1875, is a report of the conference on the registration of natural periodical phenomena. The Royal Agricultural, Horticultural, and Botanical Societies were invited to assist the Meteorological Society in the matter of observing, and a list of seventy-one plants was first suggested by Mr. PRESTON. A list of eight Lepidoptera was added by Mr. MCLACHLAN, and one of twenty birds by Mr. NEWTON. After revision, fifteen plants were finally selected. In 1891 a new departure was made, and a fresh list of thirteen plants proposed. In this, seven of the former were retained, six others being substituted.

In the instructions, the observers were required to note each year the first flowering of the same individual trees and shrubs; and in the case of the herbaceous plants, those situated in the same spots and in fairly open situations, rejecting any which flowered abnormally late or early in comparison with the average. One hundred and five observers were scattered over the British Isles, the height above sea-level being given for each station, though in the instructions (1883) it is stated, "Through the greater part of England, differences in altitude are not of much account." It will be seen, however, that considerable differences are to be attributed to altitude.

The Meteorological Society having kindly supplied us with the reports of the last three years, we have tried to draw some conclusions from them as to the causes of the various times of flowering, illustrations of these we propose now to give.

In 1891, the temperature was below the average during eight months. In February, June, September, and October, it was slightly above it. The "curves" corresponding to the average dates of flowering of the thirteen plants through the "areas" traced from south to north show that they are below the average that is later than usual, until July; when the Harebell only oscillates close to the mean (July 9 to 19). Its flowering in July was apparently dependent on the increase of temperature in June. Very similar results occurred in 1892 excepting in May and November, in which months the temperature was slightly above the average; it was below it in all the others. Consequently the flowering of all the plants was later than the average. Even the slight rise in June had little or no effect.

In 1893 the temperature of every month, excepting January, was above the mean; consequently, excepting the Hazel, Coltsfoot, and Anemone, the late flowering of which was due to the low temperature of December and January, all the other plants flowered earlier than the average. Hence, temperature is clearly a main cause in regulating the date of first flowering of plants. When, however, a "curve" is made for any particular plant through the eleven areas, and if it be compared with other curves made for rainfall and sunshine (the data for which are given in the reports), it will be often found that the curves do not always correspond. Thus, in 1891, there is a "minimum" in the flowering period for the Hazel (February—March), Coltsfoot (February—March), and Anemone (April—May) in the area "Scotland, W.;" but the curve for the winter temperature shows a "maximum." On the other hand, the temperature curve shows a "minimum" for "England, N.E.," yet the flowering shows a "maximum." The causes of these lie in, and correspond with, a deficiency of rain in Scotland, and an excess of sunshine in the N.E. of England, with a "maximum" of rain, although with a "minimum" of temperature.

To illustrate the effects of longitude, we will take an example from the area "C," which extends along the south coast from Kent to Charmouth in Dorset, and as far inland as Marlborough and Henley; the altitudes varying from 10 feet (Hastings), to 600 feet (Ewhurst). Dividing this area into longitudinal spaces by the meridian 0° and 1°, it appears that in 1891, the Hazel flowered on the thirty-sixth day (as the mean) in the western portion, on the forty-eighth day, beween 1° and 0°; while east of Greenwich, it was the forty-ninth day. At the two most easterly stations, viz, at Canterbury, it flowered on the fifty-fifth day and at Hastings on the sixty-fourth day, a total range of forty-one days, extending from January 23 to March 4. Similarly for the Blackthorn, west of longitude 1°, the average date was the 114th day, between 1° and 0° it was the 117th; while eastwards of Greenwich it was the 121st day, ranging from the 107th day at Salisbury to the 124th at Canterbury; or seventeen days from April 16 to May 4. As a summer flowering-plant we select the Dog-rose, its range in date of flowering being from June 2 to 26, from the west to the east of the same area.

To illustrate the effects of altitude, we divided up the area D, or the central or midland region of England. This area forms a pentagon, the extreme stations of the five points being on the north, Harrogate; on the east, Grantham; on the south-east, St. Albans; the most westerly station being Churchstoke; while the south-west corner lies between Wells (in area A) and Wincanton (in area C).

Taking the altitudes in groups of 100 to 200 feet, 200 to 300 feet, 300 to 550 feet, this last being the height of the loftiest station—Churchstoke, the Coltsfoot flowered on the average between 100 to 200 feet on the fifty-third day of the year; between 200 to 300 feet, on the 77th; between 300 to 550 feet, on the 79th. This gives a range of 43 days, viz., from February 21 to April 6. Similarly the Dog-rose flowered on the average, for the same altitudes, on the 169th, 172nd, and 176th day respectively, having a range of twenty-two days, viz., from June 12 to 24th.

These differences resulting from altitude, longitude, &c., *cæteris paribus*, would seem to show that the areas are far too large when taken in their entirety for giving means or "curves," as supplied in the tables in the Reports, to ascertain the effect of "accumulated temperatures." These consist of the excess or deficiency above or below 42° of so-called "day-degrees," that is, of one or more such degrees lasting for twenty-four hours. A good deal of importance has been laid upon accumulated temperature, but as far as a slight examination of a few areas are concerned, they do not seem to have much effect upon the first flowering of plants.

Taking the accumulation of "day-degrees" from January 1, 1893, the Hazel flowered in the south-west of England ten days later than the average; the Coltsfoot nine days later; yet the latter plant had the advantage of 80 day-degrees more than the former. Anemone was twenty-one days later; Blackthorn was eleven days earlier than the average, yet they both had precisely the same excess of day-degrees (62°). Again, the Hawthorn and the Roses were each twenty days, and Black Knapweed nineteen days earlier than usual; yet the first had 265°, the second 361°, and the third 405°, accumulation of day-degrees.

The fact seems to be that the advantage accruing from any accumulations of day-degrees, of which a plant might be supposed to be benefited, may often be wiped out, so to say, by some lowering of the temperature, or by some other cause before the plant is ready to flower. Thus the Hawthorn in the Midland area flowered on April 23, 1893, i.e., twenty days earlier than the average, having enjoyed 265 day-degrees. The week ending April 22, had a temperature 8° above the mean. In the south-west of England, it flowered on April 19, or twenty-two days earlier than usual, the temperature having been nearly the same, or 9° above the mean, but it had had only 211 day-degrees. Similarly the Dog-rose flowered on May 18, i.e., twenty days earlier than usual in the Midland area, having had 361 day-degrees. The temperature for the week ending May 20, had been 6° above the average. Conversely, the Ox-eye Daisy flowered in the same area on May 12, nine days earlier than the average. The temperature of the week ending May 6 was 5° above the average, that for the week ending May 13 being 4° above the average, having had 338 day-degrees.

The general conclusions arrived at seem to corroborate what physiologists are generally aware of, viz., that the external agencies, temperature, rainfall, sunshine, &c., are stimulants of development; and therefore the results correspond, *cæteris paribus*, in each case with these influences. Perhaps too much stress has been laid upon accumulated temperatures; for the results show that they can be easily neutralised by an interference of a low temperature of some degrees. The earliest date of flowering, therefore, does not show any necessary correlation with the number of day-degrees.

Lastly, no practical advantage appears deducible at present either for agriculture or horticulture from these phenological observations.

The Porch at the Residence of H. M. Arderne, Esq., Cape Town.

Cultivation of Nymphæas.

In view of the constantly changing tastes of the public in the matter of plants and flowers cultivated under glass, and made use of for various kinds of decorative arrangements, the commercial cultivator is often in a dilemma when having to decide on the species or variety that he shall take in hand, and from which he may obtain the highest returns on the capital invested in the undertaking and the cultural skill demanded. Many of the foremost nurserymen and florists of the day have greatly improved their position by the cultivation of novelties in plants, combined with the newest inventions in houses, ventilation, heating apparatus, and other appliances. We gather from our energetic contemporary, *Möller's Deutsche Gärtner Zeitung*, that the wholesale cultivation of tropical Nymphæas is being prosecuted in grand style by the Brothers Harster of Speyer. This nursery is situated about twenty minutes' distance from the town, on the road to Mannheim, and in a large field surrounded with a line of Poplar trees. So far, the establishment has a singular appearance, and is, with the exception of a compost heap, entirely destitute of the usual accompaniments of a nursery.

Messrs. Harster, whose nursery is situated in the town, commenced the culture of Nymphæas for cutting purposes. Two houses are already in use, and the foundations laid for a third. These houses, which stand side by side, with brick-pits running along them, have straight saddle-roofs resting on curvilinear light iron girders, with ventilators at the apex of the roof and at the sides. Running down the middle of each is a path, at the sides of which are the warm-water tanks, which contain the plants. The main efforts have been directed to obtaining the greatest amount of sunlight, and to that end the quantity of metal used in construction is as small as possible, having regard to proper strength. The glass is in panes of one sq. mètre (1¼ yard), and 6 mm. thick, and it is ribbed (rough plate) so as to modify the strongest sunshine, and render shading unnecessary. The heating is effected by means of steam supplied from two high-pressure boilers and apparatus. One boiler has a heating surface of 14 square mètres, and is equal to the pressure of 8 atmospheres; the other contains 35 square mètres of heating surface, with the same amount of pressure. Steam is also used for pumping purposes, for syringing and watering, and for emptying the basins. It is intended to afford ventilation by means of water-spray ventilators. Electric lights will be employed, but by a very simple and practical manner, and without lessening the amount of light, with the usual glass shade. It is intended to be used on dull sunless days, and during the night. The effect of the electric light on the plants when used during the hours of darkness is, according to Messrs. Harster, very marked, and the blossoms bend and turn towards it.

The small basins between the large houses will be used for raising plants from seed and pricking-out purposes. An illustration of one of the houses accompanying the text shows, a low long house, with its two basins filled with Nymphæas in bloom.

Roses at Cape Town.—The illustration which we give as a separate supplement, is the reproduction of a photograph, showing the porch of the house of H. M. Arderne, Esq., at Cape Town. The Rose that is so evidently at home is Rêve d'Or, and amid the wealth of flowering plants, the lovely Watsonia O'Brieni is conspicuous. Mr. Arderne is well known as an ardent and enlightened patron of horticulture.

Linnean Society.—At the meeting held on Thursday, 7th inst., Mr. C. B. Clarke, F.R.S., President, in the chair, Messrs. J. H. Adcock and J. R. Bovell were elected Fellows. Mr. Thomas Christy exhibited a dried specimen of Aplopappus Llaretæ, and samples of the so-called Gum Kino, Pterocarpus erinaceus, of which some account was given by Mr. E. M. Holmes. Mr. George Murray exhibited a number of lantern slides of floating Algæ, of which he gave brief descriptions, referring to the localities in which they had been found, and the literature relating to them. By permission of the Director of the Royal Gardens, Kew, Mr. W. B. Hemsley exhibited dried specimens of a number of new plants from Eastern Asia. Conspicuous amongst these was a new genus of the Scitamineæ, from the mountains of Northern Siam, characterised by having minute unisexual flowers, destitute of staminodia, and a one-celled ovary with parietal placentation, and two filiform stylodia; a remarkably broad-leaved Lysimachia from the same region; new species of Hypericum, Ventilago, Mesona, and Helicia, from Formosa; and a new genus of Cyrtandreæ. From a collection made in Gunan, Western China, by Mr. W. Hancock, of Hong-Kong, came a new Jasminum, allied to J. nudiflorum, with primrose-yellow flowers, 1½ inch in diameter; an elegant species of Petrocosma (Cyrtandreæ), and a showy Brandisia (Scrophularineæ), with long racemes of crimson flowers, which were much admired. Mr. Thomas Hanbury exhibited a beautiful collection of fresh fruits of the Aurantiaceæ grown in his own garden at La Mortola, Mentone, and gave an account of some of the more remarkable varieties, their mode of growth, and the conditions under which they had been grown.

—— At an evening meeting to be held on Thursday, February 21, 1895, at 8 p.m., papers will be read—1, On "Chionanthus Ghaeri, Gaertner," by Mr. J. J. Boerlage; 2, "New Marine Algæ from Japan," by Mr. E. M. Holmes, F.L.S.

East African Orchids.—Mr. A. B. Rendle describes several new Orchids from Eastern Tropical Africa, in the last issued part of the *Journal of the Linnean Society*. They include Eulophia longepedunculata, "a fine plant;" Polystachya Tayloriana, Acampe mombasensis, Angræcum fimbriatum, A. Giryamæ, described as having fine flowers, 2 to 2½ inches across; A. semipedale (a name which will, we fear, be confused with A. sesquipedale), Habenaria rabaiensis, H. æquatorialis, H. pedicellaris, H. ndiana, from the Ndi Mountains; H. altior, from Kilmianjaro; H. splendens, a "fine-looking plant from the last-named mountain, H. tenuicaulis, Peristylis hispidula, Disa Gregoriana, D. Kilimanjarica, Disperis Kilimanjarica." Mr. Rendle describes many other novelties in other orders; and looking at the great numbers of plants newly described, we do not share the opinions of those who think that systematic botany is "played out" for want of new material.

The Surveyors' Institution.—The adjourned discussion on the paper read at the last meeting by Mr. H. Blackbourn (Fellow) on "The London Building Act, 1894," was resumed, and, after a long debate, was concluded. The next ordinary general meeting will be held on Monday, February 18, when a paper will be read by Mr. Arthur Pain, C.E., on "Light Railways." The chair to be taken at eight o'clock.

The Academy of Sciences.—The newly-elected Vice-President is M. Alfred Cornu, the eminent physicist—not M. Maxime Cornu, as we erroneously stated.

Annual Meeting of the Tunbridge Wells Gardeners' Association.—The sixth annual general meeting of this flourishing society was held on Tuesday evening, at 8.0 p.m., at the Friendly Societies' Hall, Camden Road, under the Chairmanship of Mr. F. Early, and there was a large attendance. The minutes of the last annual meeting and also the general meeting were read and signed. The annual report which was presented, stated that the committee and officers felt that a good and important work had been done during the year; the annual floral soirée, the spring and autumn shows had been attended with increasing interest, and the number of members had been increased. The schedule had been extended, and an increase of about £23 offered in prizes. The usual fortnightly meetings had been well attended. The thanks of the society were accorded to the donors of special prizes, and to the special subscribers and donors; and the balance sheet was presented, showing a balance in hand of £11 4*s*. 5*d*, the secretary explaining that to this sum should be added the deposit account in the Post Office Savings Bank of £30. Mr. Charlton, who was duly elected Chairman for the ensuing year, then occupied the chair, and thanking the meeting for placing him in that position, said it would be his endeavour to carry out the duties of the year to the best of his ability.

Stockport Chrysanthemum Flower and Fruit Show.—The committee of the Stockport Chrysanthemum Show report favourably upon the exhibition held on the 23rd and 24th of November last. The exhibits were more numerous than on any previous occasion, and the amount taken at the doors, £45 15*s*. 3*d*. was the largest ever received; after discharging all liabilities the committee have a reserve fund of about £20.

Shrewsbury Great Show.—The schedule of the great Horticultural Show at Shrewsbury in August next is a very liberal one, the prizes throughout being large. We notice a new departure this year in prizes of £20, £15, £10, and £6, for a collection of twenty-four varieties of fruit, to be staged with plants, the object in view being to encourage a more artistic arrangement of fruits at flower shows. Conditions are laid down to guide exhibitors, and in addition to this class, money prizes, amounting to £106 are offered for fruit. The usual large prizes are offered for specimen plants, groups of plants, groups of Roses, Dahlias, Carnations, and especially floral artistic work, in which class the prizes have been considerably increased.

Fraudulent Marking of Market Produce.—The Board of Agriculture has met the farmers and the fruit-growers more than half-way in a Circular just issued on the subject of frauds in the marking of market produce. The British dealers in commodities of this sort have long complained that they are heavily handicapped by the absolute freedom of imposture in the mode of describing fruits and vegetables which dealers now enjoy. Honestly-described British goods are thus often thrust out of the market by the mere magic of a name which does not properly belong to the articles in competition with them. The Board now offers to institute prosecutions under the Merchandise Marks Act, 1894, for offences of this sort, and it has drawn up a set of regulations for this purpose with the concurrence of the Lord Chancellor. The Board has no doubt that frauds of the kind complained of, including those based on misrepresentations of the place of origin, may be dealt with under the Act. Agriculturists and others concerned in finding a remedy must, however, co-operate heartily with the authorities in furnishing all needful particulars, and for this reason the Circular is to be widely disseminated throughout the country. *Daily News.*

Philibert Picart.—Dr. Bornet has published in the *Bulletin de la Société Mycologique de France* a sympathetic notice of Philibert Picart, the French engraver, who is specially known to Americans by his engravings in Engelmann's classical work on *Cactaceæ*, and in the first volumes of Sargent's *Silva of North America*, upon which he had been exclusively engaged for several years before his death. "Philibert Picart," Professor Bornet tells us, "was born in Paris on December 2, 1825. A pupil in the School of Design of the Rue de l'École de Médicine, he obtained at the age of sixteen the highest prize given in that establishment. Soon becoming the principal support, and then the head

of a numerous family, he would have been obliged to abandon it for military service had not Louis Philippe generously come to his rescue and purchased a substitute for him from his private purse. With the assistance of his mother, who was as brave as himself, he succeeded, by persistence and self-sacrifice, in bringing up his six brothers and sisters. One of his brothers, Eugène, who was also an excellent engraver, was, until the end of his life, the assiduous assistant of Philibert, dying two years before him. The list of the great works to which Philibert Picart has contributed is a long one. Les Quinquinas de Weddel, the Cactaceæ of Engelmann, l'Arboretum Segrezianum of Lavallée, the Plants of the Orient of Jaubert and Spach, the Jardin Fruitier du Muséum of Decaisne, the Chilian Voyage of Gay, the Batrachospermeæ of Sirodot; the Forest Trees of North America of Sargent, are familiar to everyone. A skilled entomologist, the zoölogists are not less indebted to Picart than the botanists. 'An indefatigable worker,' said Monsieur Migneaux, in the sympathetic address delivered at his funeral, 'conscientious, an excellent observer, with a talent supple and ingenious, which specialists and savants, whom he aided, can alone appreciate. Picart was certainly the most complete expression of that group of engravers who have illustrated the works of natural history in the second half of this century. Among the multitude of scientific publications to which he contributed it is proper to mention as the most important, perhaps, the works on cryptogamous plants of Tulasne and Thuret. The plates of this work, engraved from drawings of Riocreux are simply masterpieces, the like of which will, perhaps, never be seen again.' Picart possessed rare unselfishness and integrity. The man was the equal of the artist." *Garden and Forest.*

The Apricot-shed at Birdsall.—We are desired by our correspondent, Mr. Bailey Wadds, the gardener at Birdsall, who has had some enquiries from readers of the *Gardeners' Chronicle* about the above, to give further particulars as to the construction:—The front is quite open, and rests on iron pillars; the trees are planted in an outside border, and are trained to wire trellises fixed at a distance 16 inches from the glass, not 6 inches, as stated in our note; and the rough stage shown in the figure is used for plants in pots during the spring and summer, and for storing Onions in the winter.

Birmingham Amateur Gardeners' Association.—The first meeting of this session was held at 116, Colmore Row, on Wednesday evening, February 6, under the chairmanship of Mr. E. D. Clark, when there was a fair attendance of members. Mr. C. H. Herbert, manager of Messrs. Thomson's nurseries at Sparkhill, gave an interesting paper on "Chinese Primulas and Cyclamen," and his remarks were more clearly defined by the help of photographs and drawings of these plants, as well as by a beautiful collection of blooms. The lecturer dealt with the manner in which these plants should be treated, and described the best varieties for amateurs to grow. A number of questions were put to the lecturer and answered, after which a vote of thanks was accorded him for the excellent way he had dealt with his subject. Several new members were elected, bringing the membership roll up to 220. A very attractive programme has been got together for the first half of the year.

Stock-taking: January.—The round of stock-taking for 1895 has commenced, and under most exceptional circumstances; for the land is under snow from Lizard Point to John o' Groats, and the Ice King has laid his paralysing hand on brook, stream, and river. But fast as they may be, the wheels of commerce roll on, not so rapidly as they did some four or five years since, but doubtless their speed will be accelerated by-and-by, and our monthly records take on a more cheerful aspect than they did in the past twelve. To begin, then, for 1895—whilst the imports show a large falling off the exports note an increase—small, but still an increase over those for 1894 of £72,356. The imports for the past month foot up £36,753,068, as against £38,458,613—a fall of £1,705,545. A good deal of this is due to the lowering of values—much more to the contraction of business; wool and cotton may be quoted. Of the nine classes into which the imports are divided, five show an increase, the two principal ones relating to food and drink; the rest are below the record for January, 1894. In these days of agricultural depression, one or two facts are worth recording, and one is, that last month we received from Australasia butter and cheese to the value of £408,826; the other fact is, that a dairy produce company whose head-quarters are in Dumfermline, N.B., paid a fine dividend on the subscribed capital, and so great was their general success that the company had to buy in from outside dairymen some £2000 worth of milk, to satisfy the growing demands of the customers, on which they obtained a fair retail profit. By the way, this successful company produces cheese, butter, eggs, chickens, and all the rest of the usual output of similar companies. The following is the ordinary extract from the "summary" of imports:—

Imports.	1894.	1895.	Difference.
	£.	£.	£.
Total value of imports	38,458,613	36,753,068	—1,705,545
(A.) Articles of food and drink—duty free	11,196,174	11,872,138	+675,964
(B.) Articles of food and drink, dutiable	1,959,493	1,950,705	—8,788
Raw materials for textile manufactures	11,883,227	9,625,233	—2,257,994
Raw materials for sundry industries and manufactures ...	2,752,124	2,699,557	—52,567
(A.) Miscellaneous articles	1,633,499	1,208,847	—424,652
(B.)—Parcel Post ...	59,753	128,764	+69,011

Having in remembrance the war in the east, we make note that there is a falling-off in the imports of tea for home consumption as compared with January, 1894. In this latter term there were entered for home consumption 19 840,475 pounds, as against 19 690,144 pounds, entered last month—the difference may become more marked by-and-by. In timber there was a decrease on the quantity for January, 1894, but it is curious to note that a large furniture-producing company, whose head-quarters are in America, cleared some £25,000 more in 1894 than it did in the preceding year. Much of this is due to improved manufacture, and studying English tastes. Our next point is the import of fruits, roots, and vegetables, concerning which we find the following useful statistics:—

Imports.	1894.	1895.	Difference.
Fruit, raw:—			
Apples ... ... bush.	242,813	487,339	+244,526
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	75	72	—3
Pears ... ... ,,	4,662	3,261	—1,401
Grapes ... ... ,,	691	738	+47
Unenumerated ... ,,	24,828	31,751	+6,923
Onions ... ... ,,	335,799	464,686	+98,887
Potatos ... ... cwt.	27,040	112,796	+85,756
Vegetables, raw, unenumerated ... ... value	£ 33,154	£ 50,682	£ +17,528

The disparity between the imports in some of the above entries is a marked one; it is also gratifying to note the variety of fruits, foreign and home-grown, now on the market; and there appears little need to fear the setting in operation an Act of the sixteenth century subjecting street-hawkers to various pains and penalties for supplying dainty fruits to servants and apprentices, who, to obtain the necessary cash might be tempted to steal from their employers. In the matter of—

Exports,

as above stated, we have to score an increase—gains and losses differing only £72,356 on the right side. But the hold on America is still retained, and bids fair to increase, now that a settlement of the gold question seems within hail. Markets in the East, naturally, are not favourable for the moment to a great expansion of British trade there, but we observe an improvement in the export of war material.

Devon and Exeter Gardeners' Association.—The usual fortnightly meeting was held in the Guildhall, on Wednesday, the 6th inst. Mr. W. Mackay, Treasurer, presiding, when, "to encourage the others," three of the junior members contributed short papers. Mr. Johns, of Messrs. Veitch's nurseries, read a paper on "Palms as indoor decorative plants;" Mr. Luxton, jun., of the Exeter Nurseries (late Lucombe, Pince & Co's.), one on "Carnations and their culture;" and Mr. Hill, jun., market gardener, Whipton, on "Show Chrysanthemums." The papers were very creditable to the writers, and rather an interesting discussion followed upon the various subjects mentioned. Palms out-of-doors came in for a larger share of the discussion, there being, in the neighbourhood of Exeter, and south of it through the neighbouring county of Cornwall, many Palms planted out. The prevailing opinion seemed to be that the first element of success for Palms out-of-doors, such as Chamærops excelsa, is shelter from rough and east winds; the second, partial shade; and the aspect, for choice, a northern one. Instances were given of several fine specimens in the neighbourhood which had thriven under these conditions; and of failure, or comparative failure, where a sunny southern aspect had been given. The proposal by Mr. Hope that the Association should be affiliated with the Royal Horticultural Society, was referred to the committee to deal with.

The Orange Crop in the United States.—We have this week received from the Agricultural Department at Washington, information confirmatory of the destruction of the Orange crop in the South, consequent upon the severe cold there prevalent in the month of December. This loss will be much felt on this side of the Atlantic.

Horticultural Club.—The twentieth anniversary of the above took place at the Hotel Windsor, Victoria Street, Westminster, on Tuesday evening, the 12th inst., Sir J. D. Llewelyn, Bart., taking the chair. A few toasts were given, including that of the Royal Horticultural Society, kindly reference being made to the presence of the Rev. W. Wilks, and to the valued services of the Rev. H. H. Dombrain, the Secretary of the Club.

Extraordinary Frost in Aberdeenshire.—A correspondent informs us that at Breda Gardens, Vale of Alford, Negretti & Zambra's mercurial thermometer registered on Saturday night 53° of frost, or 21° below zero, a "record" that is probably unequalled in Scotland now or perhaps at any previous date. In fact, the occasion, in 1879, when the thermometer at Blackadder, in Berwickshire, indicated more than 50° of frost, has hitherto been reckoned the lowest reading ever recorded in the British Islands. [Can the thermometer be accurate? Ed.]

New Publications.—*The Student's English Dictionary.* By John Ogilvie. New edition. (Blackie & Son.)—*Les Prairies.* P. Berthauld. (Paris: Gautier, Villars & Co.)—*Notizblatt des K. Botanischen Gartens zu Berlin.*—*Die Ernährung der Grünen Gewächse.* Dr. Adolf Mayer. (Heidelberg: Carl Winter.)—*Lehrbuch des Waldwertrechnung und Forststatistik.* Von Dr. Max Endres. (Berlin: Springer.)—*Einführung in die Blüthen Biologie.* Von Dr. E. Loew. (Berlin: Dümmlers.)—Metropolitan Public Gardens Association, 12th Annual Report.—*Forest Flora of Japan.* By C. S. Sargent. (Boston: Houghton, Mifflin & Co.)—*Fruit Culture.* By Mr. Henry Butters, Cape Town.—*Bulletin* of the Botanical Department, Jamaica.—*A Fisherman's Fancies.* By F. B. Doveton. (Elliott Stock.)—*Transactions of the Scottish Horticultural Association.*—*Transactions of the Cremation Society.*—*Transactions of the English Arboricultural Society.*—*The Grape Culturist.* By Andrew Fuller. New edition. (New York: Orange Judd Co.)—*Cellulose.* By Cross & Beavan. (Longmans.)

VEGETABLE PRODUCTS IN PARAMARIBO.

The British Consul reporting on the trade of Paramaribo refers to Balata as one of the most valuable forest products of Surinam, and says, "the tree which produces it is widely distributed over the colony, even in parts so far in the interior as to have been hardly visited as yet, and the industry now that experience has taught how it can be carried on without the wasteful extermination of the tree should have a positive future value. Better means of access and of working are required before the expenses of production form the proper proportion of the value produced."

Balata, as some of our readers will no doubt remember, is the milky elastic juice which flows from wounds made in the trunks of Mimusops globosa, and the product has had somewhat of a chequered history. In consequence of the substance being supposed to possess some of the elasticity of Caoutchouc, with the ductility of gutta-percha, it was strongly recommended as a substitute for both these well-known articles; besides which, in consequence of its becoming easily soft and plastic with the application of heat, it was easily moulded. In course of time, however, Balata was found to become brittle, thereby rendering it useless for very many purposes, and of late years it has so gone out of favour that very little is imported. The exports from Paramaribo amounted in 1893 to 113 018 lb., of the value of £6347. This showed a decrease from the preceding year of 152 958 lb., valued at £8724. The principal countries to which Balata is shipped from Parimaribo are the United States (to which the bulk goes), Holland, and Great Britain.

On the important subject of timber-cutting and the export of fancy woods, it is stated that the products of the forests bordering the rivers is much neglected. The more valuable constructional woods obtained are Greenheart (Nectandra Rodiæi), and Mora (Dimorphandra mora), and Wallaba (Eperua falcata), shingles for roofing. The possible supply of these and other excellent kinds of timber is enormous. Letter Wood (Brosimum Aubletii) is the only fancy wood exported out of the many valuable and beautiful woods to be found. It is sent to Holland, France, England, and the United States of America.

BERLIN.

For a long time past we have had here a hard winter, with a great deal of snow. The daily snowfall and the total absence of sunlight renders forcing very difficult, and the importation of cut flowers from Italy is very much interrupted. For several days the flowers came from the Riviera *viâ* Paris. So it is no wonder that our flower-shops do not show any very large quantities of flowers. Hyacinths are average, Lilies of the Valley are better, Azalea indica and Camellia in flower are scarce. So also are Amaryllis. Orchids are very much in request, and in comparatively good condition. Snowdrops (Galanthus) in pots, came very late, the first not until the end of January; G. Elwesii is earlier than G. nivalis. Roses in pots are not yet seen. This is remarkable, as in other years, at the beginning of January, they are already sold. There is a demand for good cut Roses, but they are sold at a high price. All the Italian Roses are wired. Forced Syringa is good, but last winter it was better. Medeola asparagoides is now very fashionable; it is curious that so long a time elapsed before this plant obtained the attention it deserved. For a year or so past it has now been seen in every shop. A very remarkable advance is the circumstance, that slender-leaved twigs of Australian species are popular in floral arrangements. We do not yet give up hope but that these valuable plants will come into favour, and become once more as fashionable as are now perennials in gardens. These latter plants were neglected for a long time. Only two years ago a little more appreciation was to be noted, especially at the large flower-show at Leipzig in 1893, and now they are sent in from everywhere.

Phœnix humilis?

Under this name I received, two and a half years ago, from a German seedsman, seeds from which I have raised one plant well worthy of remark. The plant has already thrown up ten leaves, four of which are now more or less pinnatifid. The largest one is 76 cm. long. The pinnæ are about 40 cm. long, but only 0·3 to 0·5 cm. (⅛ to ¼ inch circa), 1½ to 2½ lines broad. At first they stood straight upright, but in a short time they became reflexed, and hung almost their own length downwards. Is this the true Phœnix humilis, or what else is it? Though I have seen a great many Palms, I do not remember to have seen this one anywhere. The pinnæ are as slender as those of Cocos Weddeliana, but, as already said, four times longer. They stand in pairs, each about 2 inches from the next pair. The elegance of the plant, as well as its rapid growth and absolute hardiness against drought, make it especially valuable. *Dr. Udo Dammer, Friedenau, Berlin.*

CORDYLINE CONGESTA.

Our illustration (fig. 29) shows a plant of this elegant green-leaved specier, which has been grown in a living-room from the time it was 6 inches high till now, when it has reached a height of 10 feet, and having arrived in uncomfortable proximity to the ceiling has had to be stopped. The photograph was obligingly sent us by Mr. Kilgour, gardener, Edgehill, Milltimber, Aberdeen.

Fig. 29.—Cordyline congesta: grown in a living room.

BELGIUM.

HYBRID CYPRIPEDIUMS.

At the first of the monthly horticultural shows which will, for the future, take the place of the meetings of the Ghent Chambre Syndicale des Horticulteurs Belges and of the Société Royale d'Agriculture et de Botanique, M. Jules Hye, although the temperature was extreme, sent thirteen hybrid Cypripediums. To protect these from the severe cold, they were packed in a case warmed by a boiler.

Among the hybrids raised from C. Spicerianum × C. Sallieri Hyeanum were C. Hermode, Olympia, Œlipe, Zephyre, Hermione, Polynice, and Ixion, to the group of which the jury awarded a Certificate of Merit. The same cross resulted in the production of C. Vertumne with a very large standard with reflexed borders, the upper part and the margins white, with a bright purplish-red mid-rib, the lower part pale green. C. Eléocle is yellowish-green in general colouring, the upper half of the standard a beautiful white, the lower half tinged with brownish-red; staminode rose, shading into white, with a bright yellow dot in the centre. C. Bellona has a standard two-thirds pure white, the remaining third green, marked and lined with hand-some purplish-red. C. Surprise in general colouring is greenish-yellow, unusual, but not very remarkable; the standard is greenish at the base, streaked with darker green, central line marked with pale brown; the petals are pale green, the upper part streaked and spotted with rather reddish-brown; staminode pale dull yellow; lip glossy pale outside, inside dotted with cinnabar-red. All these hybrids obtained a Certificate of Merit, the last of them *par acclamation*.

A hybrid, the parents of which are unknown, is C. Pomone, with a standard like that of C. Spicerianum; the base green, thickly speckled; petals waved, and nicely speckled. It obtained a Certificate of Merit.

C. Flamingo is, in my opinion, the best and brightest of M. Hye's thirteen hybrids. The plant is sturdy, with two healthy blooms and a bud; the flower of excellent form; the standard like that of C. Spicerianum, but fuller and better marked, the mid-rib about a quarter of an inch wide, and very dark purplish-red; veins purplish-red; petals broadly waved and handsomely marked, clearly showing the influence of C. Boxalli. The colour is greenish-yellow, the upper part browner than the lower, the slipper of excellent shape, well setting off the colouring of the inside; all the divisions of the flower are glossy.

Chambre syndicale des Horticulteurs Belges.

On February 3 at the General Meeting presided over by M. l'Echevin O. Bruneel, M. Ed. Pynaert read a detailed and careful report on the position of the Association, the work of the past month, and the progress of Belgian horticulture. M. A. De Smet then mentioned the position of the legal section, which, though having been instituted only five months, had already done good service and collected numerous debts. In 1894 the Chambre Syndicale lost one member, and gained ninety-five new members. *Ch. D. B.*

FLORISTS' FLOWERS.

TREE CARNATIONS.

Your correspondent, "A. H.," asks some questions about these which I will answer with pleasure. It is now quite time to have the slips put in, and if a good collection of flowering plants has been grown, there will be plenty of small side-growths. These may be taken off and planted in fine sandy soil, using small 60-sized pots. Do not use larger pots, or put two or three varieties in each, because some varieties do not root so quickly as others, and one variety has to be potted-off before the others are ready. The cuttings or slips form roots best in a forcing or propagating-house, with a temperature of about 50° to 55°. Inside the house there should be a propagating-frame, and the small pots containing the slips ought to be plunged in this in a bottom-heat of about 85°. The skill of the cultivator will be shown if he roots them quickly without any loss from damping, by reason of keeping the frame too close, or allowing them to shrink up, owing to an admission of too much air. Full instructions were given on p. 732, December 15, 1894, as to potting-off and subsequent

treatment. I stated at the same place, that "from the greenhouse the plants pass into cold frames, and ultimately out-of-doors." The fact is, that all classes of Carnations are impatient of the restraint of a glasshouse, and always make the healthiest growth out-of-doors. The plants are taken under glass before the flowers open, because the best flowers are obtained under glass, and the more air the plants obtain when there, so much the better will the flowers be in colour and substance of petals. The size of the pots used will depend entirely upon the age, size, and vigour of the plants. I saw a fine lot in Scotland a few years ago, most of which were in 10 and 11 inch pots, but they were two-year-old plants. When well grown, these two-year-old plants make a fine display, but the individual flowers are generally of poor quality. The pots I prefer to use to flower the plants in, vary from 5 inches inside diameter to 8 inches. The larger sizes are used for plants propagated in January. I use a third part of fibrous peat mixed with yellow loam for potting purposes, and add to this one-fourth part of decayed stable manure, and as much leaf-mould; this forms a good open compost. The plants are repotted as they require it, not giving them too great a shift at one time. I repot them from the small flower-pots into large-sized 60's, and from these into 5-inch, to be repotted again into 7 and 8-inch. The pots are well-drained, and the plants are usually placed out-of-doors about the end of May in an open position, where worms cannot get into the pots. Syringe them on hot days during summer, and see that they do not suffer for want of water at the roots. The entire collection should be housed by the end of September, but any plants upon which the flower-buds are on the point of showing colour should be taken in earlier if necessary. The border varieties have, as a rule, passed out of bloom by the first week in August, and the winter-flowering kinds can easily be brought in to succeed them. They require no artificial heat in ordinary seasons, until the middle of October, but after that time a buoyant atmosphere and a temperature of from 50° to 55° are required.

A list of the best varieties is of some importance. I do not care for a large collection, and grow those only that have distinct and good colours. The variety which possesses the richest and best dark crimson flowers is Duke of York (May). Uriah Pike (Pike) has flowers of the same rich crimson colour; they are more freely produced, but are not of such good quality. Mrs. Hemsley is an excellent, vigorous, crimson-flowered variety. For pink-coloured varieties I grow Mdlle. Thé ère France—the flowers are of large size, and of a fine delicate pink tint. Mrs. Llewellyn is a bright rose colour. Miss Joliffe (Improved), a free-flowering pale rose. The best scarlet is Winter Cheer, and for spring flowering, Zouave. I grow three white-flowered varieties. Mdlle. Carle has medium-sized flowers very freely produced; Purity and Mrs. Moore produce larger white flowers, but they are not so free as Mdlle. Carle. *J. Douglas.*

CARNATION MR. LEOPOLD DE ROTHSCHILD.

I think that, for compact habit, freedom of growth and blooming, for its prolonged time of flowering, its rather long stems, which is by no means a defect in regard to its usefulness for cutting purposes, its comparative freedom from pod-splitting, and for its pleasing delicate, fleshy-pink colour, this autumn-flowering variety is difficult to beat; and then the petal-edges are lightly fringed, which makes the flowers all the more attractive in the eyes of good floral decorators. The smooth, evenly-edged petal has its value for exhibition purposes, because florists consider the fringed petal to be a defect. But the decorator is happily bound by no considerations of this kind; he is unfettered in his choice, and much that the true florist would reject he finds invaluable. At Gunnersbury Park, Acton, Mr. Reynolds grows this useful Carnation largely; he has many old plants, which were furnishing bloom at the end of December; and he has a large number of young ones from last summer's cuttings coming on. *R. D.*

HOME CORRESPONDENCE.

GENTIANA STYLOPHORA, AND AXIFRAGA VIRGINIENSIS. FL.-PL.—Of late years seeds of this famous Himalayan Gentian have repeatedly been introduced and distributed, and I suppose that some skilled English gardener may have raised plants of it; if so, will he be good enough to give his experience through the columns of this paper? I have a few plants, but find it difficult to grow them on. Saxifraga virginiensis, flore-pleno, is another beauty, easier to lose than to increase, yet in some years it can be made to do well, and in other years it will not move much. Is this plant known in England, and has anyone experimented with it? *Max Leichtlin, Baden-Baden.*

OLD *versus* NEW CALENDARS OF GARDEN OPERATIONS.—I was much interested in reading the remarks made by your correspondent, "G. Howes," under the above heading. I have a book of some 343 pages, entitled *The Gardeners' Kalander*, dated 1748, by Philip Miller, F.R.S., gardener to the Worshipful Company of Apothecaries at their Botanic Garden in Chelsea. Also the sixth edition of another book, with an appendix, 608 pages in all, entitled *New Improvements of Planting and Gardening both Philosophical and Practical*, in three parts, dated 1731, by Richard Bradley, Professor of Botany in the University of Cambridge, and F.R.S.; to which is added that scarce and valuable tract, entitled *Herefordshire Orchards* I have part three of the above work, dated 1720. I have also the *Gardeners' Pocket Journal*, by John Abercrombie. All the above works are very instructive, when compared with the present time garden literature, showing the great difference in methods then in practice, also the different varieties of fruits then cultivated. I am sure, as your correspondent remarks, some similar works on nursery management would be much appreciated by present day gardeners. A paper devoted entirely to forestry, nursery management, and estate work generally, would meet the wants of a great many gardeners and foresters. I have many times heard young foresters express regret at not being able to procure a paper weekly relating to these subjects. *Francis Allen, Antrim Castle Gardens, Ireland.*

NEW LONDON.—With the political aspects of the forthcoming London County Council election the *Gardeners' Chronicle* has, of course, nothing whatever to do; but there is one phase at least of the London County Council with which this journal has a very deep interest—we refer, of course, to the part which concerns the parks and pleasure-gardens of the metropolis. And if we had to pass a judgment on the work of the Council since its inception, six years ago, on the work which more directly concerns us, it would be impossible to come to any other conclusion than one entirely favourable—not to say enthusiastic. For hundreds of years the rulers of London, from the ancient Corporation itself to the Metropolitan Board of Works, ignored one of the most vital of all phases of health and recreation, public gardens. Instead of possessing, as we ought to possess, one of the most beautiful, as well as one of the most historic cities of the world, we have only just escaped, by the skin of our teeth, as it were, the possession of one of the most absolutely ugly cities in creation. Another decade of the Metropolitan Board of Works would have settled the matter, and London would have been quite beyond regeneration. The finest and most perfect sanitary arrangements which human skill can invent are not to be compared to the hygienic value of an acre or two of public parks or gardens [in the centre of densely-populated areas], and we rejoice to see that this fact has been recognised by the present London County Council. It is no longer possible to form these parks and gardens in every locality where it would have been easy for them to have existed a few years ago, but it is no exaggeration to say that the London County Council has "opened" every bit of space possible. One of the Council's latest triumphs in this particular direction is Lincoln's Inn Fields, a splendid area in one of the most crowded parts of West Central London, a space which is to be entirely thrown open so soon as the necessary alterations have been effected. It is a matter for sincere congratulation all round, not only that the London County Council fully recognise the importance—the vital importance—of these open spaces, but that its efforts in this particular direction with the expressed or implied commendation of the London Press, no inconsiderable portion of which are anything but friendly to the Council as a governing body. Of all the morning papers, *The Daily Chronicle* is most deserving of praise for the whole-hearted manner in which it has entered into the subject. Its issue of Tuesday, February 12, is in many respects a very remarkable one, to which, with much pleasure, we draw attention. An entire page is devoted to the report of its special commissioner on the parks and gardens of London of to-day, and his remarks are accompanied by two large and characteristic sketches by Mr. Alfred Parsons, one being a view in Waterlow Park, and the other of the rustic bridge in Battersea Park. Mr. Joseph Pennell contributes two sketches, one being of the American Garden at Finsbury Park, and the charming York Gate and Terrace by Inigo Jones, at the foot of Buckingham Street. From this report we learn that to-day London owes as her special heritage of common ground, apart from the royal parks, 3656 acres as against 2650 which were her heritage when the Council came into existence six years ago. And further, that every year, on an average during the past six years, seven new playgrounds have been thrown open, the annual average for the last four years of the Metropolitan Board of Work's administration being one and a fraction. The number has not only grown from 40 to 78, but the increase in the cost to Londoners has actually been less than a halfpenny in the pound for the whole six years. Anything more significant of the manner in which the Council has performed at least one of its duties would be impossible. *W. Roberts.*

THE LATE WILLIAM THOMSON, OF CLOVENFORDS.—I note Mr. Bruce Findlay's sympathetic and well-chosen remarks on the desirability of perpetuating the memory of our departed friend. It was my pleasure to look upon him as such from the time he undertook the management of the gardens at Dalkeith. I believe there can be no more worthy life than his to be kept in view by horticulturists generally; and the question arises in which way can it best be done. I notice the article on this same subject on p. 175 of your last issue, in which it appears that the members of the Royal Caledonian Horticultural Society have decided what they are going to do. One could have wished they had only sounded a note, and waited for the opinions of others. I am not inclined to favour their plan, as I think there are quite as many *In Memoriam* Medals as are either wished for or appreciated. I would suggest that a subscription be asked for to endow a fund to maintain a permanent annuitant on the Gardeners' Royal Benevolent Institution. *George Thomson.*

ACTINIDIA POLYGAMA.—I have grown this for many years. It is a good creeper, and flowers occasionally, but never fruits here. At Offington, Mr. Gaisford has a good shrub of A. Kolomicta, but I do not know whether it flowers or fruits with him. *H. E. Bitton.*

A SEEDSMAN'S QUALIFICATIONS.—There is a good deal of soundness in the arguments put forth by your correspondent, "Nursery and Seedsman," and although his surmise, which points directly to myself, is somewhat inaccurate, my position, from his standpoint, cannot be other than that of the ideal individual he frames in his mind, for it was my lot to be reared in a palace garden, to serve a lengthy kind of apprenticeship in a nursery, and to drift finally into the seed trade. It is held as a reasonable opinion that a nurseryman need not necessarily be a seedsman, whilst a seedsman who understands plants and nursery routine must find the knowledge of great value to him; as a rule, the one runs with the other in all but the largest establishments. My own experience of the nurseryman who has a small seed connection, and can execute his orders during the winter evenings by drafting his young men from the houses or grounds, is that his knowledge need be only of a very meagre description, for he simply buys his seeds from the wholesale firm, and distributes his purchases accordingly. Synonyms with him are of little moment, yet he seems to satisfy his customers, and manages to thrive. The requirements of the *bonâ fide* seedsman are of quite a different character, and they have already been fully discussed. I am quite in accord with all your correspondent has to say about the slip-shod system prevalent now-a-days in engaging assistants. A large contribution to this sad state of things is the great rush to make as much money as possible in the shortest time. Irrespective of credentials or education, the average hand is taken on

and drafted into a department, engaged, probably for so long as his services are required; the consequence is, he is careless in his work, and uninterested in his employer's welfare, knowing that at the end of the season he is very likely to be cleared out. It is by such methods the market is flooded with a class of assistants who, when engaged, bring by their incapacity, discredit all round. This very subject has already been freely commented upon in your columns. *Seedsman.*

THE ROYAL HORTICULTURAL SOCIETY'S JOURNAL.—In the notices to Fellows found on the cover-page of the recent issue of the *Journal*, there is a special request made that each Fellow should endeavour to bring in a new one during the year. In appealing to the large numbers of horticulturists outside the existing circle of the Royal Horticultural Society to come within it, I do not know of any stronger reason that may be given than is found in the *Journal* issues during the year. Perhaps some may put the Drill Hall meetings first; but these are not accessible to those residing at a distance, and can be utilised in such case but seldom. To some others, perhaps, the Temple Show and the Crystal Palace fruit shows may have precedence, and undoubtedly these are very important and striking functions. Some even may regard Chiswick Gardens as presenting the primary attraction; but all who are true horticulturists must admit that the *Journal* is a first-rate compilation, and particularly to be appreciated and enjoyed in the winter months, when other garden attractions are few. When, however, all these advantages are summed up, there can be no question but that the guinea's worth secured by Fellows of the Royal Horticultural Society is a remarkable one, and to those who are living within easy reach of the metropolis a most profitable outlay. The latest issue of the *Journal* includes the whole of the reports of the two congresses held last year, and these reports serve to indicate, in a marked degree, the wide ground that such a society as the Royal Horticultural covers, because the subjects are so wide asunder, and yet to those engaged in the respective forms of horticulture found in forestry and in fruit culture, full of the deepest interest. A special value which attaches to the papers published in the *Journal* is found in their suggestiveness. No one of ordinary intelligence can read them without deriving from them new ideas, and having new thoughts and suggestions aroused. Papers of this nature have a fulness and body that cannot be furnished in the weekly press, hence their educational value. Perhaps there is just a little too much tendency on the part of some persons to seem to know something of everything, whereas more respect would be secured if papers and discussions were rather left to specialists, who have made particular subjects a special study. It is again in that direction that the *Journal* proves so valuable, as it often gives to Fellows information through papers derived from specialists who would not otherwise be heard or read. The *Journal* also is presented in such admirable book form that it is most convenient for reference. In that respect it has doubtless helped to the production of many a paper that has, before local audiences, passed as a very talented and capable [if not quite honest] production. *Reader.*

HELIANTHUS DEBILIS *var.* CUCUMERIFOLIUS.—As the introducer of this very useful and pretty Sunflower, some twenty years since, perhaps you will allow me to point out that a stranger to the plant might from your notice of it (see p. 167), be led to infer that it was of perennial duration. This is not the case, as it is a true annual, flowering the first season, and behaving in all respects like other plants of the same duration. For cutting purposes the flowers are of great value. *W. Thompson, Ipswich.*

THE PROPOSED NATIONAL VEGETABLE EXHIBITION.—At a meeting of the general committee held at the Royal Aquarium, Westminster, on Tuesday last, Mr. Briscoe Ironside presiding, Mr. E. Molyneux, the secretary pro tem., reported as to the result of his fresh appeal to the seed-trade for special prizes and support. Whilst the response was not altogether unfavourable, yet so many seedsmen wished to have special classes of their own forming, accompanied by very restrictive conditions, that the committee felt the holding of a national vegetable exhibition of that sort which would be but a mere advertising show, was out of the question. It was therefore resolved to defer further consideration of the proposal to another year. It was stated that before finally issuing their schedule of prizes for the proposed vegetable exhibition at the Drill Hall, the Council of the Royal Horticultural Society were awaiting the result of that day's meeting. It may be taken for granted that now the Council will proceed with their schedule, although it is evident that the Drill Hall will not offer much available space for a vegetable show. It is not too late to resolve that the vegetable show be held early in September, and at Chiswick, where there would be ample space. This would be a very popular arrangement, and then might still be made a really national exhibition. It is all the more desirable as Oct. 15 is very late for vegetables, and there is absolutely and most strangely no ordinary meetings of the Society at the Drill Hall or elsewhere fixed for September. *D.*

FLOWERING OF PHALÆNOPSIS APHRODITE.—It will be interesting to know that the flower-spikes of this Orchid do not always take the same habit. In November, 1893, a plant in the gardens here with fifty expanded flowers, had the spike long and branching, similar to that of P. Schilleriana. The following March the same plant had a spike with fourteen expanded flowers, but this time one wreath-like spray, similar to the one mentioned on p. 110, which, in my opinion, is far more beautiful than a branched spray. It will be interesting to know the form of Mr. Coomber's spray with twenty-eight flowers. *G. W. Eden, Henham, Wangford.*

THE FROST.—Whilst we hear in all directions of previous frost depths being beaten, and degrees below zero freely registered, it is well to remember that measurements of temperature have been furnished under such varying conditions, and with such diverse and very often varying instruments, the information afforded is not always reliable. All the same, without assuming that previous records have been beaten, it is certain that the frosts have been, for England, intense and penetrating. When strong flowing rivers like the Thames are frozen over solidly, and not only is all navigation stopped, but skating goes on all over the rivers most merrily, we get the most conclusive proof that the frost is singularly severe. Naturally, gardeners are now anxious with respect to the denizens of their gardens. It may be, too, that the roots and tubers stored in sheds have been disastrously affected, but it will be surprising indeed if myriads of things outside, and commonly regarded as hardy, escape injury. It is many years since our Bays, Laurustinus, and other shrubs suffered severely from frost. Remembering the very moist nature of the summer of 1894, there is too much reason to fear considerable damage may later be revealed amongst shrubs, fruit trees, Roses, Celery, white Broccoli, and other valuable garden products. If all these things come out of the ordeal unharmed, then will it be wonderful. Naturally, gardeners' thoughts are more turned in this direction than in the comparatively barren one of finding low-temperature records. The prospect is full of grave anxiety, yet everyone hopes that the anticipated worst may be a long way remoter than will be the reality. *A. D.*

THE WEATHER.—The frost in this part of Sussex has been very severe, considering its southerly position and nearness to the sea. Our self-registering thermometer, standing exposed at 4 feet from the ground, has for the present month registered:—February 1, 17°; February 2 21°; February 3 10°; February 4, 15°; February 6, 7°; February 7, 2° below zero; February 8, 3° below zero; February 9, 3°; February 10, 12° Fahr. The warmest night since January 24 was that of January 31, when the glass stood at 25° Fahr. Perhaps the above is not remarkable when compared with the cold experienced in other parts of the country; but it is very cold for Sussex. *H. E, Pulborough.*

—— *Hexham.*—As we take thermometrical readings with care and regularity at our nurseries at Hexham, those of the last few days may be of interest to your readers:—Tuesday, February 5, lowest reading 21°, 11° of frost; Wednesday, February 6, lowest reading 14°, 18° of frost; Thursday, February 7, lowest reading 19°, 13° of frost; Friday, February 8, lowest reading 2° below zero, 34° of frost; Saturday, February 9, lowest reading 5°, 27° of frost; Sunday, February 10, lowest reading 2° below zero, 34° of frost; Monday, February 11, lowest reading 2°, 30° of frost. *W. Fell & Co.*

—— *Market Harborough.*—Our thermometer, a trusty Negretti and Zambra instrument, gave the following degrees of cold for the days on which there was frost in January and the present month:—Jan. 10, 19° of frost; 27, 23° of frost; 28, 20° of frost; 29, 28° of frost; Feb. 4, 7° of frost; 5, 28° of frost; 6, 37° of frost; 7, 33° of frost; 8, 40° of frost; 9, 33° of frost; 10, 34° of frost; 11, 11° of frost. *Henry Underwood, Nithsdale House, Market Harborough.*

—— *Burford, Dorking.*—It may be of some interest to you to know the outside temperature taken here during the severe frosts. During Wednesday night, February 6, the thermometer in the screen registered 1° below zero, and on the grass 3° below zero. On Thursday night, 30° of frost in the screen; on the grass, 2° below zero. On Friday night, 24° of frost in the screen. On Saturday night, 23° of frost in the screen. Sunday night, 10° of frost. I may add that the temperatures of our Orchid-houses fell 4° and 5° below the lowest figures given in last week's Orchid Calendar. *W. H. White.*

—— *Monteviot.*—I send a note of weather here showing how severe and wintry it has been, still I think there has not been a great deal of damage done, owing to having a good coating of snow, which still lays. For the last three or four days we have had very heavy clouds, obscuring both sun by day, and moon and stars by night, but to-night is very clear, promising good clean ice to-morrow. But now that February has more than half gone, it is about time the clerk of the weather took pity, and allowed us poor gardeners all over the country to get the spades into the earth. Frost every night during the present month: severest on the 11th, when it was 7° below zero; 10th, 4° below zero. The least on 14th and 19th was 1° of frost, and 15th, 2° of frost. The frost on the other days ranged from 23° to 5°. There were nine days without sunshine, and seventeen on which snow, sleet, or rain fell. Twelve days wind from N., N.W., and W.; the other days N.E. and E. A blizzard came from the east on Jan. 13. The river (Teviot) frozen over on 11th, and again on the 28th, and is still icebound. All outdoor gardening stopped, except putting on manure, turning ditto, and leaf-mould, and indoor jobs. *J. Page, Monteviot.*

—— *Marazion, Cornwall.*—We have had an average of 10° of frost for the past three weeks. On the 6th inst., 16° were registered, a great change from our usually mild climate. *J. Maeers.*

—— *Northamptonshire.*—Since February 5, the thermometer has scarcely been above 0°. On the 5th we had 33° of frost; on the 6th, 41°; 7th and 8th, 42°; 9th, 34°; on the 10th, 39° of frost. This great degree of cold will cause much destruction to Roses and shrubs. The Laurels, Ivy, and Holly, also Tea Roses are well protected; we have never had such frost since February, 1892, when on the 17th of that month, from 6 till 8 A.M., it registered 42° of frost, which was recorded in the *Gardeners' Chronicle* of February 27, 1892, from many parts of the country at that time; it cut down all the Laurels and Tea Roses on the west wall, and several Apricot trees on south-east wall. Our thermometer stands 4 feet from the ground facing north-east, on the north side of a lake, about 40 feet above the water. *H. Turner, Fineshade Abbey Gardens, Stamford.*

—— *Thetford.*—In a properly-constructed double Louvre screen, 3 feet above ground, containing four new thermometers with Kew certificates, we have registered the following frosts on the mornings named: February 5, 19°; February 6, 30°; February 7, 36°; February 8, 33°; February 9, 22°; February 10, 34°; February 11, 14°; February 12, 19°. As all the thermometers—maximum, minimum, dry and wet bulb—range very closely together, I think the above figures may be taken as a fair indication of the Arctic weather recently experienced in Suffolk. *Alfred Lodge, Elveden, Thetford.*

—— *North-east Aberdeenshire.*—We have had seven weeks of severe weather with much snow, the latter reaching a depth of 18 inches over all. The frost is such as we have not experienced for many years. On Friday and Saturday last the thermometer at 9 A.M. indicated 8° below zero, or 40° of frost; and on Sunday 37°, or 5° below zero, and there is even now no sign of a change for the better. We have cause to fear that it will play havoc with our shrubs. *John Brown, Delgaty Castle, February* 11.

—— *Dunstable.*—On four successive nights 8° below zero. *W. G. S.*

—— *Surrey.*—I herewith send you readings from a Negretti & Zambra thermometer, situate in the centre of my garden, about 18 inches from the ground, facing the north, with no shelter near. This is the highest ground within 2 or 3 miles. I have invariably found the thermometer registering from

2° to 3° more cold at a lower level than where the following readings were taken:—February 3, 16°; 4th, 7°; 5th, 13°; 6th, 23°; 7th, 28°; 8th, 28°; 9th, 26°; 10th, 22°; 11th, 7°; and 12th, 20°. *George Thomson, Woking.*

[We have received several more notices, kindly sent by our correspondents in various parts of the country, all telling much the same tale of severe frost and heavy snowfall. Ed.]

Law Note.

THE REJECTION OF DELAYED GOODS.

In the City of London Court, on Saturday, before Mr. Commissioner Kerr, the case of Johnston & Son *v.* Byrd was adjudicated upon, in the course of which an important decision was given to traders in regard to their powers to reject goods delivered late, and buy elsewhere. The plaintiffs, Messrs. Johnston & Son, Dried-fruit Merchants, 38, Botolph Lane, E.C., sought to recover the balance of an account for Tomatos supplied to the defendant, Charles Byrd, West Hill stores, Upper Richmond Road, Wandsworth. The claim was admitted, but the defendant raised a counter-claim for damages for the delayed delivery of some of the goods. Mr. James Welfare (Aldous & Welfare) was solicitor for the plaintiffs, and the defendant appeared in person. In support of his counter-claim, the defendant said that one of the plaintiffs' travellers called upon him in the ordinary course of business on Monday, July 2 last. He was in the habit of calling once a fortnight. The traveller pressed him to buy, amongst other things, some Tomatos; and he gave him an order, being out of them at the time. But he explained very carefully to the traveller that he wanted them as soon as possible, and, that, unless he could be sure of delivering them the following day (Tuesday), or Wednesday at the latest, he was not to take the order. In the event of the traveller not being able to do that, he (defendant) would have bought elsewhere. The traveller said he could guarantee the delivery of the Tomatos by the time stipulated, and that he (defendant) was not to trouble himself about the matter further in regard to getting the goods of any other firm. The Tomatos, however, did not come to hand on the Wednesday. He waited until Friday night, when the plaintiffs sought to excuse themselves by saying that the goods which they had in hand would not do for the witness, and that they would book his order "for forward delivery." He declined to have that done, and made his purchase elsewhere. But now he asked for damages, as his business had suffered by not having the Tomatos on the Wednesday to supply to his customers. Mr. Commissioner Kerr: Did you go and buy other Tomatos on the Wednesday in open market? The defendant: No; I waited to give them a chance of sending them on. The market price had gone up considerably by the time Friday came. They have served me this trick before. I can only call it a trick. They did not deliver at the time agreed upon because the market went up, and then they made paltry excuses. Mr. Commissioner Kerr: The contract was broken on the Wednesday, when you did not get them. If you had gone out and bought on the Wednesday, and there had been any loss on your part in having then to pay an increased price, you could have justly claimed the difference in the price you had to pay. The defendant: I waited to get this letter from them. Mr. Commissioner Kerr: That was the mistake you committed. You should have bought the moment the contract was broken. You ought not to have waited until they went up in price. You have sustained no damage for which the plaintiffs can be held responsible, because you did not buy on the Wednesday when the price was no greater than that which you had agreed to pay to the plaintiffs. But you wait until the Friday before you act. The law, you know, helps those who are vigilant. If you had bought elsewhere on the Wednesday, and the price had gone up 100 per cent., the plaintiffs would have been liable to pay the increased price. But you did not. The defendant: I was without Tomatos for a week. Mr. Commissioner Kerr: That was your own fault. Judgment was then entered for the plaintiffs on the claim, and on the counter-claim with costs.

Societies.

ROYAL HORTICULTURAL.

February 12.—The second meeting for the year of the committees of the Royal Horticultural Society was held in the Drill Hall, James Street, Westminster, on Tuesday last, but the unusually severe character of the weather prevented amateurs, as well as the trade, from moving valuable plants for the purpose of exhibition. Not more than two dozen plants were staged, and these were chiefly Chinese Primulas. The remainder of the exhibits consisted of cut flowers of Orchids, Rhododendrons, and other plants, and a small collection of fruit, including some British-grown Oranges.

From the garden of R. I. Measures, Esq., Camberwell, Mr. Chapman brought a collection of well-mounted specimens of pressed Orchid flowers, which probably received more notice than would have been accorded them in the presence of such an exhibition as we now usually expect to see.

The annual general meeting of the Society was held in the afternoon in the presence of a comparatively fair number of members, and the proceedings were mainly of a congratulatory character.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, O. Thomas, J. Laing, C. Jeffries, R. Dean, G. Stevens, H. B. May, J. H. Fitt, W. Bain, J. D. Pawle, C. E. Shea, C. Bick, G. Paul, Ed. Mawley, C. T. Druery, H. Herbst, Ed. Molyneux, H. Briscoe Ironside, J. Jennings, P. Barr, W. J. Grant, R. Owen, H. J. Jones, and H. Turner.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, exhibited sprays of a number of varieties of Rhododendron javanico jasminiflorum hybrids. That such beautifully-tinted flowers in various and pleasing colours are obtainable from these hybrids during the present weather is quite sufficient evidence of the value of the results of the work Messrs. Veitch have expended in the hybridising of these species. A surprisingly fine spray of Ne Plus Ultra was the conspicuous variety on Tuesday. The flowers are rather larger than the average of the type, and a telling crimson-scarlet in colour; petals perfectly smooth and regular. Primrose is a good one, whose name well describes its colour; Purity is white, Imogène a very pale delicate blush, and Balsaminæflorum-album is a good double one. The old Princess Royal was included in this interesting stand.

Sir Trevor Lawrence, Burford Lodge, near Dorking (gr., Mr. W. Bain), exhibited a spathe of Anthurium × Perfection; the spathe of this variety is nearly 7 inches across, arrow-shaped, crimson-scarlet in colour, with white spadix tipped with pale yellow (Award of Merit). A small plant in flower of Thyrsacanthus rutilans was also shown.

A bunch of English-grown Azalea mollis, very well flowered, was exhibited by Messrs. Paul & Son, Cheshunt.

Mr. J. E. Burton, gr. to Sir E. J. D. Paul, Bt. Cambridge House, Twickenham, exhibited four plants of Primula sinensis var. Bouqueti; and Mr. J. Evinton, gr. to Sir David Evans, Ewell Grove, a dozen plants of Primula sinensis var. Lady Evans, and a number of Primula blooms in variety.

Messrs. F. Sander & Co., St. Albans, showed several flowers of Hæmanthus Kalbreyeri, an intense but bright crimson species; also some flowers of Lachenalia pendula, variety Causton Gem.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), Fred. Hardy, W. H. White, E. Hill, J. Douglas, H. J. Chapman, E. Ashworth, W. Thompson, Walter Cobb, H. M. Pollett, and H. Ballantine.

In consequence of the severe frost, the exhibits were chiefly composed of cut spikes, and these represented a number of good and interesting species and varieties.

From Lord Rothschild's gardens, Tring Park, Tring (gr., Mr. E. Hill), came a grand example of the rare Phalænopsis intermedia Portei, a six-branched spike, bearing about fifty pretty white and rose flowers, and doubtless the best ever seen (First-class Certificate, and Cultural Commendation); and a grand inflorescence of the fine old Lælia superbiens.

Baron Schroder, The Dell, Egham (gr., Mr. H. Ballantine), showed Phalænopsis Youngiana, a fine natural hybrid, with flowers as large as those of P. grandiflora, white suffused with rose, the lip and lower halves of the lateral sepals being densely spotted with crimson (First-class Certificate). The same exhibitor sent Calanthe × Baron Schroder, the finest and richest dark Calanthe known; four forms of C. Regnieri, Odontoglossum coronarium (Cultural Commendation), Phaio-Calanthe × Sedeni, P.-C. × Arnoldiana, Vanda Cathcarti, Catasetum barbatum, Cypripedium × Lathamianum, C. × Calypso, C. Charlesworthii, C. insigne Sanderianum, C. × Harrisianum superbum, and C. × Sallieri (Silver Banksian Medal).

Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. W. H. White), sent a fine spike of Odontoglossum coronarium miniatum, for which a Cultural Commendation was given.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, sent plants of their new Calanthe × masuco-tricarinata, a pretty hybrid, obtained by crossing the two Indian species indicated in the name. It is a great improvement on C. tricarinata, and has flowers an inch in diameter, white, suffused with lilac (Award of Merit); and Cymbidium × eburneo-Lowianum superbum, in which the large cream-white flowers have the lip richly coloured within the margin, with a band of purple (First-class Certificate).

Messrs. F. Sander & Co., St. Albans, showed Cypripedium × Fordianum (Stonei × callosum) a remarkable hybrid in which the features of both parents were evident, and the combination unique; Dendrobium luteolum and D. l. superbum, the latter a very large form; Odontoglossum × Coradinei albanense, a very showy thing, equal in beauty to O. Wilckeanum; the pretty Dendrobium canaliculatum, Lælia anceps Schroderiana, the Dell var., in which the broad white front lobe of the lip is very highly developed; Phaius × Marthæ, and P. × amabilis.

Sir Frederick Wigan, Clare Lawn, East Sheen (grower, Mr. W. H. Young), sent fine cut examples of Stauropsis (Vanda) gigantea, Cypripedium Rothschildianum, C. × Wiganianum, C. × Lathamianum, and the true Lælia præstans.

Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed a collection of fine varieties of Cattleya Trianæi and C. Percivaliana, among the latter being two specially remarkable, the one have scarcely a trace of any other colour than orange in the lip; and the other, named magnifica, being good in every respect. With them were good examples of Phalænopsis Stuartiana, P. Schilleriana, Dendrobium × Schneiderianum, and a pretty and distinct hybrid Odontoglossum.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr., Mr. J. Howes), showed Odontoglossum crispum "La Gascogne," a very fine spotted form, in which the sepals have larger blotches of red-brown than the petals, which were adorned with numerous spots of varying size, the ground colour being white.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, N., showed Cattleya Trianæi Ashtoni, a very distinct form, with broad open lip of a peculiar bluish crimson—a very promising variety. F. M. Burton, Esq., Highfield, Gainsborough, showed Cypripedium × pavonium (Boxalli × venustum), C. × suffusum (Lawrenceanum × venustum?), and C. × refulgens of unrecorded parentage. Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), sent Lælia harpophylla and L. h. Claudii, the latter having fine broad segments of a rich orange scarlet colour; Odontoglossum maculatum, Cypripedium × grande, C. Rothschildianum, Dendrobium Dalhousieanum, which has flowered twice in seven months; Oncidium splendidum, O. Cavendishianum, and a curious little Brazilian Orchid. W. Thompson, Esq., Walton Grange, Stone, Staff. (gr., Mr. Stevens), sent a small collection of good cut Cattleyas, Odontoglossums, &c., which, however, got frozen in transit; and the like befell a good set of Cattleya Trianæi blooms from G. Marshall, Esq., Claremont House, Grimsby (gr., Mr. J. Johnson). Mr. H. J. Chapman, The Gardens, Cambridge Lodge, Camberwell, showed a fine set of over fifty species and varieties of Orchids, dried and mounted in picture-form, their colours being exactly retained, after the manner of those formerly exhibited by Mr. Hinds of Sale. The

manipulation of the Cypripediums and other bulky flowers was excellent, and the representations in every case perfect (Silver Banksian Medal).

M. Seavy, photographic artist, 164, Camberwell New Road, S.E., showed a collection of beautiful photographs of various Orchids, in which the flowers seemed to stand forth in bold relief. The whole, while fairly representing the flowers, showed them to advantage (Bronze Banksian Medal).

Fruit Committee.

Present: P. Crowley, Esq., Chairman; and Messrs. Geo. Bunyard, W. Wilks, P. C. M. Veitch, J. Cheal, W. Pope, A. Dean, T. Glen, J. A. Laing, W. Bates, W. Farr, C. Herrin, J. Hudson, F. Q. Lane, A. H. Pearson, and S. H. Sage.

Messrs. T. F. Rivers & Son, Sawbridgeworth, exhibited a collection of varieties of English-grown Oranges, including Billingcourt, Long White, Dom Louise, St. Michaels, Silver or Plata Egg (St. Michaels), and Maltese; also some Citrons and White Lemons (Silver-Gilt Knightian Medal).

From Major Thornhill, Starton Hall, Bakewell (gr., Mr. G. Harvey), came a collection of large-sized Seville Oranges, ready for use (Silver Banksian Medal).

A small collection of Apples was shown by Messrs. John Peed & Son, Roupell Park Nurseries, Upper Norwood. The varieties represented dessert and culinary kinds, and were fair in quality for the advanced date of the season. The freshest-looking were Missouri Pippin, Bramley's Seedling, Damelow's Seedling, Bess Pool, Newton Wonder, Bismarck, Jubilee, Yorkshire Greening, and Winter Peach. Mr. A. G. Nicholls, gardener at Nuneham Park, Abingdon, exhibited Nicholl's Favourite Globe Van Onion. They were good sound specimens, and had a pale skin (Cultural Commendation).

ANNUAL MEETING.

The annual general meeting of the Society was held at 3 o'clock in the afternoon in the Lindley Library at the Society's office, 117, Victoria Street, Westminster. The attendance of members was fewer than at the similar ceremony held last year, this being attributable solely to the unpropitious character of the weather.

The President (Sir Trevor Lawrence, Bart.), occupied the chair, and he was supported by Sir Alexander Arbuthnot and a good number of the members of the council. The Secretary (Rev. W. Wilks) and the Assistant-Secretary (Mr. J. Weathers) were also present. The minutes of the last meeting were read and adopted without comment. Forty-one new members were admitted to the fellowship of the Society.

The President announced the retirement of the Right Hon. Lord Annesley, the Hon. Walter Rothschild, and Mr. Chas. J. Lucas from the Council, and later in the proceedings a vote of thanks was accorded to the retiring members for their past services to the Society.

Three names were submitted to the meeting to fill the vacancies caused, viz, Mr. Sydney Courtauld, Mr. H. Williams, and Mr. Thos. Statter, and the result of the ballot was that each of the members was elected. When the officers of the Society had been re-elected, the President, before proposing the adoption of the report, referred briefly to several of the matters contained therein, and said that the Council were again in the position of having to ask exhibitors to allow their plants to remain three days at the show held in the Temple Gardens. The third day on the last occasion brought a very considerable amount of money to the Society. This show had become more and more popular. At the first show, held in 1887, the amount taken was £278, and in 1894 the sum was £1023. Reference was made to the show of British fruits, held last September at the Crystal Palace. It had been a success, and at the invitation of the Crystal Palace Company, the exhibition would be repeated this year. An appeal was made for funds towards the special prize list. The Chiswick Conference on hardy trees and shrubs had been a failure in regard to the number of the members attending, and the weather prevented, in large degree, an inspection of the exhibits that were staged, but considerable good would result from the papers that were read. An error in the report was then pointed out. On page 3, the number of resignations when added correctly amounted to 122, instead of 112 as printed. The growth of the society was illustrated by quoting the number of new members enrolled between 1889 and 1894, which, after deducting the number of resignations and deaths during the same period, gave a net gain of 1530. Reference was made to the desire of the Council to maintain the *Journal* in the highest position possible, the examinations conducted under the auspices of the society during the last year were alluded to and declared satisfactory on the whole. Fewer candidates presented themselves, but a higher standard of efficiency was displayed than in the preceding year.

In regard to Chiswick, Sir Trevor Lawrence declared that the Council had no intention of turning their back upon the gardens there; indeed, they were very anxious that Chiswick should be kept up as well as possible, and the very most made of it. The Society had expended during the last year upon the gardens there, after deducting the amount received for sales from the gardens, a sum of £1,500, and the cost of the gardens to the Society since 1894 had been £7,445. He thought there was no evidence of starving in such figures.

In regard to the desirability of publishing a catalogue of the Lindley Library, which was proposed at the last annual meeting, the President stated that £80 had been subscribed, and the work had commenced, but the sum obtained being far below the required amount, further donations were solicited.

The Council hoped that by the steps they were taking to draw up a code of suggested rules and regulations for judging at fruit and flower shows, they would help considerably in meeting the difficulties that frequently arise at such exhibitions.

In concluding, the President remarked that everyone, however remotely connected with the Society, had sympathised with the Rev. W. Wilks in his illness, and they rejoiced to see him with them that day, and hoped that he would be restored to his usual good health. The assistant-secretary, the Treasurer (Mr. P. Crowley), and Mr. A. F. Barron were mentioned as deserving of the Society's thanks for the earnest manner in which they had attended to the interests of the Society on all occasions.

Mr. Parker, in seconding the adoption of the report, thanked the Council for the effort they had made to draw up a code of rules for judges. He thought that the Council should increase the advantages that were available to members of the Society who resided at a distance from headquarters, and were unable to attend the meetings, or to visit Chiswick. He welcomed the concession that had been made to those living more than 35 miles distant, in regard to the distribution of plants, and urged that a similar concession in regard to seeds might be made. He also regretted that the distribution of cuttings had fallen out of the list of advantages held out to members living at a distance. In reference to the *Journal*, he welcomed the promise from the President that it would be well kept up, and urged that it should be issued more regularly and frequently. In 1890 there were three parts issued, but since that date not more than two in any one year. Much of the less important matter in the Society's *Journal* might well be dispensed with, as useless and uninteresting to the general body of members. Many of the papers that were read last year, including the one by Mr. Singer on Cactaceous plants, were still unpublished, and he thought that whilst such material was at the Society's disposal, it should be substituted for the less important part of the *Journal*.

Mr. Ranger Johnson thought that the suggestion of the previous member was a good one, and criticised the amount paid for printing as being more than the Society could afford. Some other members expressed dissent from the proposal to curtail the *Journal*.

Mr. P. C. M. Veitch, Exeter, suggested that the work done at Chiswick by the Visiting Committees should be embodied in the reports of the committee's work at the Drill Hall. The members were not sufficiently alive to the value of the work done at Chiswick, and were ignorant in many instances as to what was done there.

Mr. W. Marshall (Chairman of the Floral Committee), thought that Mr. Veitch's suggestion was a good one. He regretted that there was to be no show at Chiswick this year. The gardens were looking well, a large amount of money had been spent in restoring the houses, and he thought that although the shows there were financial failures, it would be well to continue them.

The President, before putting the report to the vote, remarked that in regard to the distribution of seeds, the Council were careful not to compete with the trade in this matter. The papers that had not yet appeared in the *Journal* were in type, and the delay was owing to the Secretary's illness. The Council regretted that the shows at Chiswick had to be abandoned, but, unfortunately, members would not attend there.

The report was then passed unanimously, and a vote of thanks to the Chairman concluded the meeting.

THE ROYAL GARDENERS' ORPHAN FUND: ANNUAL MEETING.

February 8.—It is satisfactory testimony to the vitality of the Royal Gardeners' Orphan Fund that the executive committee was able to report to the annual meeting of supporters, held at the Cannon Street Hotel on the above date, under the presidency of Mr. John Harrison of Leicester, that—"Notwithstanding the intensity of the commercial depression of the country, which so greatly affects all that pertain to gardening pursuits and the cultivation of the soil, it is extremely gratifying to be able to record a success, and to feel that, so far as this Institution is concerned, the tide of charity and benevolence flows on as freely as ever." It is true that the general subscriptions are a little less than in 1893, but the deficiency was more than covered by the larger sum received from local secretaries. The sum received under the head of donations, which includes proceeds from sales of flowers, entertainments, opening flower-gardens, &c., is some £50 more than in the preceding year, though donations received through local secretaries show a little decrease. Gardeners who through pressure of circumstances are able to do but little in the way of subscriptions, can yet materially assist by means of boxes, fees for skating, &c.; though it often happens that local charities have a prior claim upon funds so raised. The general card collection is by no means satisfactory, there being a considerable decrease in the amount received in 1894 as compared with 1893, and there is reason to fear it indicates a waning interest in the Fund upon the part of the gardening profession; and that is doubtless the reason why the Committee in their report again draw the attention of gardeners themselves to the excellence and importance of this charity, and to solicit from them more help and assistance, which are urgently needed, as the whole object of the Fund is for their exclusive benefit. If all the head gardeners in the United Kingdom had sent up to Mr. Barron during the past year the sum of 5*s* each, the Executive Committee would have felt justified in recommending the subscribers to place upon the Fund the whole thirteen children on whose behalf application was made. A penny per week subscribed by each head gardener would marvellously strengthen the hands of those who administer the Fund. One other satisfactory item in the cash statement is the growing amount received as dividends on investments, amounting last year to £181 13*s*. 8*d*, and a further sum of £500 worth was recently purchased, bringing the total amount invested to £7570 6*s* 10*d*. The generous contribution of £50 10*s*. made by the Altrincham Gardeners' Society, as the proceeds of a concert given by that body, has a well-deserved special mention in the report, and it is gratifying to know that gardeners' societies about the country are rendering increasing and most material aid in this way.

No announcement made at the annual meeting was more warmly received than that Mr. H. J. Veitch, a Vice-President of the Fund, and one of its most munificent patrons, would preside at the next annual dinner on April 5, which is an earlier fixture than usual owing to Mr. Veitch having an important engagement abroad. It is much to be desired that the gardening profession will afford their support to this popular horticulturist on this occasion.

The amendment to the rule bearing upon the election of committeemen recommended by that committee, that outgoing members should make three attendances in one year, so far from being thought harsh, gave rise to a desire that more attendances should be required, the convenience of country members having due cognisance. No committee could work more harmoniously than that of the Fund, and the average excellent attendance of the members is a proof of the warm interest they take in its prosperity. The Treasurer, Mr. T. B. Haywood, and the admirable Secretary, Mr. A. F. Barron, were re-elected by acclamation, and the changes made in the *personnel* of the committee by resignations will, if anything, tend to strengthen its

administrative capacity. The resignation of Mr. W. Sharp, one of the auditors from the time of the foundation of the Fund, caused a new appointment in the person of Mr. Martin Rowan, Clapham, of Carnation renown, an able financier, and a very desirable substitute. The retiring auditor, Mr. Fraser, is again elected. Altogether, the executive committee may be congratulated upon the success of their work, and they can look forward with hope and confidence, feeling sure that laudable results in the past are only forecasts of something better in the future.

The six children who were elected participants of the fund were Rosa Emily King Ward, Alfred Alexander Crafter, Isabella Elizabeth Pratt, Frederick Smith Parker, Felicia Barber, and Leonard Taylor, leaving seven other children unprovided for. The votes recorded for the latter are carried forward to their credit in succeeding elections, and should a candidate die previously to the next election, the votes given to the candidate may be credited to a brother or sister, if eligible.

During the past year the Committee have been able to assist in the maintenance of sixty-one orphan children, at a cost of £787 10s.

Of the number of orphans elected since the establishment of the Fund in 1887, five having attained the age of fourteen years, are no longer chargeable to it, two of these ceased to be recipients during the past year.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending February 9.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	10 —	0	95	— 41	+ 235	9 —	28	4 3	26	19
1	13 —	0	122	— 48	+ 298	4 —	25	3 5	24	18
2	13 —	0	116	— 47	+ 227	1 —	33	5 0	29	20
3	15 —	0	132	— 46	+ 223	4 —	28	3·6	50	22
4	13 —	0	153	— 57	+ 270	5 —	22	3 5	45	25
5	13 —	0	123	— 59	+ 231	5 —	21	3·0	39	25
6	13 —	0	104	— 57	+ 252	5 —	22	2 6	21	27
7	14 —	0	113	— 50	+ 223	6 —	24	3·1	28	25
8	15 —	0	106	— 77	+ 233	8 —	25	4·6	30	30
9	12 —	0	97	— 83	+ 205	2 +	27	4·0	33	25
10	11 —	0	69	— 120	+ 151	1 —	26	5·3	19	24
*	14 —	0	73	— 79	+ 145	6 —	31	4·6	42	39

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending February 9, is furnished from the Meteorological Office:—

'The *weather* continued exceedingly cold and wintry in all parts of our Islands; very little snow fell over the country as a whole, but large quantities were experienced in 'Scotland N. and W.,' and over 'Ireland' during the middle part of the period.

"The *temperature* was even lower than that of the preceding week, the deficit ranging from 10° to 13° in 'Scotland,' from 11° to 12° in 'Ireland,' and from 13° to 19° over 'England.' The highest of the maxima were recorded at the beginning of the period, and ranged from 42° in 'Ireland, N. and the Channel Islands,' to 36° in 'England, S.' During the greater part of the week the daily maxima were below the freezing point at all except our extreme south-western coast stations. The absolute minima occurred on the 8th, and were lower than any registered for very many years. In 'Scotland, E.' (at Braemar), the sheltered thermometer descended to 12°, in 'England, E.' (at Stamford) to 8°, in 'Scotland, W.' (at Glenlee), to 5°, and in 'England, N.E. and Ireland, N.' (at Durham and Brookeborough), to 2°. Elsewhere the minima ranged from 1° in 'England, E.,' and 2° in 'Scotland, N. and England, S.,' to 10° in 'England, N.W.,' and to 18° in the 'Channel Islands.'

"The *rainfall* (melted snow) exceeded the mean in 'Ireland, N.,' but showed a deficit in all other districts. At many of the English stations the fall was extremely slight, no measurable amount being collected in the gauge, while at some of the Scotch stations the amounts measured may inadequately represent the fall owing to the drifting of the dry snow.

"The *bright sunshine* exceeded the mean in nearly all districts, the percentage of the possible duration ranging from 50 in 'England, E.,' 45 in the 'Midland Counties,' and 42 in the 'Channel Islands,' to 21 in 'Scotland, W.,' and to 19 in 'Ireland, S.'"

Obituary.

GEORGE TABER.—We have to record the death of Mr. George Taber, of Cooper, Taber & Co., Ltd., which took place at Rivenhall, Essex, on Saturday, February 9, at the age of seventy-six. The deceased was at one time head gardener at Braxted Park, and it was whilst at that place that he first turned his attention to seed growing. A lover of botany, and a painstaking and intelligent man, he found ample scope in his new venture for the application of his cherished studies. Forty years ago the seed trade had not attained to its present great proportions, and amongst the names of those who have contributed to its success, that of Mr. Taber will occupy a foremost place. The changing conditions of trade, and a natural desire to be relieved of the more burdensome responsibilities of a large business, led him, about ten years ago, to join, in an advisory capacity, with the executors of the late Robert Cooper in establishing the company with which his name has since been associated. Mr. Taber leaves one son, Mr. James Taber, of Braxted Hall, who has been one of the directors of the company since its formation.

SEVERE WEATHER IN SOUTH-EAST DURHAM.—I beg to hand you a few notes on the severity of the weather as experienced here, from the 6th inst. up to and including this morning, the 13th, and the different temperatures taken during that time, thinking they may be of interest, and that you would like to publish them. Feb. 6, 24° of frost; Feb. 7, 22° of frost; Feb. 8, 45° of frost; Feb. 9 32° of frost; Feb. 10, 40° of frost; Feb. 11, 28° of frost; Feb. 12, 20° of frost; Feb. 13, 31° of frost. These temperatures were taken in an exposed position, with the thermometers on a board close to the snow line. In two other positions apart from each other, and very much sheltered, on thermometers 4 feet from the ground, the readings were 5° less than these figures—all taken from Negretti & Zambra's minimum thermometers. This is the greatest frost I can remember, and, from present appearances, I fear we are not yet to the end of it. It is now rather more than six weeks that the ground here has been quite covered with snow, which began to fall on December 31, and at present it is 7 inches deep, though not any has fallen for more than a week. *H. E. Gribble, Wynyard Park Gardens, Stockton-on-Tees.*

MARKETS.

COVENT GARDEN, *February* 14.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	5 0	– 6 0
Azaleas, doz. sprays	0 6	– 1 3
Bouvardias, p. bun.	0 6	– 1 0
Carnations, 12 blms.	1 0	– 2 0
Chrysanthemums, per 12 blooms ...	1 0	– 4 0
— per 12 bunches	4 0	– 8 0
Daffodils, double, dozen bunches ...	15 0	– 18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	– 4 0
Gardenias, per doz.	3 0	– 4 0
Pelargoniums, scarlet, per 12 bunches	4 0	– 6 0
— 12 sprays ...	0 6	– 0 9
Hyacinths (Roman), doz. sprays ...	0 10	– 1 0
Lapageria, 12 blms.	1 0	– 2 0
Lilac (French), per bunch	5 0	– 6 0
Lilies of the Valley, doz. sprays ...	1 6	– 3 0
Lilium Harrisii, per dozen	4 0	– 8 0
Maidenhair Fern, per 12 bunches ...	4 0	– 6 0
Marguerites, 12 bun.	1 0	– 3 0
Mignonette, 12 bun.	2 0	– 4 0
Mimosa (French), per bunch ...	0 9	– 1 0
Narcissus, Pheasant-eyed, 12 bun.	9 0	– 15 0
— Paper-white, p. 12 bun. ...	8 0	– 10 0
Orchids:—		
Cattleya, 12 blms.	6 0	– 12 0
Odontoglossum crispum, 12 blm.	3 0	– 6 0
Pyrethrums, 12 bun.	2 0	– 4 0
Roses, Tea, per doz.	1 0	– 2 0
— coloured, p. dz.	2 0	– 4 0
— yellow (Maréchals), per dozen	6 0	– 9 0
— red, per dozen	1 0	– 1 6
— (French), red, per dozen... ...	1 6	– 2 6
— (French), yellow, per dozen ...	1 0	– 2 0
Snowdrops, 12 bun.	1 0	– 1 6
Stephanotis, dozen sprays	4 0	– 6 0
Tuberoses, 12 blms.	0 4	– 0 6
Violets, Parma (French), p. bch.	5 0	– 6 0
— Czar (French), per bunch ...	1 9	– 2 0
— doz. bunches	4 0	– 6 0
— (English), per dozen bunches ...	1 6	– 2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	– 12 0
Aspidistra, per doz.	12 0	– 30 0
— specimen, each	5 0	– 15 0
Cyperus, per dozen	4 0	– 10 0
Dracæna, each ...	1 0	– 7 6
Erica hyemalis, doz.	12 0	– 18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	– 24 0
Ficus elastica, each	1 0	– 7 6
Ferns, small, doz....	4 0	– 12 0
— various, doz.	5 0	– 12 0
Foliage plants, doz.	9 0	– 24 0
Genistas, per doz.	10 0	18 0
Marguerites, p. doz.	6 0	– 12 0
Mignonette, p. doz.	0 0	– 6 0
Palms, various, ea.	2 0	– 10 0
— specimens, ea.	10 6	– 84 0
Primulas, per dozen	4 0	– 6 0
Solanums, per dozen	10 0	– 12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 6	2 6
— English, 2nd quality, per lb.	0 6	– 1 0
Grapes, Muscat, per lb.	4 0	– 6 0
Cobs, per 100 lb. ...	25 0	– 27 6
Pine-apples, St. Michael, each ...	2 0	– 6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, per lb. ...	1 0	– 1 6
Cauliflowers, p. doz.	2 0	– 3 0
Cucumbers, per doz.	6 0	– 8 0
Mushrooms, per lb.	1 2	– 1 6
Potatos, Channel Islands, per lb. ...	0 6	– 0 7
Onions, per bush....	2 0	2 6
Rhubarb, per dozen bundles	1 3	– 1 6
Seakale, p. punnet	1 3	– 1 6
Tomatos, Canary Islands, per lb. ...	0 3	– 0 6

POTATOS.

The continuance of severe weather keeps the trade exceedingly short of supply, and very high prices are being made. Best Samples, 120*s.* to 140*s.*; Ordinary, 85*s.* to 100*s.*

NEW POTATOS.

Trade at present not developed. Plenty of Canary growth are ready to come forward directly there is an opening. *J. B. Thomas.*

SEEDS.

LONDON: *February* 13.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market bare alike of customers and of business. The prolonged frost naturally keeps back the Spring consumptive demand for seeds which is usual at this season. Meantime, holders sit firm, and all descriptions of Clover and grass seeds remain without quotable variation. For Kœnigsburg Tares more money is asked. Birdseeds present no new or striking feature. In Rape seed the tendency continues upwards. Mustard is slow and unaltered. Haricots are in short supply and dearer. The severe weather has at last somewhat improved the trade for Blue boiling Peas. Choice Scarlet Runner Beans are now obtainble at very tempting rates.

POTATOS.

BOROUGH: *February* 12.—Quotations ranged from 85*s.* to 120*s.* per ton.

STRATFORD: *February* 12.—Quotations:—Magnums, dark land, 80*s.* to 85*s.*; do., light land, 85*s.* to 110*s.* per ton.

FARRINGDON: *February* 14.—Quotations:—Main Crop Kidneys, 100*s.* to 110*s.*; Sutton's Abundance, 90*s.* to 100*s*; Bruces, 90*s.* to 100*s.*; Magnums, 85*s.* to 95*s.* per ton.

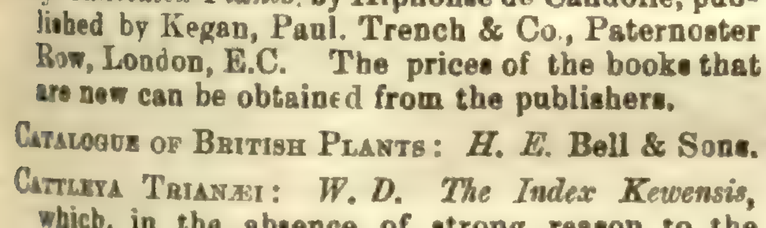
LONDON AVERAGES: *February* 13.—Durhams, 100*s.* to 120*s.*; Main Crop Kidneys, 90*s.* to 110*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Magnums, 70*s.* to 90*s.*; do., Blacklands, 70*s.* to 80*s.* Kidneys, 60*s.* to 70*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending February 9, and for the corresponding period in 1894 :—1895 : Wheat, 19*s.* 11*d.*; Barley, 21*s.* 8*d.*; Oats, 13*s.* 6*d.* 1894 : Wheat, 26*s.* 3*d.*; Barley, 28*s.* 8*d.*; Oats, 17*s.* 10*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 115*s.*; do., inferior, 45*s.* to 90*s.*; hay, best, 60*s.* to 92*s.*; inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 36*s.* per load.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Bamboos: *F. C.* Articles appeared in vol. xv., 1894, at pp. 167, 209, 239, 301, 368, 407, and 431.

Books: *H. Malmberg. Vines and Vine Culture*, last edition, published at 171, Fleet Street, E.C. In answer to your second question, the book most suitable for you is the Manual by Williams. *The Chrysanthemum and its Culture*, by E. Molyneux, published at 171, Fleet Street, E.C. Lindley's *Theory of Horticulture* is not in print, but it is sometimes to be picked up at the second-hand bookshops. *Origin of Cultivated Plants*, by Alphonse de Candolle, published by Kegan, Paul, Trench & Co., Paternoster Row, London, E.C. The prices of the books that are new can be obtained from the publishers.

Catalogue of British Plants: *H. E.* Bell & Sons.

Cattleya Trianæi: *W. D. The Index Kewensis*, which, in the absence of strong reason to the contrary, should be universally accepted as the standard, writes Trianæi. As Señor Triana was a man, the addition of "i" in the Latinised genitive form of his name is correct, otherwise the name might be considered to have been given in honour of his wife.

Collins Fund: We have received and forwarded to the Treasurer of the fund the sum of 3*s.* from "W. S., Putney Heath," 2*s.* 6*d* from "Nil Desperandum," 2*s.* 6*d.* from "A. D. C, Alcester," and 3*s* from "A Scotch Sympathiser."

Correction: *J. H. B.* desires us to state that the par. in our last number, p. 177, had reference to Pinus insignis, not to P. excelsa.

Cyclamen: *A. G.* Synanthy, or the union of two or three flowers. As there is usually but one flower on the stalk, your case is the more curious.

"Gartenflora": *W. T.* This periodical is still in existence, under the editorship of Dr. Wittmack. To be obtained of P. Parey, 10, Hedemannstrasse, Berlin.

Gas-Tar on Hot-water Pipes: *B. G.* You had better get it washed off the pipes with a strong solution of caustic soda and soft-soap.

Hard Frost: *W. J. W.* The first week of January, 1867, showed very severe frosts, 6° below zero being recorded in many places.

Insects on the Roots of Ferns: *D. M.* The white insects sent are the young of the wood-louse. Soot-water or lime-water in a clear state would dislodge or destroy them. They feed on the roots of living plants.

Names of Fruits: *A. B.* Apples: 1, Winter Peach; 2, Dumelow's Seedling (Wellington). Pear: Easter Beurré.—*W., Lichfield.* Apple Gloria Mundi.

Names of Plants: *H. C. D.* Veltheimia viridifolia.—*G. H. S.* 1, Iris japonica, known in gardens as Iris fimbriata; 2, Please send a better flowering specimen, with particulars as to the native country of the plant. We should like to illustrate it, and will give you the name next week; 3 and 6, next week; 4, Correa alba; 5, Selaginella cæsia.

Removal of Plane Tree: *M. E. M.* With proper precautions it will be quite safe to move a Plane tree 25 years old. Before removing it, it is advisable to have the new station prepared by trenching and manuring. The soil in the bottom of the hole should be trodden to make it firm, and the hole of such a depth that when the trees is planted, it will stand 4 inches above the surrounding level, to allow for sinking. Of course, the hole must be so large that the longest roots can be accommodated when drawn out at full length at right angles to the stem. The main operation consists of getting out of the soil as many of the long roots intact as may be possible. These should be traced back and freed from the soil to a distance of 3 feet from the stem, and to a depth of 2 feet or more, as may be found necessary. As soon as dug out, wrap them in moist litter and lay them back on the solid ground round the stem, and do not let them get dry or frozen. The ball of undisturbed soil will now measure 5 to 6 feet in diameter, should be held securely with ropes, mats, and sacking, or flat pieces of wood 4 inches wide, and 1½ foot long; secured by two or three turns of rope, "twitched" up tightly by means of a wooden spike or crowbar. The ball is now ready for being undermined, and this operation is best began by cutting out a square hole right under the centre, say 2 feet wide, through which a 4-inch thick and 12-inch broad oak plank should be passed, and tightly fixed up close under the ball by means of wooden blocks and thin strips of wood placed under the ends. Having done this, the remainder of the soil under the ball can be picked out and thrown out of the hole. The sides may now be supported on stout planks securely fixed up under the ball, leaving space for a mason's trolley on low wheels, or strong boards resting on rollers to be put where the central plank was placed at the first. The tree being now ready for removal, the side planks may be removed prior to its being drawn out of the hole up a gradual dug-out ascent, which should have boards laid on the bottom for the wheels or rollers to rest upon. Two steady horses with chain traces should pull such a tree out of the hole. Lay the roots at various depths, and tread the earth firmly about them, and as a safeguard against drought, apply a mulch of some kind. The tree will require two or three copious waterings during the summer, and syringings in hot weather—preferably in the evening—will be beneficial for the first year. Some amount of shortening-back of the longest branches may be desirable.

Seedling Strawberry: *J. R. Stevens.* Fine fruits, solid, well-flavoured and highly perfumed, and an acquisition of no common kind. The colour is that of Trollope's Victoria.

Synanthy: *J. M.* Union of two flowers is by no means uncommon.

Vallota purpurea: *Vallota.* Re-pot the plants in June, using fibry loam and leaf-mould in equal quantities, and sand sufficient to make it of average porosity. Plant the bulbs about 6 inches under the surface, six to eight in a 10-inch pot. Cultivate in a frame or greenhouse, and afford plenty of water, with an occasional application of manure-water during growth, that is, from June to the time the blooms appear. Keep them moderately dry during the winter, and free from frost. Do not disturb them for three years or longer, but top-dress them, and ascertain that the drainage is all right every year in May or June.

Communications Received.—R. C. W.—W. Kelway.—J. Doe.—W. Hill.—D. C. P.—M. T.—Chandler & Son.—A. J. B.—H. C. F.—W. K.—T. W. S.—Cross & Donaldson.—D. Dewar.—H. F.—J. W.—W. & N.—J. S. & Co.—A. H.—E. M.—J. D.—W. B. S., Texas.—H. J. C.—C. W. D.—Constant Reader (bulb), next week.—W. D.—J. D.—J —A. D —A. B.—F. Q. C.—S. A. W.—L. C.—Dr. Morris.—T. Imrie & Co.—Q. R.—F. A. B.—D. McD.—Wild Rose.—J. A.—A. C. F.—J. F., next week.—G. W.—B. W.—J. J. W.—J. L.—A. F. B.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among country gentlemen, and all classes of gardeners and garden-lovers *at home, that it has a specially large* foreign and colonial circulation, *and that it is preserved for reference in all the principal Libraries.*

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12×10 / 14×10	14×12 / 16×12	18×12 / 20×12	16×14 / 18×14	20×14 / 20×15	20×16 / 22×16	24×16 / 30×18	32×18 / 24×18

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They are never stopped up by rubbish and sand, and effectually prevent the gravel being washed away in heavy storms.
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And at 118, QUEEN VICTORIA STREET, LONDON, E.C.

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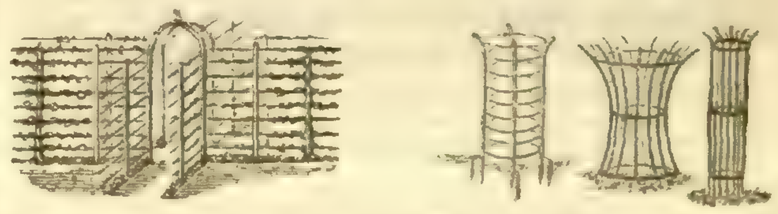

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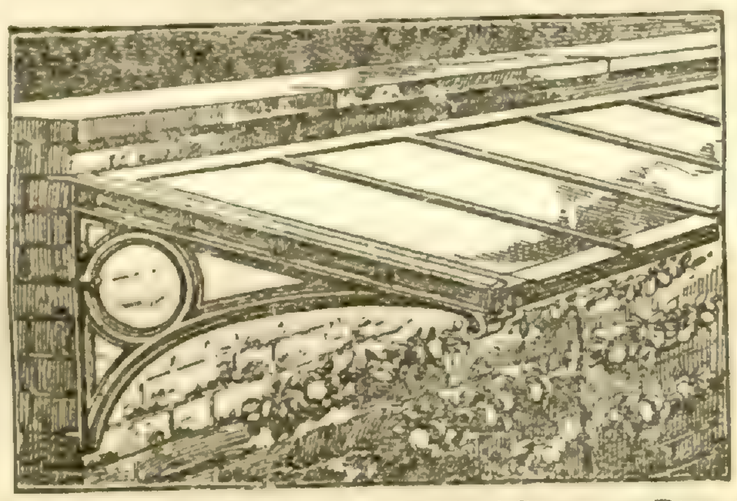

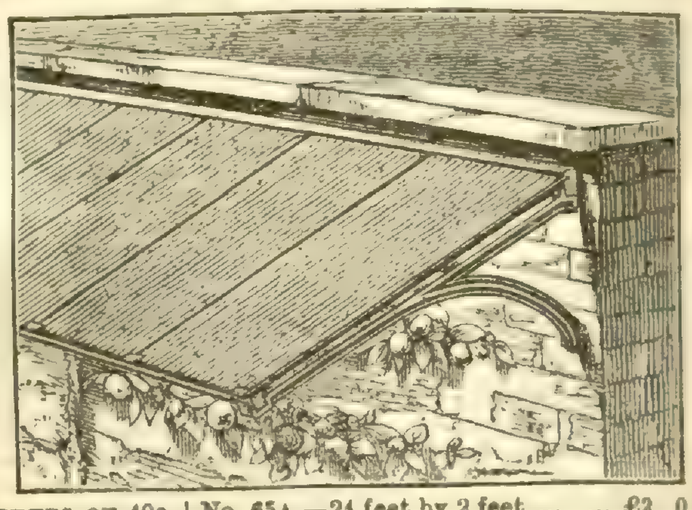

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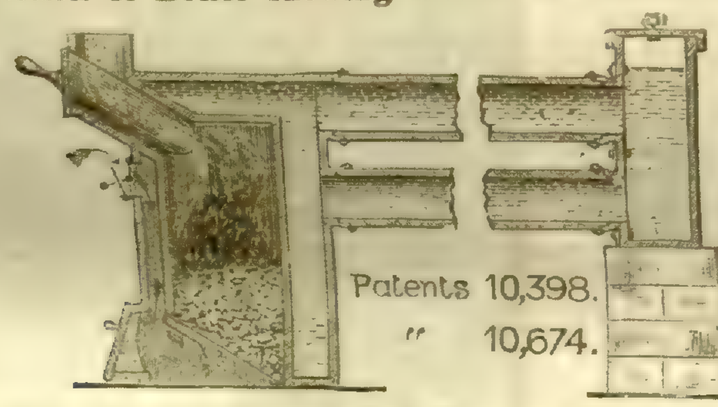
Section of Boiler showing Action of Hot Blast.



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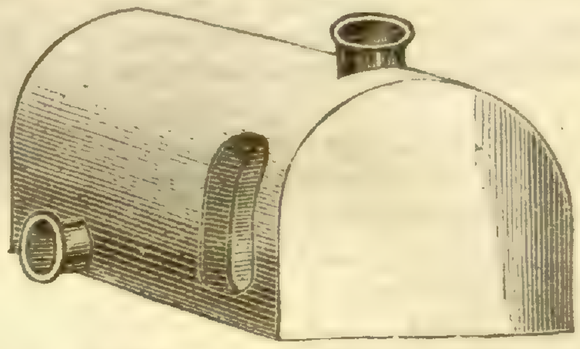

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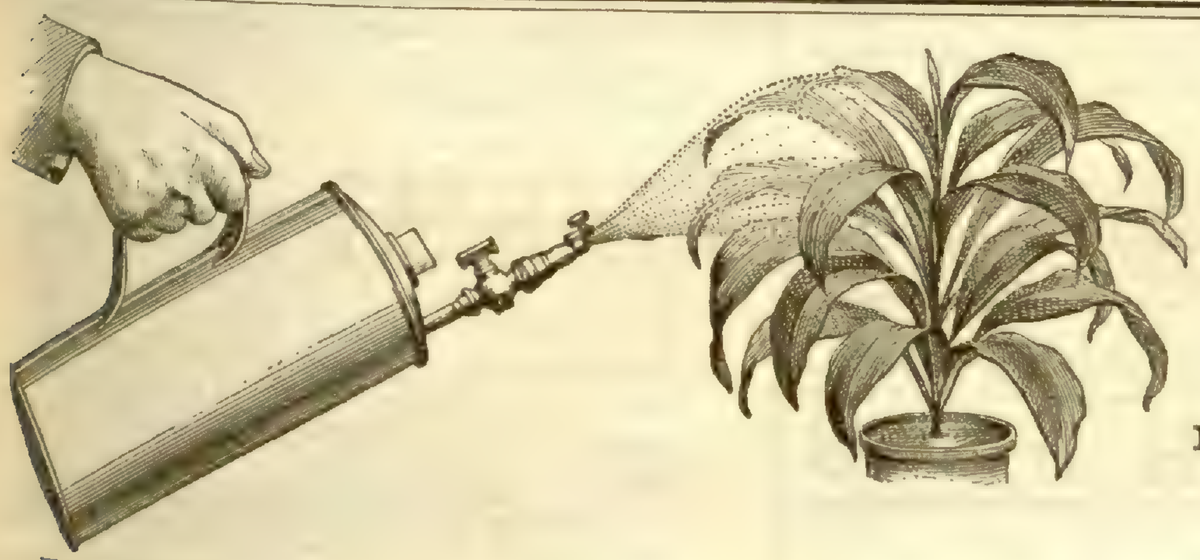

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This useful appliance consists of a cylinder, into which any kind of liquid insecticide may be put, of the required strength. After screwing down the stopper, air is pumped in by means of an inflater (supplied with each machine), and the whole operation of charging and inflating, taking but two minutes. When this is done, on turning the tap, the Distributor discharges the insecticide in the form of a fine spray-like mist or steam, thus effectually covering the plants and exterminating all insect pests.

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ECONOMY.—Only sufficient Insecticide need be put in for the purpose required. The cost of the apparatus, compared with all other plans for destroying insects and blight, including fumigating, is very low, and any favourite insecticide may be used with it.

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Mix up the required quantity of insecticide, then pour it in the cylinder, screw the stopper down firmly, and charge with air by screwing the end of the inflater on screw at stopper, and working it up and down as in pumping (the more air you pump in the cylinder the better), then unscrew the inflater, and the machine is ready for working, simply turn on tap, and hold to plants, as in illustration.

Every practical man will at once see the many advantages this apparatus possesses over all others at present in use for eradicating blight, &c., and whether it is required to be used in a Nobleman's place, a Nursery, a Market Garden, or an Amateur's Greenhouse, it will be found to be *the* invention which will save to one and all time, trouble, and money.

The apparatus is very substantially made to withstand air-pressure, with brass fittings and tap, and is supplied complete, with powerful brass inflater; the price is 10*s.* 6*d.*, or 11*s.* 6*d.* carriage paid to any address, carefully packed.

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"12, Knowle Road, Brixton, London.
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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

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INSECTICIDES. An Unhappy Experience and its Remedy.

We have sold LEMON OIL many years, but we did not use it in our own nurseries, largely fearing it was too costly for use on a large scale. We relied on home-made mixtures of Petroleum, Quassia Chips, Softsoap, &c. Our experience with these was an unhappy one. If the preparations (and we tried these articles according to many recipes) were made strong enough to kill the insects and eggs they also killed, sooner or later, foliage or wood, and to be safe we had to reduce the strength, with the result that the plants or trees required frequent dressings at a large cost for workpeople's time. We ultimately tried LEMON OIL, and on 15 acres of Fruit Trees and 4½ acres of Glasshouses upwards of £35 was saved in wages and cost of insecticides in a season, and the stock cleaner than it had been before. Any Fruit Grower wanting a good dressing for Fruit Trees outside, Gardeners or Amateurs wanting to clear Vines, Peaches, stove or other plants of Bug, Thrips, Scale, or Fly should give this preparation a trial. It has been before the public nearly seven years, and is still unsurpassed for quality or price. Pints, 1s. 10d.; quarts, 3s. 3d.; half-gallon, 5s. 9d., post-free. Cheaper in larger quantities or with carriage forward. *Send for Circular.*

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Well known as the cheapest, safest, and best of all Insecticides for killing vermin on plants, animals, and birds.

Used by every Orchid Grower of any note all over the World.

A Pamphlet on its use, with full directions for cleaning plants, &c., sent free on application.

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BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or £5 per Truck of 4 Tons; Bags, 5s. each.
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Send Postal Order for Sample Sack. Special terms to the Trade.
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A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.

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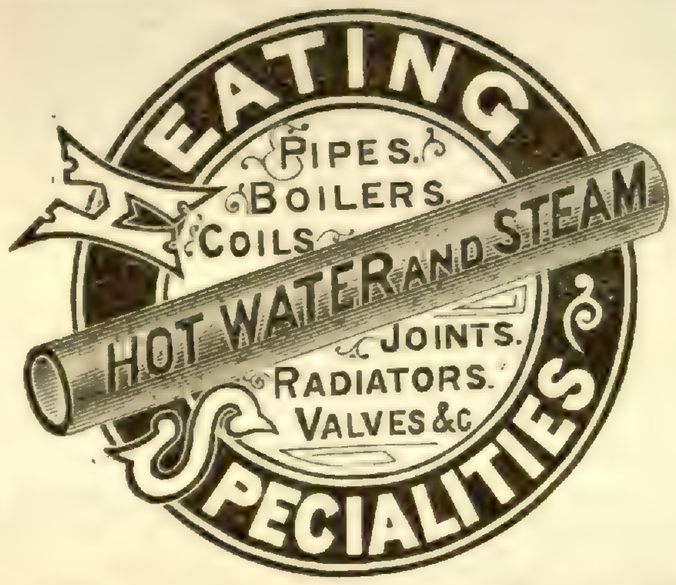

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COCOA-NUT FIBRE REFUSE,
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THE GARDENERS' CHRONICLE

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9	,, ..	0	5	6	20	,, ..	0	11	0
10	,, ..	0	6	0	21	,, ..	0	11	6
11	,, ..	0	6	6	22	,, ..	0	12	0
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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

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Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

GARDENING APPOINTMENTS.

MR. HUGH HAMILTON, formerly Head Gardener to the late EARL OF LOVELACE, East Horseley Towers, Hants, as Head Gardener to A. P. H. LONSDALE, Esq., Shavington Hall, Shropshire.

Mr. J. CLARKSON, from Kent & Brydon's Nurseries, Darlington, as Head Gardener to J. S. Barwick, Esq., Ashbrooke Grange, Sunderland.

Mr. FRANK JONES, late Foreman in Brancepeth Castle Gardens, Durham, as Gardener to W. J. GORDON CANNING, Esq, Hartpury, Gloucester.

CATALOGUES RECEIVED.

JOHN TURNER, North Street, Wetherby, Yorkshire—Seeds.

JOSEPH BRECK & SONS, 47 to 54, Market Street, Boston, Mass.—Seeds and Implements.

WILLIAM WATT, Cupar, N.B.—Seeds.

WILLIAM WOOD & SON, Wood Green, London, N.—Seeds.

W. L. LEWIS & Co., Southgate, London, N.—Orchids.

HENDER & SONS, 63, Old Town Street, Plymouth—Seeds and Plants.

F. SANDER & Co., St. Albans—Orchids.

LOUIS VAN HOUTTE, Père, Ghent, Belgium—Plants and Seeds.

LOUIS VIEWEG, Quedlinburgh, Prussia—Plants and Seed.

SUTTON & SONS, Reading—Farm Seeds.

V. LEMOINE & FILS, 134, Rue du Montet, Nancy—New Plants.

J. R. PEARSON & SONS, Chilwell Nurseries, Nottingham—New zonal Pelargoniums.

R. DEAN, Ranelagh Road, Ealing, London, W.—Primroses, Polyanthus, Hardy Plants, Vegetables, Seeds, &c.

BROWN & WILSON, 10, Market Place, Manchester—Farm Seeds.

CARTER & Co., 237, 238, and 239, High Holborn, London—Seeds (2nd edition).

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—WALKER AND CO., Farnborough, Hants.

GLASS! CHEAP GLASS!

In Stock Sizes.

15 oz., per 100 ft., 7s. 6d. { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 10s. 0d. { 14×12, 20×12, 18×16, 24×16, 16×12, 16×14, 20×16, 24×18, &c,

1½ × 3 Prepared Sash Bar at 5s. per 100 feet.

Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½d. per foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c. Catalogues free.

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GRATEFUL—COMFORTING.

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ESTABLISHED 1851.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

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HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

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PAXTON'S COTTAGERS' CALENDAR

OF GARDEN OPERATIONS.

Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.

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BOOKS ON ROSES, by Wm. Paul, T.L.S.—THE ROSE GARDEN, 9th edition, royal 4to, 20 coloured plates, and numerous wood engravings, 17s. 6d.; the same, imperial 8vo, without coloured plates, 8s. 9d. ROSES IN POTS, 7th edition, illustrated, 2s., post free. ROSES, AND ROSE CULTURE, 7th edition, illustrated, 1s., post free. "The best works on Roses are those by Mr. Wm. Paul."—*Journal of Horticulture.*

WM. PAUL & SON, Waltham Cross, Herts.

PARTNERSHIP WANTED, in a Nursery, Dairy or Surveyor's Business; in England preferred. Where small Capital and personal attention to business would give a fair return for Capital invested. Send full particulars to K., 177, York Road, Camden Road, N.

WANTED, a PARTNERSHIP in a MARKET NURSERY (Glass only), within fifteen miles of London.—GROWER, 41, Wellington Street, Strand, W.C.

H. RUSSELL begs to THANK ALL APPLICANTS, and to say the PLACE IS FILLED.—Hindlip, Worcester.

THANKS for REPLIES to my Advertisement of last week. My client has now FILLED both VACANCIES.—JOHN CARTER.

WANTED, a KITCHEN GARDENER (HEAD WORKING), near London.—Thoroughly experienced, not over 40. Must be able to grow good stuff for Market, also understand Pigs; and Wife to take entire charge of Poultry; 2½ acres, and two assistants kept. Wages 25s. per week, and nice cottage. No children. Nice thoroughly respectable couple wanted.—Write, sending particulars, to K. G., Willing's Advertisement Offices, 162, Piccadilly, W.

WANTED AT ONCE, a thorough good GARDENER (Head of two) at a Private School. Must be a thorough good all-round man, and capable of producing first-rate flowers. Early and Late Forcing, &c. Wages 22s., and cottage in garden.—Apply to H. D'ALTH, Winton House, Winchester.

WANTED, a thorough practical GARDENER in all branches, especially Vegetables and Flowers; and Management of Poultry. No children. Wife as Laundress.—state wages required, with cottage.—Apply, "AMCUS," 41, Wellington Street, Strand, W.C.

County Borough of Salford.

WANTED, INDOOR FOREMAN and PROPAGATOR.—Experienced; able to grow large numbers of Bedding Plants. Also a knowledge of Furnishing; Wages 32s. per week. Particulars to be obtained from the Parks Superintendent, Peel Park, Salford. Applications (endorsed "Gardener" stating age, with testimonials to be delivered to me on or before Saturday the 23rd inst., at noon.

By Order. SAML. BROWN, Town Clerk.
Town Hall, Salford, February 13, 1895.

WANTED, for a Public Garden in the North, young MAN with thorough knowledge of Inside Work, especially Tomatos, Cucumbers, Roses, and Chrysanthemums, able to Make-up. Also one for general Outside Work, also a thorough handy man for general repairs. All must be strictly sober, steady, and industrious. State age, wage, and reference.—W. WELLER, Boundary Cottages, Scarisbrick New Road, Southport.

WANTED, a FOREMAN PROPAGATOR and Grower for Market (Glass Department, mostly Soft wooded). Age 30 to 40; particularly used to Ferns, Palms, Pelargoniums, Dahlias and Forcing Early Stuff. Also used to Wreaths, Crosses, and other designs in Cut Flowers. Four Assistants. — Apply, with full particulars, to THOMAS PERKINS AND SONS, 34, Drapery, Northampton.

WANTED, FOREMAN and PROPAGATOR for Glass Department. —A steady industrious Man as Foreman and Propagator; occasionally to act as Salesman; principally Soft-wooded Stuffs. Apply, stating age, where last employed, and wages expected.—JNO. JEFFERIES AND SON, Royal Nurseries, Cirencester.

WANTED, a WORKING FOREMAN, not over 40, for large Fruit Farm, principally Tomatos and Grapes. Must be thoroughly experienced in Tomatos, and have been where they were extensively grown. Good wages.—WILKINSON, Lambley, Notts.

WANTED, a WORKING FOREMAN, for a Market Nursery. Must be well up in Growing Cucumbers, Tomatos, Fruit, and Cut Flowers in large quantities. None but a thoroughly reliable and a first class grower need apply, by letter, with copy of references, wages expected, experience, and age, to E. PHIPPEN AND SON, Nurserymen, Highgate, N.

WANTED, immediately, WORKING FOREMAN for Market Garden. Must be thoroughly competent and trustworthy. — 3, Crescent, Knaresborough, Yorks.

MUSHROOM SPAWN.—WANTED, a MAN thoroughly experienced in Spawn-making. Full particulars to JOHN RAWLINGS, Rawesville Bank Grove, Kingston-on-Thames.

WANTED, an experienced MAN for the Houses, not under 23. Must be active, and well up to his work. Wages 16s. per week, bothy, milk, and vegetables.—State particulars to FLEMING, The Gardens, Steventon Manor, Whitchurch, Hants.

WANTED, AT ONCE, a thorough good all-round man as SECOND.—Must thoroughly understand Vines, Peaches, Melons Carnations, Violets. Wages 17s., no bothy.—F. G. MILLS, The Gardens, Appleby Hall, Atherstone.

WANTED, a strong, active, willing young MAN, for Kitchen Garden; used to Machine, and able to take turn with Fires. Wages, 16s. per week and bothy. R. SHARPE, Low Hill, Bushbury, Wolverhampton.

WANTED, a young MAN, to take charge of a small place near London, where Ferns and Soft-wooded Plants are Grown for Market.—State particulars and wages required, to VINCE, 30, Croham Road, Croydon.

WANTED, a young Englishman, as IMPROVER for a Belgian Nursery.—Apply to EMILE COPPITTERS, Nurseryman, Chaussée d'Danvers, Ghent, Belgium.

WANTED, an IMPROVER, for the Houses.—Church of England; 12s. per week; Bothy and vegetables.—Apply to HEAD GARDENER, Sezincot, Moreton-in-Marsh, Glos.

PUPIL.—VACANCY in High-class Nursery, 12 miles from London. Premium.—Apply, Mr. GEO. MONRO, Covent Garden Market, W.C.

WANTED, a young MAN thoroughly used to Retail Seed Trade, to take charge of Seed Department in a country town.—Apply to O. C. CRAMPHORN, Corn and Seed Merchant, Brentwood.

WANTED, for a Gentleman's establishment, a MARRIED COUPLE (large family objected to), man as Cowman, wife to attend Dairy and Rear Poultry. Both must be experienced, and have filled similar situations. Wages, 24s. per week. Cottage free.—Apply, W. THEOBALD, Gardener, Hatchford Park, Cobham, Surrey.

WILL any Lady or Gentleman recommend a thoroughly reliable COUPLE to take charge of a large country house in Lancashire? No family. Man will be found work as an under Gardener. Wife must have held good situations as Housemaid. First-class testimonials will be required, and replies sent only to applicants recommended as stated above.—Apply to A. Z., Dicksons, Chester.

WANTED, a WORKING FLORIST.—Must be well up in the making of Wreaths, Crosses, and Bouquets. None but a competent person need apply. — C., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

JOHN R. BOX, Croydon, has now upon his Register several able and well-qualified HEAD GARDENERS, FOREMEN, JOURNEYMEN, and SINGLE-HANDED GARDENERS, men of highest character; and will be pleased to give employers particulars.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

MR. WILLIAM PAUL can recommend to any Lady or Gentleman wanting a good all-round GARDENER (Plants, Fruits, Vegetables, and Table Decorating)—a married man, age 30, who holds satisfactory testimonials as to character and abilities.—Applications to Mr. WILLIAM PAUL, Waltham Cross, Herts.

GARDENER (HEAD), age 37, no family.—Gentleman with confidence recommends his Head Gardener for seven years; life experience in good places. Excels in Orchids, Roses, Fruit, Chrysanthemums; and good manager.—B., 3, Schuckburgh Road, Catford.

GARDENER (HEAD)—Age 33, married; experienced gained in first-class gentleman's establishments; two years Chief Practical Instructor at Horticultural College, Swanley, Kent. Is now open to treat with any Lady or Gentleman requiring a strictly practical man as above.—G. SLATER, Dartford Heath, Kent.

GARDENER (HEAD).—SIR JOSEPH SAVORY, Buckhurst Park, Berkshire, can recommend a Man as above. Been employed by Late Duke of Cleveland, Lord Wantage, &c. Thoroughly experienced.

GARDENER (HEAD); age 32, married.—A GENTLEMAN giving up his establishment wishes to recommend his Gardener. Thoroughly conversant in all branches. Good manager of men. In fact, a good reliable all-round man. Abstainer.—GARDENER, Mount Villa, Waterloo, Cosham, Hants.

GARDENER (HEAD); age 30, married.—Messrs. D. PRIOR & SON, England Nurseries, Colchester, can with confidence recommend A. Hawkes as above, and would be pleased to supply any Lady or Gentleman with particulars.

GARDENER (HEAD); age 29.—D. MCKENZIE, Sherwood Gardens, Tunbridge Wells, wishes to recommend F. Hothen to any Lady or Gentleman requiring a steady and trustworthy man, as above. Over six years in present situation. Excellent testimonials as to character and ability.

GARDENER (HEAD).—Age 29; thoroughly experienced in the Cultivation and Forcing of Flowers, Fruit, and Vegetables. Well recommended.—WEST, Shavington, Market Drayton, Salop.

GARDENER (HEAD), where several men are kept.—Age 40; married, no family; offers his services to any Lady or Gentleman in want of a practical man in all branches. Excellent character.—GARDENER, 6, St. John's Road, Leatherhead.

GARDENER (HEAD), or WORKING MANAGER, on a Fruit and Vegetable farm. Land and Stock not objected to. Expert budder and grafter. Life experience; exceptional reference.—D. SHEPPARD, Toddington, Winchcombe, Gloucester.

GARDENER (HEAD WORKING).—Age 46, married, no family; thoroughly experienced in the Cultivation and Forcing of Flowers, Fruit, and Vegetables. Can superintend Pasture Land, Stock, and Poultry if required.—S. L., South View, Saxmundham, Suffolk.

GARDENER (HEAD WORKING).—Age 29; married. D. A. BREMNER can confidently recommend his Foreman, W. Ripley, as a thoroughly practical and trustworthy man. Has full charge of gardens in present situation.—The Gardens, New Appleton, Bolton Percy, Yorks.

GARDENER (HEAD WORKING), where three or more are kept.—Age 28; life experience in all branches. Excellent testimonials.—J. W., 62, Kentish Town Road, London, N.

GARDENER (HEAD WORKING).—Age 32, married, two children, 4 and 6 years; thoroughly experienced in all branches. Excellent references.—E. S. PIGG, The Wilderness, Maidenhead.

GARDENER (HEAD WORKING, where two or three are kept).—Age 27; life experience in first-class establishments, inside and out. Highly recommended.—COLEMAN, Clare Lawn Gardens, East Sheen, S.W.

GARDENER (HEAD WORKING).—Age 30; thoroughly experienced in all branches of Gardening. Well up in Peaches, Nectarines, Grapes, Stove and Greenhouse, Flower and Kitchen Garden. Can be well recommended. Seven and a half years' previous, six in present place.—G. HIGNETT, Bladon, Burton-on-Trent.

GARDENER (HEAD WORKING), where three or more are kept.—Age 39; married; one girl, age 10 years. Thoroughly practical in all branches. Can take charge of land and Jersey cows if required. Four and a half years' good character.—G. GALE, Whokefield, Mortimer, Berks.

GARDENER (HEAD WORKING); age 30.—H. PARROTT can with confidence recommend his Foreman, Frederick Nash, to any Lady or Gentleman who requires an energetic man.—For particulars, apply Woodend Gardens, Chichester, Sussex.

GARDENER (HEAD WORKING), Scotch.—Age 39; married, no family. Thoroughly understands the Profession in all branches; highly recommended.—A. CAMPBELL, 4, Lower Winchester Road, Catford, S.E.

GARDENER (HEAD WORKING).—Age 35, married, no family; life-experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING), where two or more are kept. Age 29. Fourteen years' experience in all branches; two and a-half in present place. Abstainer.—GARDENER, 6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD WORKING); age 29.—Mr. TEGG, Bearwood Gardens, Wokingham, wishes to recommend W. Hammond to any Lady or Gentleman requiring a steady and trustworthy man as above. Thoroughly experienced. Six years General Foreman in present situation.

GARDENER (HEAD WORKING, where four are kept); age 36, married.—Mrs. MACKENZIE, Eltham House, Eltham, strongly recommends her Gardener. Four years' excellent character. Four previous. Reference also to Captain Gosset, Putney Hill, S.W.

GARDENER (HEAD WORKING).—Thoroughly experienced in all branches. Well up in Peaches, Grapes, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Sixteen years in present situation; leaving through a death.—H. BIRD, Beyton Gardens, Bury St. Edmunds, Suffolk.

GARDENER (HEAD WORKING); age 39.—A Gentleman wishes to recommend the above as a thoroughly practical all-round Gardener; has been with him seven and a half years as head, eighteen years' previous experience. Highest references.—GARDENER, 8, The Croft, Boyn Valley, Maidenhead.

GARDENER (HEAD WORKING), and ORCHID GROWER; age 29.—married.—ALFRED TOMALIN, Gardener to S. White, Esq., Oakwood, Crayford, Kent, can confidently recommend his Foreman (T. Barson), who has been with him four years. Fourteen years' practical experience in all branches.

GARDENER (HEAD WORKING).—Age 30; life experience in all branches. Four years' good character from present situation.—G. SIMS, 11, Port Hall Street, Brighton, Sussex.

GARDENER (HEAD WORKING), where three or more are kept.—Life experience in all branches; excellent testimonials.—G. BARTLE, 18, Brown Lane, South Beeston, Notts.

GARDENER (HEAD WORKING).—Age 29; thoroughly experienced in the General Routine of a good Garden, including Fruit, Plant, and Orchid Houses, and Chrysanthemum Growing for exhibition. Can be well recommended.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (HEAD, or good SINGLE-HANDED); fourteen years' practical experience Inside and Out. Excellent reference.—A. CHURCH, Cerne Abbas, Branksome Park, Bournemouth.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 31; single. Well experienced in all branches. Four and a half years' good character.—E. RIST, Riverside Cottages, Crayford, Kent.

GARDENER (SINGLE-HANDED, or with help).—Age 26, married; life experience in the profession. Excellent testimonials. Distance no object.—J. JACKSON, 3, Somerset Row, Ripon.

GARDENER (SINGLE-HANDED, or otherwise).—Age 28; fifteen years' experience in the general routine of Gardening, Inside and Out. Good references.—W. E., Kingston Road, Ewell, Surrey.

GARDENER (SINGLE-HANDED, or otherwise).—Good experience in all branches; can take the management of cows. Wife thorough laundress and dairywoman if required.—Apply to J. G. S., Pringwell Laundry, Park Road, Hayes, Middlesex.

GARDENER (good SINGLE-HANDED).—Age 34, married, two children, youngest five years; eight years last situation. Good personal character.—J. STRAND, 95, Kilburn Park Road, Paddington.

GARDENER (Good SINGLE-HANDED, or where one or more are kept).—Age 29; married; thoroughly experienced in all branches, including Orchids. Excellent character.—W. VEALE, East Horrington, Wells, Somerset.

GARDENER (SINGLE-HANDED).—Age 30; Two years in present situation. Excellent references.—W. BERRY, Blankney Hall Gardens, Lincoln.

GARDENER (First-class).—Middle age; expert Fruit and Plant Grower; several years Gardener to Noblemen; highest testimonials; salary moderate.—BENNETT, Moulsey Villa, Palace Road, East Molesey.

GARDENER; age 33, married.—A LADY wishes to recommend her Gardener. He is steady, industrious and obliging, and thoroughly understands his work.—Mrs. SCAWCROFT, Moorfield, Tong, Bolton.

GARDENER (SECOND, or SINGLE-HANDED), in Nursery or Gentleman's Garden. Fifteen years' experience Inside and Out. Good characters.—W. S., 7, Bond Street, Vauxhall, S.W.

GARDENER (SECOND), where three or more are kept.—Single; experienced Inside and Out. Highly recommended.—CHAS. BURRISS, Cottage, Stubben Edge, Ashover, Chesterfield.

GARDENER (SECOND).—Age 25, single; well up in Stove and Greenhouse-work. Could be well recommended. Two and a half years in present situation. Abstainer.—J. D., Claydene Lodge, Edenbridge, Kent.

GARDENER (SECOND, or UNDER, where three or four are kept).—Age 23; practical experience Inside and Out. Good character and abstainer.—J. ROUTLEDGE, Mereway Road, Twickenham.

GARDENER (UNDER, or SINGLE-HANDED).—Age 23; fires not objected to. Good character from last employer.—H. WOODFORD, Dunsbury, near Brooke, Isle of Wight.

GARDENER (UNDER).—Age 20; seven years' character from present place. Inside or Out.—J. NICHOLSON, Elkington Hall Gardens, Louth, Lincs.

GARDENER and BAILIFF, age 33.—A GENTLEMAN highly recommends the above, who has been with him four years. Wife good Poultry and Dairy. Both thoroughly practical in all branches.—TURNER, Limpsfield, Surrey.

MANAGER.—Advertiser, with a life-time experience, is open to treat as above in a first-class Establishment, to grow extensively for Market Fruit, Tomatos, Cucumbers, Mushrooms, Tea Roses, Carnations, Bulbs, Cut Flowers generally, Palms, Furnishing, Florist's Work, &c. Good connection. First-class references.—MUSCAT, 41, Wellington Street, Strand, W.C.

MANAGER, or FOREMAN in Fruit-Growing and Market Gardening.—C. G. Wortley, Copthorne, Isleworth, twenty years Foreman to Mr. J. Wilmot, of Isleworth, desires an engagement as above. Has had great experience in planting Fruits and all kinds of general work connected with Fruit Growing and Market Gardening.

To Nurserymen.

FOREMAN PROPAGATOR and GROWER of Roses, Clematis, Conifers, Rhododendrons, and General Nursery Stuff, Indoors and Out.—Age 30; life experience. Good references. Total abstainer.—C. W. E., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GRAPE or CUCUMBER GROWER.—Age 28; life experience. Good references.—G. P., Mr. Byford, Waterloo Road, Uxbridge.

TOMATO GROWER (Scotch).—Situation wanted, as Grower for the Market. Good Packer. First-class references. Abstainer.—R., Mr. Cummings, Carrick House, Ayr.

PROPAGATOR and GROWER.—Age 28; twelve years' Nursery experience. Soft-wooded Stuff, Cut Flowers, Ferns, Palms, &c., Wreaths, Bouquets, Decorations, Sales, &c.—ALCOCK, Cedar Street, Derby.

FOREMAN PROPAGATOR and GROWER of Hard and Soft-wooded Plants; twenty years in leading nurseries. Excellent references as Foreman and Manager.—H. JONES, Cambridge Road, Godmanchester, Hunts.

TO THE TRADE.—FOREMAN GROWER, &c. Ten and a half years' experience in all kinds of Market Stuff. Good references.—B., 81, Unett Street, Hockley, Birmingham.

To Nurserymen and Florists.

FOREMAN, GROWER, and PROPAGATOR.—Age 28; good Knowledge of London Market and Cut-flower Trade, Forcing, &c. Good references.—J. C., 41, Wellington Street, Strand, W.C.

FOREMAN (GENERAL).—Age 22; ten years' experience in Plant and Fruit Growing.—Mr. WATERMAN wishes to recommend as above.—G. BENTLEY, Chorley Wood Cedars, Rickmansworth, Herts.

FOREMAN, Inside, in a good establishment. Age 25; abstainer. Life experience. Well up in all departments. Also a good hand at House and Table Decorations.—J. COX, Drews Lodge, Streatham, Surrey.

FOREMAN, age 27.—W. SHERWIN, Looko Park Gardens, Derby, can confidently recommend A. Ager as a thoroughly trustworthy man. Twelve years' experience in good establishments.

FOREMAN, where two or three are kept.—Age 25; twelve years' thorough experience. Can be highly recommended.—Apply, HEAD GARDENER, Daylesford, Chipping Norton, Oxon.

FOREMAN (Inside or General), in a good establishment.—Age 28; twelve years' experience. Four years in present place as Foreman and Decorator. Can be well recommended.—J. PEARCE, 1, Ufton Road, Sittingbourne, Kent.

FOREMAN, Inside; ten years' experience with Vines, Peaches, Tomatos, &c. Mr. CLEARE, Toddington Gardens, Winchcombe, R.S.O., will be pleased to recommend W. French as above.

FOREMAN, in the Houses; age 24.—Eight years' good experience, including two years as Foreman in present place; excellent character.—W. WESTON, Blankney Hall Gardens, Lincoln.

FOREMAN in the Houses.—Age 25; eight years in good private places, and two years in the Royal Gardens, Kew.—J. G., 75, Gloucester Road, Kew, Surrey.

FOREMAN, Inside; Age 25.—GEO. ABBEY, Avery Hill, Eltham, Kent, can with confidence highly recommend W. Blake, as above; eleven years' first-class experience in all branches including Orchids.

FOREMAN.—Age 25; eleven years' practical experience in the Houses. Excellent Character from present and previous places.—J. H., The Gardens, Croston Hall, Preston.

FOREMAN, in the Houses, or SECOND in large private establishment, where several are kept.—JOHN GREEN, F.R.H.S., Norfolk Nurseries, Dereham, can recommend a young man (age 25), as above. Eleven and a half years' excellent character, two and a half as Foreman. Used to Pines, Grapes, Orchard-houses, and all the general routine of a large establishment, including House Decorations, &c.

FOREMAN, Inside.—Eleven years' experience with Vines, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, &c. Good references.—Z. B., 41, Wellington Street, Strand, W.C.

FOREMAN, or JOURNEYMAN (FIRST), in good establishment.—Age 24; ten years' experience. First-class references from past and present employers.—R. HALL, Lowther Castle Gardens, Penrith.

FOREMAN, Inside or General, in good establishment.—Age 28; twelve years' experience in first-class places. Two years in present place as Foreman; four years previously. Can be well recommended.—E. R., The Gardens, Farnham Castle, Surrey.

FOREMAN, or JOURNEYMAN (FIRST), in a good establishment.—Ten years' experience. Total abstainer. Good references from present and previous employers.—J. GOATLEY, Bearwood Gardens, Wokingham.

FOREMAN, in the Houses; age 25.—CHARLES BLICK (Gardener to Martin R. Smith, Esq., The Warren, Hayes, Kent) will be pleased to recommend Arthur Childs, who has been here for the last two years as above. Also good references from previous employer.

FOREMAN, in the Houses.—Age 26; eleven years' experience; one year and eleven months in last situation. Good references.—G. LEWIS, Little Faringdon, Lechlade, Gloucestershire.

FOREMAN.—Age 24; ten years' experience. Thoroughly well up in Plants, Fruits, and Chrysanthemums, House and Table Decorations. Two years in previous situation as Foreman. Excellent references.—PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

FOREMAN (or SECOND).—Age 26; life experience in good Gardens; Good knowledge of Orchids. State wages.—GARDENER, Longfords, Minchinhampton, Gloucester.

FOREMAN; age 25.—Mr. H. COSTER, Froyle Park, Alton, will be pleased to recommend his Foreman, J. Chase, who has been with him two years.—Apply as above.

FOREMAN (GENERAL), or Inside in a Large Establishment.—Age 28. Mr. GEORGE, Gardener to Earl Sondes, Lees Court, Faversham, can thoroughly recommend his late Foreman and Decorator. Three years as Foreman previously.—Present address, G. RAYMENT, Poles Park, Ware, Herts.

To Nurserymen.

FOREMAN PROPAGATOR and GROWER of Hard and Soft-wooded Plants. Ten years' practical experience in Market Nursery. Good references. Middlesex preferred.—GRAY, Hanworth, Middlesex.

FOREMAN, in the Houses.—Age 25; ten years' experience in first-class establishments. Two years at Enville Hall. Good characters.—W. TITCHMARSH, 3, London Road, Hackbridge, Surrey.

FOREMAN in the Houses; age 26.—G. PHILLIP, Head Gardener, Sundown Castle, Shrewsbury, will be pleased to recommend J. Grisdale, who has been here the last five years as above; also other good references.

FOREMAN.—Age 25; ten years' good experience in Fruit and Plant Houses.—J. FRY, Ryeford House, Weston-super-Mare, can highly recommend the above to any Gardener.

FOREMAN, in a Market, or good General Nursery.—Age 26; twelve years' good practical experience. Excellent references.—A. LEA, 93, James Street, Louth, Lincolnshire.

FOREMAN in good Establishment.—Age 26; twelve years' experience in all branches, including house and table decorations. Highest references.—ALPHA, Mr. J. Stevenson, Chine Garden Cottage, Bournemouth.

JOURNEYMAN (FIRST), Inside.—Age 23; seven years' experience in good establishments. Mr. COOMBES, The Gardens, Cecil Lodge, Abbot's Langley, Herts, can highly recommend L. Hanchant as above.

JOURNEYMAN, in the Houses, under a Foreman.—Age 19; two years in present situation. Strong and willing. Bothy preferred.—H. ORPIN, St. Leonard's House Gardens, West Malling, Kent.

JOURNEYMAN (FIRST), in a good establishment; age 22.—R. GILBERT, Gardener to the Marquis of Exeter, Burghley Gardens, Stamford, would be pleased to recommend W. Kent as above; eight years' experience.

JOURNEYMAN, in a good place, age 25.—Highly recommended by Mr. PULLEN, Lindfield, Haywards Heath, Sussex, and Mr. TURNER, Pierrepont Gardens, Farnham.—A. BONNER, Lindfield.

JOURNEYMAN, Inside; age 20.—Mr. CLATWORTHY can with pleasure recommend W. Brown as above. Five years' experience. Abstainer.—Mr. CLATWORTHY, Head Gardener, Lifton Park, Lifton, Devon.

JOURNEYMAN (Inside).—Age 20; three years' experience Inside and Out. Two years' good character from Belvoir Castle.—G. T. BRACKENBURY, Cemetery, Horncastle Road, Boston, Lincs.

JOURNEYMAN (Inside).—Four years' experience, Inside and Out. Early and Late Forcing. Mr. JAQUES would be pleased to recommend as above, W. WEBB, Waddesden Gardens, Aylesbury, Bucks.

JOURNEYMAN (FIRST), in a good Establishment, age 22.—J. B. MCCLEAVE, The Gardens, Dalham Hall, Newmarket, would be pleased to recommend W. Sturt as above.

JOURNEYMAN, Inside, in a good establishment.—Age 24; highest references.—A. E., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN in the Houses, in a good establishment.—Age 19; four and a half years' good character.—J. IDE, 31, Bridgen Street, Brighton, Sussex.

JOURNEYMAN, Inside, in a good establishment.—Age 22; five and a half years' experience. Can be well recommended. Abstainer. Bothy preferred.—SIDNEY NOYCE, Ridgeway, Overton, Hants.

JOURNEYMAN (FIRST); Age 22.—MR. GRANT, Silwood Park, Ascot, Berks, will be pleased to recommend E. Montague as above, to any Gardener requiring a trustworthy man. Three years present situation.

JOURNEYMAN.—Inside, or Inside and Out. Age 23; good general experience. Total Abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, in the Houses, under a Foreman.—Age 20; five years' experience. Good characters.—J. HOOPER, Whatton, Nottingham.

JOURNEYMAN, in a good establishment.—Eight years' experience in the General Routine of Gardening; good character.—G. RODEN, Forton Hall Gardens, near Derby.

JOURNEYMAN (FIRST).—MR. WARD, Longford Castle, Salisbury, will be pleased to recommend J. Faulkner as above. Eight years' experience in good places, including Croome Court and Wentworth Castle.

JOURNEYMAN (FIRST), age 22.—W. FROST, Gardener to Ashley Dodd, Esq., Stockton House, Codford St. Mary, Bath, would be pleased to recommend James Addis as above; eight years' practical experience; two and a half years' character in present situation.

JOURNEYMAN, SECOND or THIRD, in a good establishment.—Age 20; four years' experience inside; good reference.—A. HERBERT, Warfield Hall Gardens, Bracknell, Berks.

JOURNEYMAN, in a good Establishment.—Age 23; eight years' good practical experience. Well recommended.—C. HUBBARD, The Gardens, Roffey Park, Horsham.

JOURNEYMAN (INSIDE).—Age 23; good experience and well recommended. The last two years in Park Place Gardens.—J. SLATTER, Park Place Gardens, Henley-on-Thames.

JOURNEYMAN (FIRST), in the Houses, under a Foreman. Six years' experience. Can be well recommended. Bothy preferred.—W. SMITH, The Gardens, Cranmore Hall, Shepton Mallet, Somerset.

JOURNEYMAN (FIRST).—Age 23; nine years' experience in good establishments, including Table Decoration. Mr. F. REYNOLDS, The Gardens, Oaklands, St. Albans, can highly recommend W. Cox as a trustworthy man.

JOURNEYMAN (FIRST), age 21; five years' experience in large gardens; good references.—H. C., The Gardens, Joldwynds, Dorking.

JOURNEYMAN in the Houses.—Young man (age 20), seeks situation as above. Two and a-half years' references.—H. WILLIAMS, Holmer Park, Hereford.

JOURNEYMAN, Inside.—Age 20; seven years' experience in good establishments. Can be well recommended.—J. PYM, The Gardens, Woodgreen Park, Cheshunt, Herts.

JOURNEYMAN (FIRST), in Private Establishment.—Age 24; eight years' experience in private places and Nursery. Highest references from all employers.—G. SEDGLEY, Daylesford, Chipping Norton, Oxon.

JOURNEYMAN, Inside, in good establishment.—Age 19; three years' good character. Bothy preferred.—W. WOODROW, The Gardens, Weir House, Teddington, Middlesex.

JOURNEYMAN in a good Establishment.—Age 24; nine years experience in Stoves and Greenhouses, Early and Late Vines, Orchard-houses, Chrysanthemums, &c. First-class references from present and previous Gardeners.—J. B., The Cemetery, Rothesay Road, Luton, Beds.

JOURNEYMAN (FIRST), for the Houses, for Fruit and Plants.—Age 24; eight years' experience.—G. GIBSON, Kirkby Mallay, Hinckley, Leicestershire.

JOURNEYMAN (FIRST), Inside.—Situation wanted in a Gentleman's Garden, by a young man, age 25; good character. Bothy preferred.—A. CHEESMAN, Nash Court Gardens, Faversham, Kent.

JOURNEYMAN, in the Houses; age 20.—Mr. TALFORD, Gardener to Earl Nelson, Trafalgar, Salisbury, can highly recommend a young man as above.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; five years' good experience in all branches. Excellent references.—C. LOCKWOOD, 36, Buckingham Road, London, N.

IMPROVER.—A Youth (age 18), requires situation, Inside, or Inside and Out. One year and a half in last situation. Bothy preferred.—WM. REDDEN, Regent's South Lodge, Berryland's Road, Surbiton.

IMPROVER.—Well-educated young Man, age 18, seeks situation in private garden. Bothy preferred.—J. GILBERT, Nanpantan Gardens, Loughborough.

£4 GIVEN to Head Gardener who will procure a situation for a Youth in the Gardens (age 19). Good character. Eastern or Midland Counties preferred.—G. W., 41, Wellington Street, Strand, W.C.

TO GARDENERS.—A young man (age 21), seeks situation at once. Bothy preferred. Good references. Abstainer. Disengaged.—A. BRYANT, Steeple Aston, Oxfordshire.

TO GARDENERS, &c.—Situation wanted by a young Man, age 21. Private place preferred. Five years in a good Market Nursery.—J. REYNOLDS, Westwood, near Guildford, Surrey.

TO GARDENERS, &c.—H. BULL, The Gardens, Breakspears, Uxbridge, can recommend a strong Youth (age 17) as IMPROVER, Inside and Out. Good character.—Address as above.

TO GARDENERS.—Young Man, age 19, seeks situation in private establishment; Inside preferred. Four years at present place.—W. SCRUBEY, 39, Hill Street, Emscote, Warwick.

TO GARDENERS.—H. AUBERTON, Nuneaton, wishes to recommend for the Houses, under a good Foreman, a young Man, age 22. Seven years' experience.

TO GARDENERS.—Situation wanted for a respectable Lad, age 16, strong and willing, in a good establishment.—F. SEABROOK, The Gardens, Ramsay Abbey, Huntingdon.

TO GARDENERS.—Youth, age 18, seeks situation in a private garden; knowledge of Grapes, Cucumbers, Plants, Fires, &c. Bothy preferred.—BROWN, 2, Rosalin Villas, Durant's Road, Ponder's End, Middlesex.

TO GARDENERS.—A young Man (age 26) wishes situation under good Head Gardener. Experience Inside and Out. Abstainer. Excellent character from present employer.—A. HOYLE, The Gardens, Blackbrooke, Pontrilas, Hereford.

TO GARDENERS and OTHERS.—R. CLARK can recommend strong youth (age 19) as IMPROVER, Inside or Out. Used to scythe.—22, Lyneden Road, Blackheath, Kent.

TO NURSERYMEN.—Situation wanted, by two young men. Well up in Fruit Growing for Market. Each have had life experiences under Glass. Good character from present employers.—J. M., the Dairy, Goring, Worthing, Sussex.

TO NURSERYMEN and OTHERS.—A young Man, age 23, seeks a permanency. Well up in Cucumbers, Tomatos, Grapes, Chrysanthemums, and general Nursery-work.—G. TUBB, Redlands Nursery, Emsworth, Hants.

TO NURSERYMEN, &c.—Situation required by one desiring to learn more of Plant Growing. Over two years' good experience. Age 18.—BENNETT, 27, Warwick Road, Upper Clapton, N.E.

TO NURSERYMEN.—Situation wanted as GROWER; age 21. Well up in Fruit, Cut Flowers, and Pot Plants under glass. First-class references.—C. LOCKWOOD, 36, Buckingham Road, London, N.

TO NURSERYMEN.—Young Man (25), ten years' experience in Growing General Nursery and Bedding-stuff, Tomatos and Cucumbers, seeks situation. State wages.—C. HARTLEY, Woodside, Tonbridge, Kent.

TO NURSERYMEN.—CLERK, age 28; Bookkeeping, Correspondence, versed in names of in and outdoor stock. Good wreath-hand. Could act as Salesman or take occasional journey; life experience in leading nurseries. Abstainer.—VERITAS, 41, Wellington Street, Strand, W.C.

TO FRUIT GROWERS.—Situation wanted, in a Fruit Forcing establishment. Age 23. Near London preferred.—P. FELISCH, Dersingham, King's Lynn.

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SEED TRADE.—Young Man (age 21), seeks situation as ASSISTANT. Five years' experience in Seeds and Bulbs. Fair knowledge of Book-keeping.—Good references.—T. L., 41, Wellington Street, Strand, W.C.

SEED TRADE.—A young Man seeks situation as ASSISTANT. Five years' experience in Seeds and Bulbs. Excellent references.—X. Y. Z., Messrs. Wood & Ingram, Nurseries, Huntingdon.

SEED TRADE.—ASSISTANT wants Situation, experienced in Seeds, Plants, and BULBS.—A. W. O'BRIEN, 14, West Grove Street, Bradford.

SEED TRADE.—THOS. KENNEDY & Co., Dumfries, can recommend with confidence a steady young man as ASSISTANT SHOPMAN or WAREHOUSEMAN.

FLORIST'S ASSISTANT.—Young Lady desires re-engagement. London (West-end) experience. Good all-round hand. Country or suburbs not objected to.—C., 40, Deronda Road, Herne Hill.

"POVERTY IN THE DITCH and the Devil throwing stones at him." This was once a favourite toast—in the days when heavy drinking and convivial meetings were commoner than they are now. It is a good toast, but unfortunately it is not always realised. As often as not, we are in the ditch, with poverty sitting complacently on our chest, and the devil grinning hard-by. The fight for existence is keen, and we can only succeed in holding poverty at arm's length by keeping our heads cool, our nerves steady, and our frames healthy and vigorous. How are we to do this? There is only one sure way, my brothers. I speak in all seriousness when I say, use HOLLOWAY'S PILLS.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

Yellow Aster.

H. CANNELL AND SONS have great pleasure in having the honour of first introducing what has hitherto said to be impossible. Certainly the Novelty of the Year, and will give great delight to every lover of flowers.

Gardeners' Chronicle, Sept. 15, 1894, Royal Horticultural Show, says:—"Aster, Eynsford Yellow, a distinct yellow variety, and therefore a great novelty (Unanimous Award of Merit)." Sealed packets, 2s. 6d. and 5s. each.

Seedsmen to nearly all the Royal Families in the World.
SWANLEY, KENT.

DICKSONS LATE SPRING SAVOY is a most valuable Winter and Spring Vegetable. Will remain in fit condition for use until April, without the heads bursting. To be had only in Sealed Packets at 1s. each from
DICKSONS, Seed Growers, Chester.

BOOKS ON ROSES, by Wm. Paul, F.L.S.—THE ROSE GARDEN, 9th edition, royal 4to, 20 coloured plates, and numerous wood engravings, 17s. 6d.; the same, imperial 8vo, without coloured plates, 8s. 9d. ROSES IN POTS, 7th edition, illustrated, 2s., post free. ROSES, AND ROSE CULTURE, 7th edition, illustrated, 1s., post free. "The best works on Roses are those by Mr. Wm. Paul."—*Journal of Horticulture.*
WM. PAUL & SON, Waltham Cross, Herts.

PLANTS WITHOUT EARTH.—Grow your plants in Thompson's Jadoo Fibre. Prize Medal Royal Botanical Society, 1884. Specially Certificated Exeter, 1894, and Torquay, 1894. Suits all plants. Everything thrives in it. For particulars, apply to—
The JADOO COMPANY, 21, Dawlish Rd., Teignmouth, Devon.
Agents wanted.

SUTTON'S SEEDS.

THE FINEST VEGETABLES for EXHIBITION.—All who have not grown

SUTTON'S SEEDS
should send for

SUTTON'S 10s. 6d. EXHIBITORS' COLLECTION of VEGETABLE SEEDS, which contains packets of all their best varieties. Sent free by parcel post to any address in the United Kingdom on receipt of a remittance for 10s.

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SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

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LARGE EVERGREENS from Specimen Borders, at greatly reduced prices. The choicest Green and Golden Varieties, from 4 to 12 ft. Perfect Specimens and safe to move, transplanted within two years. Inspection invited. PENNELL AND SONS, Lincoln.

NOW IS THE TIME TO PLANT PÆONIES.
Catalogue of KELWAY AND SON, Langport, Somerset.

40,000 LILY OF THE VALLEY always in flower, November to July. Can be had out or on roots. Price 12s. and 15s. per gross; Special, 20s. per gross. Apply to
W. ICETON, Putney, S.W.

THE LATE MR. DODWELL'S GRAND CARNATIONS.—No collection complete without these choice varieties. Write for List.
ARTHUR MEDHURST, Stanley Road, Oxford.

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Also fine stocks of IVIES, HONEYSUCKLES, JASMINES, ROSES, WISTARIAS, MAGNOLIAS, ESCALLONIAS, CEANOTHUS, and all other hardy Climbing and Wall Plants. Priced List free by post.
WM. PAUL AND SON, Waltham Cross, Herts.

Seed Potatos.

H. & F. SHARPE'S Special Priced List of SEED POTATOS, has been posted to their Customers, but a further copy will be sent to those who have not received it, if applied for. It comprises all the best kinds in cultivation, and at prices very advantageous.
SEED-GROWING ESTABLISHMENT, WISBECH.

B. R. DAVIS' BEGONIA CATALOGUE.—A Gem of Gems. Acknowledged to be the best Descriptive Catalogue of one of the best Gold Medal Prize Collections in cultivation, post-free.
B. R. DAVIS, Begonia Grower, Yeovil, Somerset.
P.S.—A quantity of English Oak, 8 to 15 feet; also Privet ovalifolium, all sizes, from 1 to 6 feet.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

LILIUM AURATUM, grand stuff, only 3s., 5s., and 6s. 6d. per dozen; 20s. to 40s. per 100. Extra large Bulbs, 1s. each. All other Lilies at lowest rates. Palms, Seedling Latanias, and Coryphas, 10s. per 100.
F. ROSS AND CO., Merstham.

MYATT'S PROLIFIC POTATOS for Sale.—True. Price for 2-ton lots, 130s. per ton.
G. F. YOUNG, Swineshead Abbey, Boston.

WANTED, large PALMS, &c, suitable for furnishing Winter Garden. Must be clean and healthy. Describe, state size of plants, also size of tubs or pots, with price.
WM. FELL AND CO., Royal Nurseries, Hexham.

Turner's Crimson Rambler Rose.

CHARLES TURNER can supply extra strong plants from ground, 8 to 10 feet high.
The Royal Nurseries, Slough.

CHRYSANTHEMUMS. — New Illustrated, Descriptive, and Priced CATALOGUE of all best varieties in commerce, now ready, post-free, two stamps.
R. OWEN, Castle Hill, Maidenhead.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

PLANTING SEASON.—Immense Stocks of HARDY EVERGREEN and DECIDUOUS TREES and SHRUBS of all kinds, all well transplanted, and in excellent condition for removal. Rhododendrons off Loam a specialty. Priced Descriptive Catalogue free by post.
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50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN, 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

SPECIAL OFFER.—Scotch Fir, 2-yr., 2-yr. tr., 1½ to 2 feet, 16s. per 1000; English Elms, 3 to 4 feet, 22s. per 1000. Rhododendrons Ponticum, 1 to 1½ foot, 20s. per 100; 1½ to 2 feet, 23s. per 100; 2 to 2½ feet, 30s.; 3 feet, 35s. Less by the 1000. Manetti Stocks, 18s.
GARLIES MITCHELL, Nurseryman, Stranraer.

ROSES in POTS.—A magnificent Stock of extra strong plants, established in 8-inch pots, suitable for present forcing or greenhouse culture. TEA-SCENTED and NOISETTE varieties (dwarf and climbing kinds), 30s. to 60s. per doz. HYBRID PERPETUALS, 24s. to 42s. per doz.
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TOMATO "CHALLENGER" (Collins').—STILL LEADS THE WAY, as the finest in cultivation, either for Amateurs or Growers. Awarded Four First-class Certificates. Thousands of packets sold annually. 1s. per packet. (Wholesale from Hurst & Son, IN OUR SEALED PACKETS ONLY). General Seed Catalogue of all the finest Vegetable and Flower seeds, &c., unsurpassed in quality, sent free.—COLLINS BROS., 39, Waterloo Road, London, S.E.

LILIES.—All the finest varieties: Henryi, Aur., Rubro-Vittatum, Virginale, &c. Magnificent quality. Lemoine's Gladioli, Begonias, Tigridias, Rare Bulbs, &c.
LYCORIS AUREA (see Plate in *The Garden*, January 19, 1895), L. SQUAMIGERA (hardy new), L. SANGUINEA (new orange-red). List of these beautiful bulbous plants, with cultural notes, free.—R. WALLACE AND CO., Colchester.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; ditto large, in 48's, 10 best selling sorts, 6s. per dozen; strong seedlings, 6s. per 100, 50s. per 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. per dozen; ditto, for making large plants quickly, 16s. and 20s. per 100; Aralias, 10s. per 100; store, 5s.; Cyperus, Aralias, Solanums, Grevilleas, in 48's, 6s. per dozen; Spiræas, Cinerarias, Genistas, in bloom, in 48's, 9s. per dozen; Ficus, Palms, Dracænas, Ericas, Cyclamen, 12s. per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

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TO H.R.H. THE PRINCE OF WALES.

MACKENZIE AND MONCUR, Limited, HOTHOUSE BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.
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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W

SALES BY AUCTION.

Tuesday Next.

BURMESE DENDROBIUMS, CATTLEYA PERCIVALLIANA.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Hugh Low & Co., Upper Clapton, to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, February 26, at half past 12 o'Clock precisely, a splendid importation of the most beautiful winter-flowering CATTLEYA PERCIVALLIANA, together with a really magnificent lot of BURMESE DENDROBES, just received in grandest condition, including, amongst other varieties, D. Brymerianum, D. crassinode barberianum, D. Devonianum, D. formosum giganteum, a truly wonderful lot with exceptional Bulbs and Eyes quite dormant; D. Jamesianum, D. chrysiflorum, and especially D. WARDIANUM GIGANTEUM LOWI.

On view morning of Sale, and Catalogues had.

Tuesday Next.

CYPRIPEDIUM EXUL,

One of the gems of the genus; a fine consignment, comprising many good masses, all in the best possible health and condition. Every plant being offered.

CATTLEYA CITRINA,

fine plants in superb condition. Also

CŒLOGYNE CRISTATA (?)

the pure white form; and other valuable varieties will be found.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on TUESDAY NEXT, February 26, by Order of Messrs. W. L. Lewis & Co., of Southgate, N.

On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT SALE OF LILIES.

279 Cases, direct from Japan, for UNRESERVED SALE, containing—

12,700 LILIUM AURATUM.

200 LILIUM RUBRO VITTATUM
100 ,, AURATUM VIRGINALE ALBUM
3040 ,, ,, MACRANTHUM
1448 ,, SPECIOSUM ALBUM
792 ,, ,, RUBRUM
300 ,, KRAMERI
600 ,, BATEMANNIÆ
250 ,, LEICHTLINI,
200 ,, ELEGANS
150 ,, HENRYI, the yellow speciosum
120 ,, JAPONICUM ODORUM
100 JAPANESE TREE PÆONIES
55 DAVALLIA BULLATA
720 JAPANESE MAPLES
3400 IRIS KÆMPFERI, in 50 varieties
182 MAGNOLIAS, in variety
440 HERBACEOUS PÆONIES
90 VEGETABLE SPONGES and CHRYSANTHEMUMS
62 AZALEA INDICA, including 20 large plants; CAMELLIAS, KENTIAS and other PALMS, DRACÆNAS, and ASPIDISTRAS from Belgium.
5000 DOUBLE and SINGLE BEGONIAS
300 STANDARD and HALF-STANDARD ROSES
500 DWARF ROSES
300 AZALEA MOLLIS

10,000 AMERICAN PEARL TUBEROSES

302,000 COCOS WEDDELLIANA and KENTIA SEEDS

(See separate Advertisement).

Four Cases CAPE BULBS, consisting of Hæmanthus, Scillas, Brunsvigias, Montbretias, &c.; 200 lots of Gladiolus Gandavensis, Kelway's Hybrids, and Brenchleyensis; English-grown Lilies in variety; Tigridias; 12 lb. of TOMATO SEED (Australian Conqueror) from Australia.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 27, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Wednesday Next.

ENORMOUS CONSIGNMENT of PALM SEEDS.

230,000 COCOS WEDDELLIANA.
40,000 KENTIA FORSTERIANA.
13,000 ,, BELMOREANA.
9,400 ,, SPECIES.
4,000 COCOS FLEXUOSA.

MESSRS. PROTHEROE AND MORRIS will include the above in their Great LILY SALE on WEDNESDAY NEXT, February 27, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.

On view morning of Sale, and Catalogues had.

Woking, Surrey. Preliminary Notice.

IMPORTANT CLEARANCE SALE of NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are instructed by the Trustees of Mr. W. Jackman, deceased, to prepare for SALE, NEXT MONTH, the whole of the valuable NURSERY STOCK, particulars of which will appear in future announcements.—Auction and Estate Offices, 67 and 68, Cheapside, E.C.;

Woking, Surrey. Preliminary Notice.

By Order of the Trustees of Mr. W. JACKMAN, deceased.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, EARLY in MAY, several parcels of FREEHOLD BUILDING and NURSERY LAND.—Particulars may be had of Messrs. Smallpiece and Sons, Solicitors, High Street, Guildford, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Chadwell Heath. Without Reserve.

5 well-built GREENHOUSES, containing 8700 feet super.; 1500 feet run of 4-inch Hotwater-piping, 3 Boilers, Brickwork; 5000 STRAWBERRY PLANTS in pots, LAWN-MOWERS, SUNDRY UTENSILS, HEAPS of MANURE and MOULD, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Beaconsfield Villa, High Road, Chadwell Heath, on THURSDAY NEXT, February 28, at 1 o'Clock, in convenient lots, by order of Mr. Tibbles, who is leaving the neighbourhood. May be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Thursday Next.—Special Sale.

10,000 AMERICAN PEARL TUBEROSES (weather permitting), 7000 JAPANESE LILIES, including auratum, Melpomene, Batemanniæ, pictum, rubrum, and others; 800 choice GLADIOLI, Exhibition BEGONIAS, GLOXINIAS, SPIRÆAS, 300 DWARF ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY NEXT, February 28, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

130 LOTS OF CHOICE ESTABLISHED ORCHIDS,

From a well-known private collection, amongst which will be found—Cattleya Wageneri, 2 plants; C. Eldorado Wallisii, 2 plants; C. Gaskelliana albens, C. Mossiæ, Cypripedium Charles Canham, C. Leeanum superbum, C. Morganiæ, C. Schroderæ splendens, C. leuchorhodum, C. Savageanum superbum, C. œnanthum superbum, Dendrobium nobile album, D. n. Cooksonii, D. n. nobilius, Cœlogyne cristata alba, Lælia anceps, special varieties; Masdevallia melanoxantha, Odontoglossum aspersum, O. Humeanum, O. vexillarium superbum, O. Wilckeanum, O. Insleayi splendens, Lycaste plana Measuresiana, Trichopilia tortilis alba, and others. Also 50 Ada aurantiaca, Cypripedium hybrids, C. villosum violaceum, Lycaste Skinneri alba, L. anceps alba, Oncidium superbiens (var.) and others.

100 CHOICE ESTABLISHED ORCHIDS

from the collection of De Barri Crawshay, Esq., in consequence of alterations being made to his greenhouses, including Lælia purpurata alba, L. elegans alba, L. anceps Crawshayana, Odontoglossum triumphans (Rosefield variety), O. crispum Trianæi, O. Uro-Skinneri, O. crispum (Sunrise), O. crispum (Fayre Maid), O. Wilckeanum (Rosefield variety), O. crispum (Miss Florence M. Bovill), O. citrosmum (Rosefield variety).

300 LOTS ESTABLISHED ORCHIDS

from various owners, mostly without reserve, including Lælia anceps Stella, Oncidium ornithorhynchum album, Lælia elegans Wolstenholmæ, Cœlogyne cristata alba, Vanda Sanderiana, Cattleya Mastersoniæ, Cypripedium Morganiæ, and others.

Two Volumes "ORCHID ALBUM," and ORCHIDS IN FLOWER OR BUD.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 1, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

ROSES, PLANTS, AND BULBS.

Choice-named Pyramid and Dwarf-trained Fruit-Trees, comprising APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, including many of the best sorts, CURRANTS, RASPBERRIES, GOOSEBERRIES, a few Half-Standard PEARS, &c.

About 1000 Choice-named Standard, Dwarf, and Climbing ROSES, from a well-known English Grower, including many of the newest and most popular sorts.

A Surplus Stock of Small Ornamental Shrubs and Evergreens, consisting of HYDRANGEAS, DEUTZIAS, LAURELS, THUYA, BOX TREES, CUPRESSUS, LILACS, AZALEAS, KALMIAS, PRIVET, &c.

Also

An Importation of Liliums from Japan, South African and Pearl TUBEROSES, PANCRATIUMS, AMARYLLIS, 7 Cases of ARAUCARIA EXCELSA, as received; a Collection of CARNATIONS, BEGONIAS and GLOXINIAS, FREESIAS, English-grown LILIUMS, CYPRIPEDIUM SPECTABILE, SPIRÆA, LILY OF THE VALLEY CLUMPS, TIGRIDIA in variety, a Collection of HARDY CLIMBERS, a Collection of BORDER PLANTS, GLADIOLI, Ornamental STOVE and GREENHOUSE PLANTS, and a fine Collection of Early Spring-blooming PERENNIALS for present planting.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 27, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

IMPORTANT SALE of ORCHIDS.

CATTLEYA SPECIES.

A magnificent Importation of 24 Cases of Cattleya SPECIES, just received direct, in the finest possible order, including a large number of superb GREEN-LEAVED MASSES, in splendid health, without the least reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 28, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

IMPORTANT SALE of ORCHIDS.

A COLLECTION of well-grown ESTABLISHED ORCHIDS, CHIEFLY IN FLOWER AND BUD.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 28.

On view morning of Sale, and Catalogues had.

Thursday Next.

IMPORTANT SALE OF ORCHIDS.

An IMPORTATION of LILIUMS from Japan, English-grown LILIES, a Collection of Hardy BULBS and ROOTS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 28.

On view morning of Sale, and Catalogues had.

LARGE SALE OF

AMERICAN PEARL TUBEROSES,

On FRIDAY, March 1, 1895,

At half-past 12 o'Clock sharp,

At THE AUCTION MART, Tokenhouse Yard, London (near the Bank of England).

MESSRS. JAMES AND BAXTER are favoured with instructions from a Firm of New York Exporters to SELL by AUCTION, absolutely Without Reserve, as above,

90,000 PEARL TUBEROSES,

Just to hand per s.s. "Mobile" and s.s. "Massachusetts"

The bulbs are extremely fine, and can be inspected on application to Messrs. R. Silberrad & Sons, 25, Savage Gardens, London, E.C., and Messrs Robinson & Sons, Water Street, Liverpool. Samples will be on show at time of Sale.

Messrs. J. & B. will be happy to execute Commissions for buyers unable to attend, and goods will be despatched, free, London or Liverpool.

Catalogues free on application to Messrs. JAMES AND BAXTER, at their Offices, 35, Temple Street, Birmingham. Established 1890.

MESSRS. JAMES AND BAXTER (both many years with Messrs. Protheroe & Morris) hold SALES at their noted SALE ROOMS, 35, Temple Street, Birmingham, EVERY THURSDAY, of all classes of HORTICULTURAL PRODUCE. Sales also held of GROWING NURSERY STOCK in any part of the Country. Valuations carefully and efficiently carried out. Fourteen years' practical experience.

Catalogues of all Sales free by post.

ORCHIDS! ORCHIDS!

IMMENSE IMPORTATIONS.

JOHN COWAN & Co.

(LIMITED),

Have just received an immense importation of

BRAZILIAN ORCHIDS,

in the very finest condition, which they are now offering, together with other large and fine importations from INDIA, MEXICO, and other countries. Inspection is earnestly invited.

Descriptive and Priced LISTS post-free, on application to the Company,

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

WANTED, to RENT, small GLASS NURSERY for Fruit Growing, with good Dwelling-House, or Private Gardens with Glass, Cottage, &c.
BENNETT, Moulsey Villa, Palace Road, East Molesey.

FLORISTS.—Genuine BUSINESS for SALE, Immediately. Good neighbourhood. Double-fronted Shop, House, Stabling. Low Rent. Stock and Fixtures at nominal price.—Apply, 152B, Church Street, Stoke Newington, N. No Agents.

WANTED, a SMALL NURSERY and FLORIST'S BUSINESS. Provincial; Leicester if possible.—Full particulars to—
FLORIST, 76, Haselrigge Road, Clapham, London, S.W.

WANTED, to RENT, a SMALL NURSERY, with 400 to 600 feet run of Glass.
A. H., 4, Bride Street, Liverpool Road, Highbury, N.

PEACHES and NECTARINES.—Standard and Dwarf-trained; fine bearing trees. Sure to please. Price list free.—WILL TAYLER, Hampton, Middlesex.

ORCHIDS

Of every description, from 1s. each; samples, post-free, 1s. 3d. RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

THE LEEDS ORCHID CO.,
ROUNDHAY, LEEDS.

THE CELEBRATED XL ALL
HORTICULTURAL SPECIALITIES.

☞ The first three are prepared in Bond, from Duty-Free Tobacco, by Special Permission of the Hon. Board of H.M. Customs.

XL ALL Vaporising Fumigator.—The cheapest, most simple, and best Fumigator in existence. A liquid compound simply evaporated from a small copper cup by the agency of a Spirit lamp.

Compound

For using in the Fumigator.

Bottle.	Enough for cubic feet.	s.	d
No. 1	40,000 ..	24	0
No. 2	20,000 ..	13	0
No. 3	10,000 ..	6	6
No. 4	5,000 ..	3	3

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Fumigators

(Will last for Years).

To do 5,000 cubic feet of space at a time, 2*s*. each.

To do 2,000 cubic feet, 1*s*. 9*d*. each.

*** *Showing a cost for fumigating of only 8d. per 1000 cubic feet of space.*

☞ From Mr. JAMES CRISPIN, F.R.H.S., Nelson Street, Bristol.

'After ten years' careful personal experience, in which, as a grower of a very large collection of Orchids, I have been especially anxious to kill all enemies to plant life, especially Yellow Thrip, I consider the 'XL ALL' Vaporising Fumigator by far the best means of securing that end."

This testimonial was sent to my customer, Messrs. BROWN & SONS, Seed Merchants, Baldwin Street, Bristol, who kindly sent it on to me.

XL ALL LIQUID INSECTICIDE (Wash).—The most certain in effect, and safest Wash in the market. 1 pint, 2*s*.; 1 quart, 3*s*. 6*d*.; ½ gallon, 5*s*.; 1 gallon, 10*s*.

XL ALL TOBACCO POWDER.—The strongest and finest grade of Powder yet produced. In 6*d*., 1*s*., 2*s*. 6*d*., and 5*s*. tins.

XL ALL LAWN SAND.—A destroyer of weeds on Lawns, &c., and a fertiliser for the grass combined in one. In 1s., 2s. 6d., and 5s. tins; 28 lb., 9s.; 56 lb., 16s.; and 112 lb., 30s.

XL ALL WEED DESTROYER, either in Liquid or Dry Powder. All details on application.

XL ALL LIQUID MANURE.—The finest thing yet introduced (no smell). Simply put a little in the water before giving it to the plants. Very concentrated. 1-pint bottle, 1s.; 1-quart, 1s. 6d.; 1-gallon tin, 3s. 9d. In bulk at a cheaper rate.

☞ The above Specialities may be had from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or direct from the Sole Proprietor. LIST Post Free.

C. H. RICHARDS, Sole Manufacturer, **OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.**

THE "CHARLES COLLINS" FUND.—
ADDITIONAL SUBSCRIPTIONS.
Amount previously acknowledged, £50 6 6

	£	s.	d.		£	s.	d.
J. Udale	0	10	0	Miss Harman ...	0	2	6
Cannell & Sons ...	0	10	0	T. F. Rivers... ...	0	10	6
H. W. Percy ...	0	10	0	J. R. Pearson & Sons	1	1	0
W. G. Head... ...	1	0	0	G. Wythes	0	10	0
James Friend ...	0	5	0	H. Dunkin	0	10	0
Scotch Sympathisers	0	3	0	"A Friend"... ...	0	2	0
Nil Desperandum ...	0	2	6	H. Foster...	0	1	0
W. Stanbury ...	0	3	0	H. W. Adnitt ...	0	5	0

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CRANE AND CLARKE, The Nurseries, March, Cambs.

TUESDAY, FEBRUARY 26.

BURMESE DENDROBIUMS.
CATTLEYA PERCIVALIANA.

MESSRS. PROTHEROE AND MORRIS

Have received instructions from Messrs. HUGH LOW & Co., Upper Clapton, N.E., to

SELL by AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on TUESDAY, FEBRUARY 26, at half-past 12 o'Clock precisely, a splendid importation of the most beautiful winter-flowering CATTLEYA PERCIVALIANA, together with a really magnificent lot of BURMESE DENDROBES, just received in grandest condition, including, amongst other varieties:—D. BRYMERIANUM, D. CRASSINODE BARBERIANUM, D. DEVONIANUM, D. FORMOSUM GIGANTEUM (a truly wonderful lot, with exceptional bulbs—eyes quite dormant), D. JAMESIANUM, D. THYRSIFLORUM, and

ESPECIALLY D. WARDIANUM GIGANTEUM LOWII.

ON VIEW MORNING OF SALE AND CATALOGUES HAD.

V. LEMOINE AND SON'S
CATALOGUE OF NOVELTIES,

including Begonia elegantissima alba, and other Bedding and Tuberous Begonias, Richardia Elliottiana, Crassula albiflora, new sets of Abutilons, Fuchsias, Single and Double Zonal Pelargoniums, Pentstemons, Phlox decussata, Gladiolus, Montbretias, Double Clematis, Double Lilacs, and other Plants, are Now Ready, and will be sent free to all applicants.

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GRAND PLUMP BULBS, fresh from the Japanese Cases.

	Per doz.	Per 100.
FINE BULBS, up to 9 inches	3 0	18 0
GRAND BULBS, 9 to 10 inches	5 0	30 0
LARGER BULBS, 10 to 11 inches	7 0	50 0
EXHIBITION BULBS	10 6	...
AURATUM PLATYPHYLLUM	12 0	...
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ALBUM KRÆTZERI, large	10 0	...
RUBRUM CRUENTUM	7 0	...
BATEMANNIÆ (apricot)	9 0	...
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These Hollies have been regularly transplanted, and will lift with good balls. As it is necessary to clear the ground, a Special Low Price will be quoted for large quantities.

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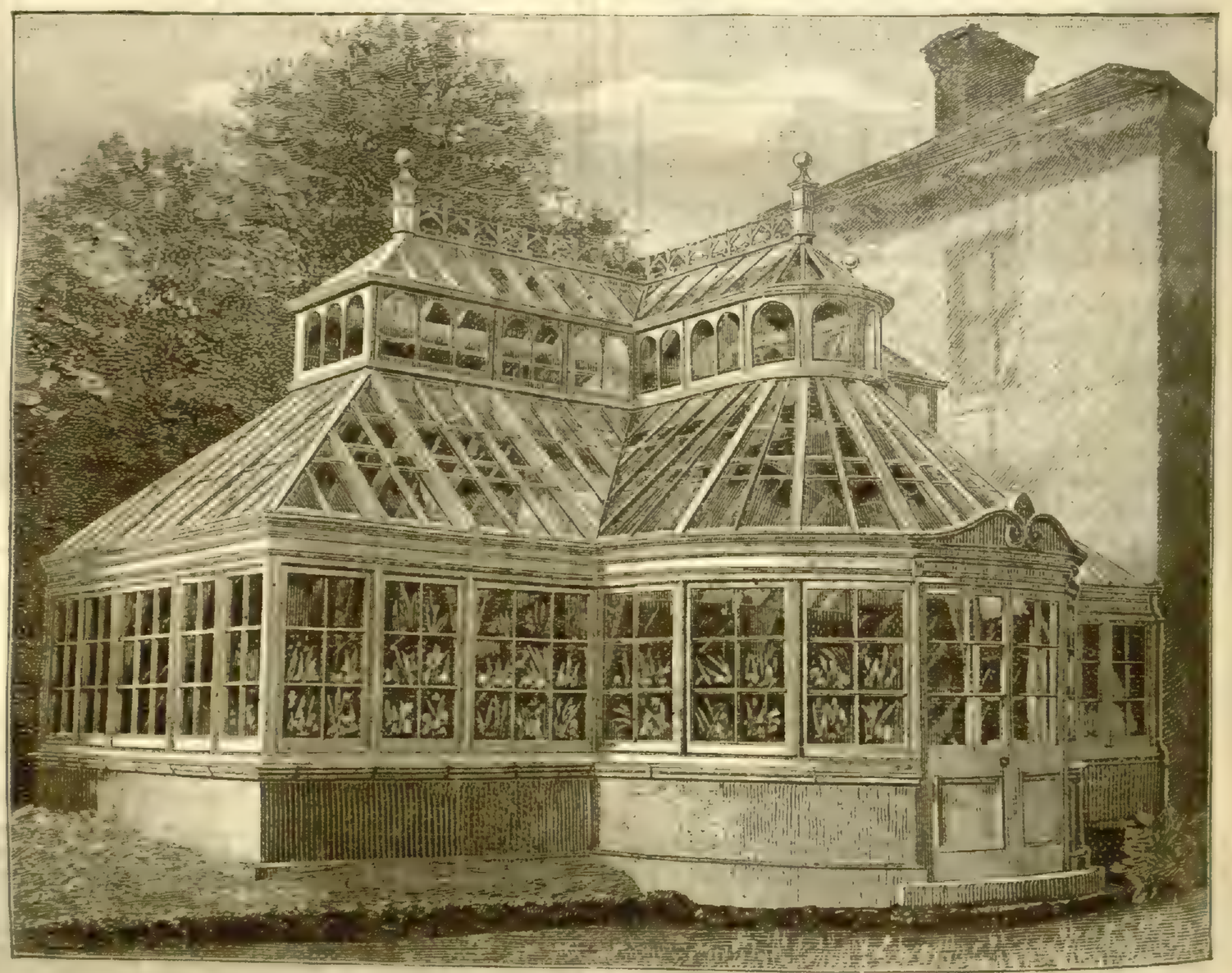

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THE
Gardeners' Chronicle.
SATURDAY, FEBRUARY 23, 1895.

WATERCRESS AND ITS CULTIVATION IN FRANCE.

THE excellent new French monthly illustrated magazine,* *Le Monde Moderne*, contains, in its February number, an interesting article by Mons. Charles Grosdemange upon the cultivation of Watercress at Provins, a small town situated nearly sixty miles east of Paris, where this industry gives profitable employment to a number of hands.

Provins, with its picturesque ruins, dating back to the twelfth and thirteenth centuries, its beautiful rural surroundings, and its mineral springs, presents, as the author of the article referred to observes, many attractions to the visitor—but, like him, we must limit ourselves to the horticultural point of view. In this respect, we are reminded at the commencement that Provins is the birthplace of the Rose which bears its name, though commonly written "Provence," the true French Rose, *Rosa gallica*. Well watered by two winding yet swift-flowing rivers, the Voulzie and the Durtain, the district round Provins teems with market gardeners; and the attention devoted by some of them to the growth of Watercress, the results obtained, and the careful cleanliness exercised, are deserving of special notice at a time when this simple plant is being made the object of attacks, on the score that it is possibly responsible for mysterious ailments, and even for outbreaks of typhoid fever.

In the year 1888, M. Doublet, a Watercress grower, began to establish Watercress beds connected with the Voulzie and the Durtain. The Cress-beds consist of a series of shallow pits, about 75 yards long, and 20 inches in depth, with an average width of 8½ feet. They are separated from each other by a turf path a yard wide. The slope from the end of the beds where the water enters to that at which it leaves after having circulated through them is relatively small, being only 3 inches in a bed 75 yards long.

From the charge-pit, which receives the water, the latter passes into the beds through an earthenware pipe, 4 inches in diameter, placed under the path separating the charge-pit from the beds. When it has reached the end of the bed it passes out in a similar manner into the discharge-pit. These earthenware tubes, a kind of drain-pipe, are so placed in the ground that the level of the water in the beds never exceeds 4 inches, at which it is kept during the whole time that the Cress is under cultivation.

The Voulzie Cress-beds, which cover a surface of about 20 acres, present, at their largest part, eight large divisions of twenty-five to thirty beds each. As the water derived from its pure source, after circulating through the first division, and passing into the discharge-pit, would not be suitable of itself for the nourishment of the plants in other divisions which it subse-

* Paris: A. Quantin, 5, Rue Saint-Benoit. London: The Savoy Press, 115, Strand, W.C.

quently enters, it is what is technically termed tiered, that is to say, each discharge-pit receives at its upper end about one-third of its volume of pure water conveyed into it at the upper end by a special pipe of larger calibre than those which have been previously spoken of.

CULTIVATION.

The Cress is propagated by sowing or by transplanting young slips, which are always provided with additional rootlets.

Sowing is carried on from the end of March, and through the month of April and May, by throwing the seeds thickly broadcast, after having previously well-fertilised the beds with ripe straw-dung, for, contrary to what might be supposed, Watercress benefits readily from the manure with which it is supplied. Before sowing, and directly after the application of manure to the soil, it is of primary importance to carefully level the floor of the bed, allowing a gentle slope, as has been already described.

Planting by means of slips should be effected under the same conditions as sowing. It is desirable to select young vigorous slips, having plenty of additional rootlets, then by gently manipulating with the fingers, to bring them within 4 or 5 inches of one another in every direction.

From the time that the sowing, or pricking out the slips, takes place, it is necessary to keep the beds properly drained, for which purpose small drains called *cenuraux*, running along the bottom of the banks for their entire length, are employed. The water either runs away, or is detained in these, thus allowing the seeds to spring up regularly, or the slips to take firm root. Later on, water is carefully passed into the Cress-beds, as soon as the plants begin to grow, but without completely covering them. It is necessary to keep pace with the development of the plants, and to maintain the water always at a level with the leaves, until it has attained a height of 4 inches, which must not be exceeded.

GATHERING.

Although the duration of the Watercress is not limited, there is an advantage in allowing for a new growth, to some extent. The first gathering from a May sowing, for instance, should not take place till the end of August, or the beginning of September; that of a crop from slips may be as soon as within a month or so. When gathering the Cress, the workman follows the direction of the current of the water, standing on a plank placed across the bed. Furnished with a pair of knee-pads and a split Osier rod, the workman, kneeling down on the plank, cuts the Cress, stalk by stalk, with a curved knife, so as not to drag it; he makes up the bunch where he is, ties it up, and throws it on to a heap at the side of the bed. An experienced man can make up 120 bunches in an hour, at the spring gathering; four or five dozen only in the winter. The summer gathering is a little slower than that in the spring, as the man has to remove the flowers, which bloom at the warmer season of the year.

In winter-time, the gathering of the Cress is begun at sunrise, and goes on till three o'clock in the afternoon, unless the frost is severe. At this period the workman takes care to place the bunches at the edge of the bank, with the leaves turned down into the water, so as not to expose them to the frost. At the time they are collecting the Cress, the workmen remove all the yellow leaves that are found near the base of the stems.

After a bed has been well cleared, it can be picked over again every fortnight. In winter it is not advisable to repeat the picking sooner than twenty-five days, and it should then be lightly performed.

When the Cress has been gathered and tied in bunches, it is removed in large wheel-barrows to the washing-house, where it is packed up. The washing-house, or *lavoir*, is a shed containing a large rectangular trough. Here each bunch is again deprived of any remaining flowers or yellow leaves that may have escaped the notice of the pickers, and then thrown into the trough. Next, the Cress is packed in large, strong, oval baskets, about 4 feet in height, and 3 feet broad at the top, each capable of holding about twenty dozen of ordinary bunches, which, after being rinsed singly, are packed in a circular fashion in each basket, so that they all point towards the centre. Thus packed, the Cress cannot be damaged from want of air, and undergoes no alteration during the carriage to the consumers.

WORK TO BE DONE AFTER GATHERING.

As soon as possible after every gathering, it is indispensable to submit the Cress to various processes, which have for their object to keep up an abundant and continuous crop. These are as follows:—

A. Rolling.—This plays a considerable part in the cultivation of Watercress, and is resorted to, not only after each cropping, but regularly every three or four days. It is conducted by means of a cylindrical wooden roller, about 5 feet in length, which is passed over each bed; the object being to push the stems of the plants into the water, and to keep them in that position.

B. Manuring.—This is indispensable after every gathering, the best method being by spreading well-seasoned cow-dung very lightly over the surface of the bed, usually two days after the gathering.

C. Schuellage.—The application of manure involves the necessity of a process, of German origin, whence its name of *schuellage* (shovelling). This operation which is peculiar to the cultivation of Watercress, is performed with a special implement called a *schuel*, which is a thick piece of wood, 4½ feet long, and 1 foot wide, attached by its centre to a handle 6 feet long. Two workmen, walking on either side of the bed, gently pat the Cress with the flat part of this implement, in the direction of the stream of water running through the bed. This operation, which is performed only at the time of the spring and summer gatherings, is intended to mass the Cress more closely together, and to force into the ground both the manure and those roots which may have been accidentally loosened during the gathering.

D. Pacquetage.—This process does for the Watercress in the winter what *schuellage* does at other seasons of the year. It is performed with a special implement called a *pacque*, which is a flat piece of wood of the same dimensions as a *schuel*, but perforated with a number of round holes, 2 inches or more apart, and having its handle set in like that of an ordinary bat. The Watercress is beaten flat with this instrument in winter, the holes facilitating the action; otherwise the natural resistance offered to the *pacque* by the water would drag up the Cress.

The Yield of a Watercress-bed 75 yards long is very variable, according to the season, and even the month of the year; and it is interrupted during the months of June, July, and August, when seeding is the method used for multiplying the crop. In Provins, where seeding is the method employed, the Cress-cutting is suspended from May 15 or 20 until the second fortnight in August. The following table will give as exact an idea as possible of the importance of the yield of Watercress during the period in which it is productive:—

September,	25	dozen bunches per bed.
October,	20	,, ,, ,,
November,	15	,, ,, ,,
December,	10	,, ,, ,,
January,	20	,, ,, ,,
February,	40	,, ,, ,,
March,	120	,, ,, ,,
April,	350	,, ,, ,,
May,	400	,, ,, ,,

During the space of nine months, therefore, the yield amounts to 1000 dozen bunches, or 12,000 bunches, from each bed 75 yards long. As the average selling price varies from 1 to 30 francs (10*d.* to 25*s*) for a basket of twenty dozen, the value of each dozen may be set down at 75 centimes (7½*d.*), making the annual production of a bed of the dimensions stated equal to 750 francs (£30). The months of December, January, February, and March are naturally the months when Watercress is most in demand. *W. Abbotts, M.D.*

NEW OR NOTEWORTHY PLANTS.

CYPRIPEDIUM × MAGDALENA.

THIS is another fine hybrid which must go to swell the list of beautiful *enfants trouvés*. It would be well if others who flower plants of unrecorded parentage took the same course as that adopted by Mons. A. Madoux, of Anderghem, Brussels, the raiser of Cypripedium × Magdalena, and not declare a guessed-at origin. It is a fine bold flower, and nearest perhaps to the handsome C. × Lucienianum; but in this there is a lack of the purple colouring at the back and front on the upper half of the dorsal sepal, as seen in C. × Lucienianum. The flower in lip and petals, whilst resembling those of a large, purple-tinted C. villosum, has a large upper sepal that would seem to indicate the influence of a dark-coloured C. Boxalli with C. × Leeanum superbum or C. × œnanthum superbum. It is pale green at the base, spotted with purple, the upper half and margin of white, irregularly blotched with a lighter shade of purple; the spots towards the margin are small, while those up the centre are large, and running into each other.

CYPRIPEDIUM × FELIX FAURE (GODEFROYÆ × CALLOSUM).

Belonging to a beautiful class, of which we are not likely to have too many, this cross seems to me to have sufficiently distinct features to warrant its being named in honour of the President of the French Republic, as requested by the raiser, Mons. Dallemagne, of Rambouillet. In general appearance it approaches the beautiful C. × Annie Measures (bellatulum × Dayanum), illustrated in the *Gardeners' Chronicle*, p. 657, vol. xv., 3rd series; but the curve of the petals and general contour of the flower show plainly the influence of that good parent C. callosum. The flower is wax-like in substance, the upper sepal bearing some fifteen well-defined blotched and feathered lines of rich purple, extending from the base to the margin, where they become fainter, and more of the white ground colour is shown. The petals are tinged with emerald-green at the base, and irregularly spotted over their whole surface with purple, and the interior of the lip and its face is tinged with purplish-rose. The reverse cross is known as C. × Mons. Finet, but it differs from the present variety materially, a circumstance easy to understand when we consider the great variation in C. Godefroyæ. *James O'Brien.*

THE HERBACEOUS BORDER.

DORONICUMS (LEOPARD'S BANE).

THESE are among the earliest of early spring flowers to expand their numerous golden-yellow blossoms in the herbaceous border, and all the species are of extremely easy culture. For planting in groups in the shrubbery border they are eminently fitted, and do in a most agreeable manner enliven the too-frequently sombre hue of the perhaps adjacent evergreen shrubs. It is just such plants as these Doronicums that may be used with advantage to brighten many of the flower-beds in our large London parks and gardens in the early spring, before many other perennials are really awake; and in the spring flower-garden again, although taller than the majority of the plants employed there, they afford pleasing variety. When flowering is over they may be taken up, cut down, and planted in the reserve garden without appearing to suffer much from the disturbance. A few flowering clumps, if potted at once and placed in a cold frame, will be found very useful in the cool conservatory later on. Pot-plants delight in plentiful supplies of water, and for this purpose the dwarfer kinds, for example, D. austriacum and D. Clusii are the best. D. Harpur Crewe syn. plantagineum excelsum (fig. 30, p. 229) is a very handsome kind, 3 feet high, with flowers 3 to 4 inches across.

FIG. 30.—DORONICUM PLANTAGINEUM VAR. EXCELSUM: HARDY PERENNIAL; FLOWERS YELLOW. (SEE P. 228.)

Stokesia cyanea.

It is rare to see this plant in any garden, and still more to see it in flower. The latter fact may, in a great measure, be accounted for perhaps by its lateness in flowering, and from the fact that frosts are usually upon us before the flowers open. The plant is, however, sufficiently distinct and pleasing when in flower as to make it worthy of a special effort to attain that end. To encourage it to flower it should at all times be planted in a warm and sheltered spot. But where after trial, the flowers get nipped before they open, the plants may be started into growth in pots and planted out at the end of May; or by growing the plants continuously in pots, plunging them in the open during the summer months, and housing them in early autumn, the plant could be flowered under glass. It attains a height of 2½ feet, and has purple-blue Aster-like flowers, from 2 to 3 inches across, therefore it is a distinct species among hardy perennials. Though by no means one of the simplest plants to increase by division, it is readily increased by means of root-cuttings. The roots are thick and fleshy, and abundantly produced. Detach some of the strongest, cut them into lengths of an inch or so, and insert them in pots filled with sandy loam, and plunge in a mild bottom-heat. Bottom-heat is not essential to the rooting of the cuttings, but it saves time. *J.*

Orchid Notes and Gleanings.

NEW ORCHIDS.

The *Kew Bulletin* for January contains the twelfth decade of new Orchids described by Mr. Rolfe. They include Cryptophoranthus minutus, a minute species which flowered with Mr. O'Brien, but of which the habitat is not known; C. oblongifolius, collected in the Andes by Mr. Charlesworth; Microstylis macrochila, the largest-flowered representative of the genus yet introduced. It flowered with Sir Trevor Lawrence in 1894; Dendrobium inflatum, a pretty little species introduced from Java by MM. Linden; Bolbophyllum disciflorum, a remarkable species, introduced from Siam by MM. Linden; Cirrhopetalum Whiteanum, introduced from the Moluccas; Megaclinium Imschootianum, from M. van Imschoot; Maxillaria sanguinea, from Chiriqui, Central America, introduced by Mr. O'Brien; Oncidium panduratum, introduced from Colombia by Mr. Millican, and flowered in the collection of Welbore S. Ellis, Esq., Hazelbourne, Dorking; and Sarcanthus auriculatus, introduced by Mr. O'Brien.

Some Fine Cœlogyne cristata.

When on a visit recently to the gardens of Devonshire House, Stamford Hill, the residence of W. F. Darnell, Esq., I was delighted to find some beautiful specimens of Cœlogyne cristata and its varieties. One was carrying fifty-five sprays, and the other about fifty, with an average number of seven flowers on a spray, and the plants are in perfect health. Mr. W. Davies evidently understands the culture of Cœlogynes. *L. H. Calcutt, Stoke Newington.*

STOCKTON HOUSE, WYLYE.

In the Valley of Wylye, in the midst of pleasant woodland scenery, and at the foot of the Codford and neighbouring hills, 11 miles west from Salisbury and 2 miles from the village of Wylye, stands Stockton House, the picturesque residence of Ashley Dodd, Esq. It is a fine stone building in the Elizabethan style. There are numerous pictures by the old masters on the walls, and much oak carving. The neighbourhood of Stockton abounds in relics of Roman times and other objects of interest to antiquarians. Foremost amongst these may be mentioned Cotley Hill on the north-west, surmounted by a large tumulus, which on being opened in 1801, was found to contain bones, iron nails, and broken pottery. Scratchbury Camp is the name of another hill, on which is an entrenchment of about 40 acres in extent, formed by a single ditch and rampart. This has several entrances, and there are some burrows within the area, which revealed on being opened, some burnt bones, a lance-head, a ring, some beads of amber, and several instruments of brass resembling screws. Pitmead is the name of a large meadow in the locality, wherein were discovered in 1786 a fragment of Mosaic work, the remains of a portico 56 feet long, and 10 feet wide, and the beautiful flooring of an apartment, formed of square tiles, on which lay a mutilated female statue with a figure of a hare at its feet. Subsequently, in 1800, a greater length of portico was laid bare, and more pavement discovered of a circular shape, enclosed with a square panel. On the pavement were delineations of flowers and birds. In the same year another foundation, with the remains of a sudatory and hypocaust, were brought to light, all of which go to prove the former existence in what is now Pitmead of a large well-equipped villa in Roman times. Knock Castle, north of Stockton, is a small entrenchment with a simple ditch, in form that of an irregular oblong, two acres in extent. It is supposed to have been a summer-camp of the Romans, and various coins and other Roman remains have been found there.

The park at Stockton House is prettily wooded, and the trees are chiefly Beech, Elm, and Yew. In the pleasure-grounds, among other species of trees and shrubs, are the Douglas Fir, Nordmann's Spruce, Picea Engelmanni, A. E. glauca [probably pungens], the Deodar and Atlas Cedars; Cupressus Lawsoniana erecta viridis, all coniferous plants; Dimorphanthus mandchuricus, Diervillas (Weigelas), golden-leaved Elder, and Maples in variety. These trees have not been planted more than seven years, and they are in a flourishing condition. At the time of my visit (September 8), Hydrangea paniculata grandiflora was in fine flower, a bed of the plant having a singular yet pretty appearance. This is a species which should be more often planted than appears to be the case, for it is not only showy and free-flowering out-of-doors, but it is an excellent subject for growing in a pot, and bears to be forced a little. Some beds that were planted with Lilium auratum had a very telling effect, the flowers being very large and well-marked in regard to the colours. The bulbs of this species remain, I was told, in the beds the whole year, a covering of leaf-mould 2 or 3 inches in thickness being put over them after the stems die down, and which remains till the spring before being cleared away. On the velvety lawn to the south of the house are several beds, including a chain-bed cut out in the turf, which were well filled with flowering plants, making an effective display.

In the enclosure of walls containing the glass-houses are found two or three miniature flower gardens, consisting of from eight to twelve beds, each geometrically arranged. These were filled last year with tuberous-rooted Begonias, yellow-flowered Chrysanthemums, edged with a dwarf, compact-growing, scarlet-flowered Tropæolum, Heliotropes, the salmony rose-coloured Ivy-leaf Pelargoniums Comtesse Horace de Choiseul and the deep pink Madame Thibaut. The general effect of these gay beds was heightened by the abundant floral display made by the herbaceous and other plants cultivated in adjacent beds and borders.

There are three large vineries, a stove, a greenhouse, an Orchid-house, and the usual auxiliaries of a well-equipped garden. The vineries and Peach-house in one range are of recent erection; and the latter is planted with Alexander and Royal George Peaches and Elruge Nectarines, the trees being in fine condition. The first vinery is planted with five rods of Black Hamburgh, one of Buckland Sweetwater, and one rod of Madresfield Court. The second vinery contains Vines of Muscat of Alexandria, Gros Maroc, and Gros Colmar, planted at a distance of 4 feet apart, and a good space is allowed between the laterals, by which means strong wood that gets well-ripened is obtained. The other vinery is planted with the varieties Lady Downes, Black Alicante, Gros Colmar, and Mrs. Pince's Black Muscat, all of which were carrying excellent bunches of fruit. In one of the vineries the Guava (Psidium Cattleyanum), a tree about 4 feet high and as much in diameter, was furnished with a good crop of its purplish-coloured fruit. The pillars that support the roof and the wall of the plant-stove were clothed with the growths of Cissus discolor and Passiflora edulis, and the stove itself was filled with a number of nice decorative plants. In the greenhouse were noticed well-flowered plants of Montbretia crocosmæflora aurea, and Achimenes coccinea, Tuberoses, &c.; plants of Lapageria alba and Clematis indivisa lobata being trained thinly over the roof. For producing white flowers in abundance in February, the last-named plant is deserving of wide cultivation.

In the Orchid house were observed Aërides odoratum, some of the plants 4 feet high; a nice plant of A. virens; good masses of Cœlogyne cristata; Cattleya Warneri, Lælia purpurata, having several good leads; Vanda tricolor, having one good spike of flowers; Cymbidium eburneum, good plant; Dendrobium chrysanthum, D. densiflorum; Lycaste Skinneri, L. aromatica, large plants of Peristeria elata; also an unusually large plant of Oncidium ornithorhynchum was in fine flower. These plants, as well as others, were remarkable for their healthy condition. Some seedling plants of Schubertia grandiflora trained under the roof of the Orchid-house, gave signs of there soon being flowers in abundance. Those which had expanded did not appear to differ from the type. Chrysanthemums are largely and well grown. Some newly-built walls of brick were getting well clad with Peaches, of which Royal George, Bellegarde, and Goshawk were noted. Tomato plants filled up the intervening spaces, and were bearing fine crops of fruit.

The new kitchen garden is about 2 acres in extent, and is isolated from the walled-in garden. On either side of the two walks which divide this garden into four square plots are planted standard Apple and Pear trees, and of the latter Knight's Monarch was carrying a heavy crop of fine clean fruits, and the same may be said of Ribston Pippin, Orange Pippin, Warner's King, Lord Suffield, and Lord Derby Apples. These trees were planted 9 feet apart in the rows.

In conclusion it may be stated that the owner has extended, and to some extent, remodelled and beautified the gardens during the past seven years, that is during the time that the estate has been in his possession. Mr. Wilson, the gardener and steward at Stockton, has been twenty-one years in Mr. Dodd's service, thirteen years at Surrenden, Pluckley, Kent, and eight at Stockton. The condition of the gardens does him great credit. *Tourist.*

CULTURE OF GRAPE VINES IN POTS.

With careful culture, all kinds of fruit trees may be grown in pots, but the question must frequently arise whether it is desirable to grow the particular kind of fruit in pots, or whether there is anything to be gained by it. Plums, Peaches, Apricots, Pears, Apples, Cherries, &c., have all been grown in pots, but except Peaches and Nectarines, it is a question if it is worth while to spend time and money upon such kinds of fruit, unless very superior fruit is required in small quantities for a special purpose, such as for exhibition. It is a question whether more harm than good may not be done by placing Apples, Pears, and Plums before the public from pot-trees, and of such a high-class quality that it would not be possible to grow such specimens in the usual way, so that if one or two should be gratified by winning prizes, hundreds may be deluded. It is also very certain that, unless particular attention is bestowed upon the trees, combined with cultural knowledge, the best results cannot be obtained.

The culture of Grapes upon pot Vines is to be recommended for various reasons, especially when Grapes are required very early in the year, or if it is intended to place them upon the table in a growing state. Vines are very easily raised from eyes, and can be grown into fruiting-canes very readily the same season in which the eyes are planted,

so that any one having the convenience of a forcing-house may obtain fruiting-canes one year, and force them the next. This may be done, but from a lengthened experience with them I prefer for very early forcing, canes produced from Vines cut down; any small canes of the previous year's growth are better than single eyes to start with, if Grapes are wanted, say in April. Not any variety of Grape-vine may be used for early forcing; in fact, there is but one I care to grow for this purpose—the Black Hamburgh. I can remember a good many varieties introduced to the public at various times to supersede this good old variety, but it still holds its own. Trentham Black was one, and I grew it both as a pot Vine, and planted out. Royal Ascot was another, which gave some promise when in the hands of the late Mr. John Standish, but it seems to have dropped out of cultivation. For White Grapes I have found the old White Frontignan to be a very good variety for pot-culture; it sets well early in the year if a little care is taken to fertilise the flowers with a camel-hair brush; indeed, this is necessary with the Black Hamburgh, for the blossoms cannot be expected to set so freely in mid-winter as they do in May. Foster's White Seedling is better for pot-culture than Buckland Sweetwater; and exceedingly good Muscats can be obtained from pot Vines. Were I about to force a dozen pot Vines, I would have eight Black Hamburgh, two White Frontignan, and two Foster's White Seedling. Those who have no means to grow forcing-canes may always be supplied through any of the large trade firms, but they are necessarily expensive, and gardeners in these days are not seldom left to their own resources; they are expected to do the best they can with very limited means.

When Pine-houses were more of a necessity than they are now, we used to grow famous canes in the fruiting-houses; the pots stood over the hot-water pipes, not plunged, and no roots were allowed to grow outside the pots. To obtain fruiting canes the first year the eyes must be put in singly in small flower-pots in January in a little bottom-heat; and in a temperature of 50° to 55° to start them. They must not have much water at first, none at all for the first two or three weeks; an over-supply of water before roots are formed will cause the wood to decay. As the young Vines continue to grow, repot them, and by the month of August they will need their final shift into 12 and 13-inch pots, and should be trained up near the roof-glass in the full blaze of the noon-day sun. No shading can be tolerated. The leave ought to be thick and leathery, only badly-cultivated Vines need shading. It will all depend upon the care taken to develop and mature the buds, whether a good crop of fruit is likely to be obtained the following season. When the Vines are growing freely a high temperature is absolutely necessary; syringe them well and shut up early in the afternoon, and the temperature may get up to between 90° and 100° for a little after shutting up, and should not fall below 70° at night, this temperature should be maintained until growth has been made—and as the wood shows signs of ripeness more air must be admitted, and the temperature need not be so high, but let them get all the sunshine possible.

The Vines, as a matter of course, require a resting period of six weeks at least; and as soon as they have entered into this period the canes should be shortened, and all the small lateral growths cut back to the main stem. An average length of 6 feet will be sufficient, and when they are started they should be plunged in a gentle heat, say, 75° or 80°, to promote root-action. I have tried a much higher root temperature, but never was much satisfied with it. The night temperature of the house may be 50° to begin with, and it may rise to 55° when the buds have well started, increasing it gradually to 60° and 65°, at which it may be maintained until the flowers open, when it may be kept to 70° until they are set, when it is as well to let it drop to 65° again. These temperatures may be increased by about 5° by day in dull cold weather; but when the house is shut up early in the afternoon with sunshine, the temperature may run up 20° more than the minimum. When the Vines are making roots freely they require large supplies of water, and diluted manure-water is a necessity. The potting material should be strong, decayed, fibrous loam three parts, one part decayed stable-manure, and a good sprinkling of bone-dust—an 8-inch potful to a wheelbarrow-load of loam. Some rich surface-dressing may be applied when the roots are running freely. The Vine is a gross feeder, and good Grapes cannot be obtained from badly-fed Vines. The best way to treat the Vines is to train them up near the glass roof of the forcing-house.

If the Vines are required for decorative purposes, it is a good plan to grow them with a 7 or 8-inch pot slipped over the Vine by passing it through the hole in the bottom of the flower-pot; when the Vine is making roots freely, fill this pot with good compost, and the roots will push from the base of the stem into it. The Vine may be twisted round any kind of neat wire trellis. When it is wanted for decoration, cut the stem through below the hole in the bottom of the smaller pots; the leaves will keep fresh as long as they are required, for it will not be necessary to cut them clear until the Grapes are quite ripe. They have been used in the centre of large dining-tables, and for other purposes of decoration. Should stem-roots appear too freely upon the Vines, it is a sign that something is wrong, either they are wanting water at the roots, or that in some way leaf and root-action are not reciprocal. Excess of heat, combined with excessive atmospheric moisture, is a fertile cause of the production of these adventitious roots. It is well to see that they do not grow much by altering the treatment. I cut them off close with a sharp knife. *J. Douglas.*

THE ROSARY.

THE WINTER PROTECTION OF ROSES.

How extraordinary are the variations of our climate! When I last wrote I was anticipating the renewal of our spring operations; indeed, I saw in a paper the other day that Roses should be pruned the first week in February, but it would be a rather difficult matter to accomplish this feat in the present season; for with 4 inches of snow upon the ground, and drifts in sundry places, it would be simply an impossibility. And so instead of pruning, one has to think of protecting—a subject upon which there is great diversity of opinion. My Rose garden, like that of many others, certainly is not at present a thing of beauty; with its mulching of long manure gathered round each plant, and with the bare shoots of the plants themselves, one has to exercise a good deal of hope in looking forward to a time when it will be a blaze of colour.

"But mulching," some one would say, "why do you do that?" And then the questioner refers me to some statements which have been recently made upon the subject, and showing what a bad thing it must be to have such a sodden mass of wet stuff round the plants. There is an old and common proverb, "The proof of the pudding is in the eating;" and for a good many years I have carried out the plan, and have lost comparatively few Roses. I think there is one point which the objectors to it seem to forget, namely, that during the winter months there is no small amount of root-action going on, even though above-ground the plants may seem to be in a quiescent state. I have examined plants in the middle of winter, and have found a number of small white roots evidently adapted to imbibing nutriment; and when the rains wash down the fertilising salts contained in the manure, they are there at hand to show that they are ready to take in the nourishment, and so contribute to the well-being of the plants—and therefore the mulching does not only serve for protection from frost. I do not pretend to be a vegetable physiologist, but may not the character of the stock have a good deal to say to the hardiness or non-hardiness of the plant? An ingenious theory was started in a contemporary not long ago, as to the hardiness or otherwise of herbaceous plants, viz., that while some were able to resist frost as far as the plants were concerned, that their roots were more tender, and therefore suffered; and may it not be that the far greater number of Roses, especially Teas, being worked on the cuttings or seedlings of our native Briars, may thereby be hardier than when they were worked on the Manetti and Italian Rose. In one respect, at any rate, this seems to be pretty clear, that the Manetti gets to work much earlier, and so is more exposed to the later frosts, when those on the Briar are still asleep. Formerly, when standards were more grown than now, and the hardiness of Tea Roses, at least in the southern part of the island, was very much doubted, the plan of protecting the shoots was much enforced; of course, if the head of the standard was frozen, the plant was killed, and this is one of the causes that has led to the substitution of dwarfs. Some years ago a terrible frost swept over the neighbourhood of Brie Comte Robert, and destroyed hundreds of thousands of standards, and the locality, I believe, never recovered its prosperity in that respect. I myself saw at Bourg la Reine a splendid piece of 25,000 standards and half-standards, not one of which survived the following winter.

In those days Fern brake fronds and straw, or branches of evergreens, were recommended to be tied into the head of the standards, and to be placed among the shoots of the dwarf; for the latter I think it was quite unnecessary. We take no more trouble now to preserve the heads of Teas than we do those of the H.P.'s; we prune them quite as hard in the spring, and if the base of the plant, where the junction has taken place, be protected, very little or no damage will happen, although many good authorities have decried the practice. I think that drawing up earth round the collar before putting on the mulching is a good plan. It can be easily removed when the beds are dressed in the spring; it is, of course, too late now to think of protecting for the present season, but the plants have, all over the country, the best possible protection in the thick coating of snow that now envelopes everything, covering them with a blanket which the frost cannot penetrate. I think I mentioned some time ago that I tried covering my beds with dried leaves last year, in consequence of the total absence of farmyard manure, but that it had been a failure. The wind blew them off in all directions, and if they are used, I think that something heavy should be laid on them to keep them in their place. *Wild Rose.*

THE CORNELL SCHOOL OF HORTICULTURE.

We have already alluded to one phase of this subject, under the title "What Chiswick should be" (see p. 175), and with a view of enforcing what has been previously said, we add the following particulars relating to another phase of horticultural instruction, from *Garden and Forest*:—

"During its session of 1894, the Legislature of the State of New York passed what was known as the Experiment Station Extension Bill, which, among other provisions, appropriated 8,000 dollars to be expended in the western counties of New York, under the direction of Cornell University, for the benefit of horticulture. The fund was to be used in conducting experiments and investigations, in studying plant diseases and the most profitable ways of fertilising vineyards, fruit-orchards, and gardens, and in publishing the results of such investigations, and in disseminating horticultural knowledge by means of lectures and otherwise. Early in December we received a prospectus of a School of Horticulture, to be held in Chautauqua County on the last week of the year during four days, and to be conducted by Professor L. H. Bailey, in accordance with the provisions of the act we have quoted above.

The programme, as announced, looked attractive. It seemed that this school of horticulture was the very natural and satisfactory development of the Farmers' Institutes which are held in various parts

of the country now, and many of which have become specialised so as to take up a single branch of agriculture like dairy husbandry, fruit-culture, or the like. The most noteworthy fact brought out in the announcement was, that although this institute was to be held in one of the famous Grape-growing regions of the state, small promise of instruction was offered in what might be called the practical and every-day working details of horticulture or viticulture. Only one afternoon was to be occupied in any matter of manual skill, and this time, devoted to general nursery practice, was given largely to a discussion of principles rather than of methods. The course was confined almost exclusively to the fundamental principles of horticultural science. Thus, the subject of the first half-day's session was, "How Plants Live and Grow," accompanied by demonstrations with the microscope by Professor Rowlee. Another half-day's topic was a brief on the "Evolution of Plants, with the Origin of Varieties." One session was devoted to the geological history of soils, with stereopticon views; another to the chemistry of the Grape and of the soil; another to the theory of tillage and the productivity of land; another to the subject of fungi, with stereopticon views. This tendency toward strict science is something like an innovation on the ordinary Farmers' Institute work, but, plainly, it was the proper course to pursue, and it promised to furnish the students with what was really the most practical kind of information which could be given them within the period named. Another interesting point was that each session was to begin with lessons in observation. At one session the subject to be studied was twigs, at another fruit-buds, and again, seeds, leaves, flowers, fruits, and last of all, the Apple. This also appeared to us to be a feature full of pleasing promise, and we have, therefore, made some inquiries of persons who attended the school, both in the capacity of instructors and as students, to ascertain whether the venture had proved satisfactory.

From the letters received, we learn that sixty persons registered as students, and nearly all of them answered to the roll-call at every session. These students were all practical horticulturists, most of them Grape-growers in the famous Chautauqua valley; among them were two or three physicians, a clergyman, and others who had adopted the pursuit of horticulture either as a business or a diversion. The interest increased as the sessions went on, and nearly all the students took notes upon the lectures, and passed satisfactory examinations on them afterwards. Perhaps this is the first school or institute of the kind which was ever held in this country, and it seems to have been unqualifiedly successful. The observation-lessons were remarkably stimulating, and it was surprising to see what interest even the elderly men took in the simplest objects. When twigs of various kinds were passed about the first day, ten minutes for observation were allowed, and then the various members of the class were asked what they had seen. As the subject of phyllotaxy, or the arrangement of buds on the stem, had not been studied by many of them, the class became almost excited as the mathematical ratios developed by the arrangement were brought out. This experience was repeated at every session, for there was not a single observation-lesson in which the discovery of some equally striking law or truth was not made by carefully studying the most familiar objects which had been before their eyes every day of their lives. Perhaps the most interesting lesson of all was the very last one, when, after the flowers had been studied, the structure of the Apple was taken up. As the meaning of the various parts of the fruit was revealed, and their relations to the parts of the flowers became evident, the wonder of many members of the class at what was novel information to them was very manifest.

Of course, it is not to be expected that accomplished horticulturists will be graduated from a school like this after four days of instruction, but whenever a man learns new fundamental scientific truth, he becomes to this extent more intelligent in the practice which rests upon this truth. Certainly a man will cultivate his land more efficiently after he has listened to the explanation of Professor Roberts, who showed in what way tillage promoted capillarity of the soil, and how it brought fertility to the plant, set free mineral nutrients, hastened nitrification, presented new surfaces to rootlets, conserved moisture, and did much more besides. With some knowledge of these fundamental principles, any horticulturist would be better able to judge when to cultivate and how to cultivate. It is not to be assumed that Professor Caldwell in his lectures on the chemistry of the soil and of the Grape, made expert analysts of any of the Chautauquans, or that in a single afternoon Professor Rowlee made plain to his hearers all the intricate processes in the nutrition of plants. Nevertheless, on these and other subjects alert, level-headed men and women familiar with all the phenomena of plant-growth, will very readily seize upon some fundamental scientific principles which will aid them very materially in their every-day work. Not only will new ideas throw new light on the reasons for their practice, but it will lead them to enquire for more knowledge as they attempt to adjust their practice to their new-found knowledge; and, more than that, the substantial and indisputable truths here acquired will probably avail to keep them from many costly mistakes, by showing them the impracticability of projects which to the utterly uninstructed might seem promising.

We are glad that the first horticultural institute of this sort has been held under such favourable auspices. We consider it a step forward in the means and methods of popular instruction. A little knowledge is not a dangerous thing when it is rudimentary and fundamental knowledge. The dangerous kind referred to by the poet, is a superficial smattering." *Garden and Forest.*

NURSERY NOTES.

MR. JAMES MASON, ASHTON-ON-MERSEY.

THE surroundings known as Oak Villa have been transformed into nursery quarters, for the purpose of feeding the progressive business in cut-flowers and plant decorations carried on by Mr. Mason in Victoria Street, Manchester. This firm, represented first by the father, then by the son, has been all along to the forefront at the Manchester Royal Botanic Exhibitions, with assortments of bouquets, which, for style and make-up, appear to have distanced all competitors. The acreage of the suburban villa is rather over 4, the greater portion of which is covered with glasshouses adapted to the several plants grown for marketable purposes. The evergreens, notwithstanding the rigours of frost, have attained great size, and even the Golden Queen Holly, that often refuses to extend and maintain the rich colouring of its leaves, is quite as healthy here as the ubiquitous Hodgins, Shepherdi, and laurifolia Hollies.

There are twenty-seven houses of various sizes, some of the larger of them being 150 feet long, built on commercial principles, where returns are more sought after than mere fancy beauty. The main feature is that light is not obscured, and heat is provided for by ample piping attached to suitable boiler power. There is little "cut to waste" in the shape of promenading room, the desire and aim being to have abundance of flowers to cut from, and send into the mart for private sales. At the time of my visit, the Chrysanthemum season was just getting over, but there were quantities of the late-flowering Madame Marchand which Mr. Smith, the manager, finds to be one of the most useful for late season flowering. Here, as everywhere else, white takes precedence, then yellow, then some of the bronzes, such as Mons. C. Morel, and such reds as Val d'Andorre. The best late whites here in quantity were Madame Marchand and Madame de Croix. The best yellows for market are Sunflower and St. Michael's, and it was said that if you have plenty of these at the back-end you want no others. Of course, there are several grown on trial, but in business premises no time can be spent upon varieties which are not free, nor on colours that do not take the market. The loose florets of the Japanese, and even of some of the Anemone section, please the general customer best. The incurved varieties, although beautiful to look upon in a stand, are much too stiff and formal in outline to please generally.

There are large quantities of the white Lilies, L. candidum and Harrisii, forced, taking the places of the Chrysanthemums when cut. In large houses with heat at command, you can have as many crops of flowers of different species in one year as you have in the four-course system of agricultural cropping, often compulsory in most cases, in as many years. This helps to make things pay, and it is all needed in the severe pressure of competition. It is, too, an object lesson to the general gardener, who, as a rule, does not need to conduct his operations on the profit system so closely as the nurseryman.

There seems to be an endless demand for "Arum Lilies," the quantities here are astonishing, and the flowers are continuously in demand for making wreaths, crosses, and such like. The plants are grown in smallish pots, thus inducing a greater floral yield, which is stimulated by doses of liquid-manure. Eucharis, too, are largely grown, and so are Gardenias. By far the best one for return here is G. florida, and it is grown in great batches, and kept clean by weak doses of paraffin. Without this the soapsuds would not do effectually for the "mealy" aphides, which soon gain a foothold and destroy the flowers and injure growth. What quantities of Lily of the Valley are forced, and still a use is found for them! They are laid-in on beds in low houses here, where they come away nicely from Christmas onwards. Hyacinths, Roman and la Tour d'Auvergne, look lovely in their whiteness, and dispense their fragance within these confined areas, and make one relish these useful harbingers of spring before spring has arrived, and at a time, too, when outdoor's vegetation is covered with a mantle of whiteness. The scarlet flowers of the Duc Van Thol Tulip contrast grandly with these, nestling on the top of the bulbs; and then the scarlet-coated Poinsettias—always telling for flower-glasses, and looking well anywhere. They grow here not large, but in fair numbers, and when they are cut and thrown into a cistern, the water checks the flow of the milky juice; hence the longer life of the cut flowers. Azaleas, too, are bright, the greatest recent gain being in Deutsche Perle, which surpasses all whites for forcing purposes. Next to that here comes Bernard André alba, Borsig, and Flag of Truce. All these whites are valuable for cutting, and sometimes, if the demand at the festive season is good, they pay well. Other coloured varieties are not much in demand. Camellias seem to be moving a little, but they have a lot of lost ground to make up. Bouquetists that have a large business can manage to intersperse a few of the reds and pinks in their designs. White is always to the fore, although it is at a discount with the ladies for personal decoration. There are many large well-grown plants here, some planted out, some in pots. Good whites, if in flower about Easter, command a ready sale; at least, so it is found about the Lancashire and Cheshire districts. Reds of the stamp, too, of Matthotiana and the old Donckelaarii do not stand long in the market. The price, of course, of Camellia flowers, and what shall we say of the plants of certain kinds particularly, has gone down much, but the tone is more hopeful. Gloriosa superba, with its curious twisted peduncle and its red and yellow flowers, takes well. It is grown in goodly numbers here, and seems to be run upon for filling glasses and other modes of stylish decoration.

Cœlogyne cristata in its various forms is grown here splendidly; indeed, it would be difficult to find a better lot, and it has in a measure to tide over what might be called pushing-forward and keeping-back difficulties. As there are several hundred large

plants stoutly developed without blemish, there is room for experimenting a little with them. As it is, the season is bridged over from the New Year to well on in June, the last batch generally being the Chatsworth variety. The plants are grown in several houses, the last of them being kept as cool as possible, and as dry at the roots as is consistent with safety, although Mr. Smith says it is no advantage to keep them so dry as to cause excessive shrivelling. From what we see, it is clear the whole bevy of them is kept well in hand, the principal features in their treatment being the position of the plants near the glass, cleanliness, absence of bugs, thrips, or red-spider. It is a pity the flowers are so fugacious; that they are beautiful does not admit of a doubt, but they do not last much longer often than the Maidenhair Fern in which they are set. Some are grown here in baskets suspended from the glass, some in shallow pans, but there is little or any difference in point of cultural condition, only that when the suspended ones are in flower they are the more generally attractive.

Among flowering climbers was remarked a plant of Stephanotis floribunda, covering a roof in a Fern-house, yielding a large quantity of umbels. Another excellent species here is the sweet-scented Schubertia graveolens, even more appreciated by some than the Stephanotis itself. Its pearly whiteness commands attention, and as an auxiliary to the first-named, it is a capital subject where cut flowers are in demand. Bougainvillea glabra, trained on a roof, throws copious racemes of its paper-textured flowers, and it is a flower that takes well; even the Allamandas so treated, give quantities of flowers. Lapagerias are largely grown, both white and red varieties. Tea Roses are also abundantly in evidence. Niphetos for general usefulness cannot be excelled; and Maréchal Niel as a yellow, stands unrivalled for both size of flower, breadth of petal, and form generally; with a leaf or two of its own for greenery, it is fit decoration for a queen. The Sikkim and cross-bred greenhouse Rhododendrons are grown in some variety; there is one remarkable plant of R. Gibsoni planted out, in a large pot, producing thousands of flowers every year.

In such an establishment a large quantity of greenery is always in demand; and in meeting it, the Adiantums take the chief position. A. cuneatum and gracillimum are grown in quantities, chiefly in smallish pots, and they give good returns. For larger fronds, A. concinnum and A. concinnum latum are grown. Asparagus, which is more enduring than Adiantums, in two or three varieties, is much run upon. For elegant drapery, Medeola medeoloides comes in well with its neat ovate green leaf, and its slender stem drapes well; so does Panicum palmifolium (sulcatum), with its depending leaves widely placed apart.

Large quantities of Palms are grown for table and other decorations, in which the firm is largely engaged. The fine examples of Kentia Belmoreana are conspicuous in the large conservatory adjoining the villa, and in the large houses set apart for this and other decorative subjects; the specimens of K. Fosteriana and Wendlandii are good. Areca lutescens is an elegant species, with cinnamon-shaded midribs. Seaforthia and Latania are well represented. In the smaller plants we saw some excellent examples of Cocos Weddeliana and some extra well-managed Geonoma gracilis, really one of the most elegant of Palms, if not grown in too great heat. For affording colour, Crotons of some size are cultivated, and hardened off as much as possible before being made use of in decorations.

Fig. 31.—THE IVY-LEAVED CHINESE PRIMROSE: LEAF AND FLOWER. (SEE P. 236.)

The manager, Mr. John Smith, was many years head gardener to the late princely merchant, Mr. Rylands, Longford Hall, and in his time used to take many prizes for specimen plants and for groups at the Old Trafford Whitsuntide shows. He seems to have readily applied himself to the altered circumstances and commercial gardening life, for the whole of Mr. Mason's plants seem to be excellently cultivated under his supervision. *Viator.*

VEGETABLES.

LAPLAND KALE.

This neglected variety of Borecole proves its value during severe weather; while Early Broccolis, Brussels Sprouts and other green vegetables are killed by the frost, the Lapland Kale furnishes a plentiful supply. It produces an abundance of thick, succulent, dark-green leaves, which, when well cooked, have an excellent flavour. As a winter vegetable it compares favourably in point of usefulness and quality with other kinds of Kale, and it is the hardiest, being uninjured through the severest of English winters. In some gardens at the present time it is practically the only available vegetable of its class. *A.*

WHITFIELD GARDENS.

Finis coronat opus; and so, after many changes, internal and external, the grounds, which for nearly a century and a half have enclosed Whitfield's Tabernacle in Tottenham Court Road, were declared, on Saturday last, by Sir John Hutton, to be "open to the public for ever for the purposes of health and recreation." The ceremony of throwing the place open was exceedingly brief—with unusually severe frost and a cutting east wind, speeches in the open air are, indeed, apt to be brief!—but the event was of more than passing interest. The place itself is full of historic associations, however grimy and unsavoury the immediate neighbourhood may now be. Tottenham Court Road, early in the eighteenth century, was a country lane, surrounded on either side by pleasant fields and meadows, among which Londoners found an easily accessible and agreeable rural delight. The poet, John Gay, speaks of how "Love flies the dusty town for shady woods," and, again, with a poetical extravagance entirely excusable in a Cockney bard, describes Tottenham Fields as swarming "with roving beauty," whatever that experience may mean. In some of the old maps of the neighbourhood, the spot which has just been turned into a public garden, was part of a large area covered by an immense pond, known as "The Little Sea."

The real and tangible history of the place may be regarded as dating from the time when the Rev. George Whitfield, the eminent Calvinist preacher, erected a tabernacle in 1756. Even at this period the locality could scarcely be described as a populous one, for on the north side of it there were but two houses, and the next after them half a mile further, was the historic "Adam and Eve" public-house; and the place was surrounded chiefly by fields and gardens for many years after Whitfield took up his quarters here. The lease of the ground was granted to Whitfield by General George Fitzroy, and on its expiration in 1831, the freehold was purchased by trustees for £20,000. The tabernacle itself existed until 1890, when it was demolished, in consequence of the insecure nature of its foundations; an iron building has been erected as a temporary makeshift. For some considerable time before the Tabernacle was demolished, much annoyance was caused by what the irreverent would be tempted to call "a rival attraction," in the shape of a small fair, which every evening gave forth the most hideous sounds imaginable. This fair occupied a portion of the old burial-ground attached to the Tabernacle, and no one seems to know how these showmen obtained, and for a long time fully lived up to, their privileges in regard to this fair; for the Home Secretary and the Metropolitan Board of Works appear to have been equally unable to suppress this disgusting vandalism. The Improvements Act of 1889 gave the Metropolitan Board of Works power to purchase the land; but the whole affair was in the hands of the Court of Chancery, whose movements are not usually characterised by alacrity. The County Council, when it came into existence, took the matter in hand, and the purchase money was settled at £5000 in 1891, but the actual conveyance of the land was not effected until March, 1894; to the ground thus secured was added a small plot purchased from a neighbouring owner.

Mr. J. J. Sexby, the chief officer of the park's sub-department of the County Council, has published an interesting account of Whitfield Gardens, which now comprise two portions of the old burial-ground on the north and south sides of the central space occupied by the iron church. The area of the northern plot is about 1400 square yards, and that of the southern one about 700 square yards, the latter being merely a narrow strip, which has been formed into a path from Tottenham Court Road to Whitfield Street, with borders of shrubs on each side. The original intention with regard to the northern plot was, it seems, to form a winding path from south-east to north-west, with some diversity of shrubberies and flower-beds; the path was to be brought out at the north-west corner on a level with Whitfield Street. This part of the ground, how-

ever, has been raised by interments (of which, it is said, there have been no fewer than 30,000), and by rubbish deposits, to a level of 3 or 4 feet above the level of the adjoining streets. Moreover, and as Mr. Sexby points out, nearly the whole of it was covered by a concrete platform of considerable thickness. To avoid the removal of so much material, and so much interference with human remains, it was decided to leave the surface level as nearly as possible as it was, and to provide a tar-paved space for playground and general use. This, as the visitor may now see, has been done, and the ground has been bordered with various kinds of shrubs; but a few years must necessarily elapse before the place can present anything like a rustic appearance. The ultimate plan was the more simple, but it still involved the removal of the massive concrete platform; the borders were thoroughly trenched, so far as it was considered that this could be done without disarranging the dead bodies.

Not the least interesting fact in connection with this new "breathing space" is, that the work which it involved has been carried out by the Parks Subdepartment with the Council's own labour. The estimated cost of the job was £750, whilst the actual expenditure did not exceed £663. It is understood that another small plot of adjoining ground will be available at no very distant date, and it is to be hoped that the County Council will do their utmost to secure it also. Small as it is, the newest addition to the parks and gardens of London will be an inestimable blessing, for the nearest open space to which the public have the right of access—Regent's Park—is nearly a mile off. *W. Roberts.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CLEANING THE PLANTS.—Whilst there is a comparative little doing in the houses it is a good opportunity to examine every plant in the collection, and as far as possible get rid of all the insects infesting them, washing the pots, scrubbing the woodwork of the stages, and putting new labels to the plants. If the collection requires a re-arrangement, the present time affords the right opportunity for making it. Let attractive arrangement and tidyness everywhere prevail. In almost every Orchid collection a few unhealthy plants are to be found, and at this season, with its lengthening days and increasing sunlight, particular attention should be paid to these, with a view of improving their condition. The first thing to do to such plants is to remove them from the pots or baskets in which they have been growing, and place in as small a pot or basket as the roots can be got into, using just enough compost to steady them, and until such time as renewed activity takes place, very little water must be applied. The chief points to observe are the preservation of a genial temperature, the admission of plenty of sunlight, but shading them from hot sunshine.

CYPRIPEDIUMS.—There are few Orchids that brighten up our houses better in winter than Cypripedium insigne and its varieties, for when it is remembered that a flower will last in a fresh state for three months, these Cypripediums should, for this reason alone, be largely grown. C. insigne has always been a favourite amongst gardeners, a fact due to its vigorous constitution, and the ease with which it may be grown, thriving in almost any house from which frost is excluded, provided attention be given in the matters of watering and repotting when the soil has become stale. To prolong the flowering season of this species, it is a good plan to grow plants in the intermediate-house and in one of the cool-houses, for by so doing, an almost continuous floral display may be obtained from the beginning of November till early in the spring. The best season for re-potting the plant is at the end of the season of flowering; but unless the compost is sour or decayed, or a larger pot is needed, annual repotting is undesirable. As an instance of this, there is at Burford a large specimen of C. insigne, which has not been disturbed by repotting for the past eight or nine years, and yet it is healthy and blooms profusely. Cypripedium Leeanum ×, C. Spicerianum, C. venustum, C. Boxallii, and C. Arthurianum ×, may now be repotted with safety if greater space for the roots is needed. In repotting the plants, do not raise them above the rim of the pot, but keep the compost just below it, C. Spicerianum excepted, this one growing better when raised a little above the rim. The pots used should be well-drained, and contain a compost of rough peat and clean-picked sphagnum in equal parts, which will be found to suit all of them. Some gardeners prefer fibrous loam in the compost, but my experience has taught me that these plants do better without loam. Stand them in an intermediate-house, and when well-rooted into the new soil, they may be almost deluged with water the whole year round.

MILTONIAS.—Now is the best season for examining plants of Miltonia spectabilis, M. Moreliana, M. Stella, M. Bluntii, M. Lubbersiana, M. Clowesii, and M. Regnelli, and if more root space is needed by any of them, for repotting them. Any which have become bare in the centre may be broken up, dead roots and useless bulbs being removed with the knife, and the growing pieces made up afresh into new potfuls. In repotting these, make use of shallow pans for the dwarf-growing species, and pots for those of stronger growth; let the drainage be good, at least two-thirds of the depth being filled with small pieces of broken brick and clean crocks. As regards the sort of compost, I have tried several, and the best one consists of crocks and coarse fibry peat, with the particles of dust shaken out of it. Keep the plants well raised above the rim of the pot, with the base of the pseudobulbs just touching the compost. Those pieces which have but few roots to keep them steady must be pegged down to the compost, as the plants never succeed if not firmly fixed to the soil. Place the plants in the cool and shady part of the intermediate or Cattleya-house, and keep them moderately moist whilst growing, but when the flower-spikes appear, afford water more freely. An important point is to avoid injuring the small roots now pushing forth, or allowing insects to gnaw them. The insects which do this should be trapped with small pieces of Potato laid on the plants, examining them for insects during the evening, the last thing at night, and early in the morning.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

FIGS IN POTS.—The fruits on the early-forced trees as it reaches the flowering stage will be to outward appearance at a standstill, but no attempt should be made to unduly hasten their progress till this period is passed, after which they will swell rapidly, and soon come to maturity. Continue to keep the roots regularly supplied with tepid manure-water; syringe the foliage freely on bright days, and maintain a moist growing atmosphere at all times. Ventilation must be applied cautiously, especially when cold winds prevail, closing the houses early in the afternoon, so as to raise the temperature by solar heat to 80° or 85°. Pinch out the points of the strongest shoots, and reduce the number of fruits to an even crop all over the trees. Let the general temperature of the house range from 65° by night to 75° by day. Trees growing in inside borders, which were started at the new year, will require copious supplies of tepid water at the roots, and the syringe freely applied, especially on trees that have recently been root-pruned. Place a mixture of loam and partially-decayed manure round the collar of the trees to encourage the emission of roots, adding more material outwards as the roots extend, and by affording manure-water freely the fruit will be greatly assisted. Examine the roots of trees growing against walls in the late houses and sever all the roots which may have extended beyond the allotted space, making sure that none have gone down below the drainage materials. Weak growths may be shortened, but as the first crop of fruit forms on the extremities of last season's growth, this, if of any strength, should not be cut back. Wash the trees with soft-soap and water, afford the border a good watering, and top-dress with fresh loam and mortar-rubble.

GENERAL ORCHARD HOUSE.—The late severe weather was very beneficial to the trees, and the house, if provided with a heating apparatus, may now be closed and frost excluded. The pruning and training of the trees should be finished, and any of them which may be infested with insects thoroughly cleaned before growth commences. If American-blight be troublesome, all the infested parts should be dressed with petroleum emulsion, working it into affected places with a stiff brush, the point of which need only be moistened, care being taken that the buds are not damaged with the dressing; and go over the trees a second time in the course of a week or ten days. Brown-scale is often troublesome on Pear trees, and for this there is no better remedy than to syringe the trees with water heated to 130°; the stems and main branches may also be coated over with hot lime-wash, which when washed off by the daily syringings, will give the bark a clean and healthy appearance. Surface-dress the borders with fresh loam, and sprinkle a couple of handfuls of crushed bones round the base of each tree-stem, and lightly prick it into the soil with a hand-fork. Farmyard manure should not be dug into the border, this being of greater advantage when used as a mulching when the fruit is swelling. All Peach, Pear, and Plum trees in pots should now be brought under cover, or some of the early varieties may be retarded too long, and as many of these will soon burst their buds after a few bright days, the blooms would run the risk of being damaged by rain or frost. All trees should have been either top-dressed or repotted at the fall of the leaf, but where this was neglected, top-dressing may now be done, but postponing the potting for a season. Dislodge any worms that may have entered through the drainage, and arrange the trees according to the amount of space at command, placing each pot on a couple of bricks so ensure perfect drainage and the admission of air. Any trees that may have become too large, may be planted outside, and a young batch potted to follow on another season. Fire-heat should only be applied to exclude frost, and plenty of ventilation afforded at all other times.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SEEDS.—Advantage should be taken of the standstill in outside operations to look over the various sowings of vegetable seeds in pans, boxes, and pots. If, as is the case sometimes in unimproved glasshouses, they have been placed over the flues, with but a small space between them and the latter, the soil soon gets dry, and a frequent examination becomes necessary. Those that are dry should be immersed in the water-tank, if the same be of about the temperature as the house itself. Should the soil in pans or boxes be found to get dry too rapidly, interpose some boards resting on bricks, or a layer of sand or coal-ashes to counteract the effect of the dry-heat of the pipes and flues. Nothing is more injurious to seeds when sown than a too rapid drying of the soil. When the bulk of the seedlings in a pan appear above the soil, the piece of glass with which they have been covered should be removed; and the Brassicas, Lettuces, and others which get drawn if only left for a few days in strong warmth, placed in a house that is kept at a lower temperature, always remembering to keep them near the roof-glass. Where seeds through careless sowing come up too thickly, thin out many of these forthwith; and if tender plants, such as Cauliflowers, show a tendency to damp off, some powdered charcoal dusted over them occasionally will check this malady.

POTATO-ONIONS.—When frost and snow have at length disappeared, Potato-Onions will require attention directly the soil becomes in a workable state, first affording it a liberal dressing of soot, forking this into the upper crust.

SHALLOTS AND GARLIC.—One of the first jobs to be done is to get these bulbs planted. Do not choose a part of the garden under fruit trees, or where the leaves will become drawn owing to their being shaded, but one that is open and sunny, and in good heart. Plant the cloves of Garlic and Shallots in lines of about 10 inches apart, and 8 inches in the lines, merely pushing them in with the thumb and finger, the former rather deeper, taking care to keep the large variety of Shallot separate from the smaller. Soot is one of the best of manures for these two plants.

CHIVES.—Half of the stock of these plants should be taken up each year and divided, in order to obtain a sufficient supply of plants for making a new bed. If this be done every year or on alternate years at the farthest, and the roots planted in well-manured soil, the produce will follow that from those which have not been disturbed, the latter being then destroyed. If young Onions are required all the year round, well grown Chives may sometimes be substituted for them. After a season like the present, if

Onions are much in demand, it is economical to lift and place a few clumps of Chives in pots or boxes, and force them in gentle heat.

JERUSALEM ARTICHOKES.—Artichokes should be planted when the weather breaks. This is a crop that is sometimes pushed into any out-of-the-way shady corner, or planted in poor soil, and in some gardens grown in the same spot for many years in succession. The new white variety is an excellent one to plant; and for planting purposes the best-shaped tubers should be taken. A few of this variety, if well done, will turn out a fine crop of tubers. Choose a sunny, sheltered situation, good soil, and use a trowel or large dibber in planting, so that the tubers may go down at least 6 inches in the soil. The rows should not be less than 2½ feet apart, nor the distance between the sets less than 1½ foot.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

HIPPEASTRUMS (AMARYLLIS).—The main portion of these bulbs may now be started, and when a large number is cultivated, a house should be set apart for them. Any bulbs which are in pots too small for their requirements, will need re-potting. In doing this, most of the exhausted soil should be shaken from the roots, the latter uncoiled, and the bulbs re-potted into good fibrous loam, leaf soil, crushed toner, and sand, being careful to arrange the roots so that they occupy every part of the pot. The pots must be well drained, as this is very important. Bulbs which may be standing in 7 or 8-inch pots will not require re-potting, but they may have the surface soil removed, and be top-dressed with the same kind of soil as that used for potting. The stock of any variety may be increased by offsets carefully separated from the bulbs with the least possible injury to the roots. These offsets increase in size faster when attached to the parent plant, consequently should be left until several have formed, thus avoiding the necessity for frequent disturbance. The offsets should be placed in small pots. If the Hippeastrums are grown on bottom-heat as they should be, tanner's bark, or Oak and Beech leaves afford the best means of applying it. The pots may be plunged in a layer of Cocoa-nut fibre refuse for safety's sake, if fresh tan be used. Afford the bulbs water to wet the soil throughout, and keep the atmosphere of the house moist, syringing the bulbs twice a day. They will soon commence to throw up their flower-spikes, when liberal supplies of weak manure-water may be applied. New and lovely varieties are constantly being introduced, but some of older and less expensive varieties are well worthy of cultivation.

DIPLADENIAS.—These plants should now have attention. Those which, being planted out, have been kept rather dry during the winter, will have commenced to grow, and the growths should be taken down, shortened back, and the entire plant thoroughly cleansed. Then the exhausted surface should be taken away and replaced with fibrous peat, leaf-soil, and plenty of sand, raising it to the same height as before, affording it a thorough watering, so as to moisten the soil down to the drainage. Plants of Dipladenia growing in flower-pots, should be re-potted into pots one size larger, using the same kind of compost as the above. Plunge the pots in mild bottom-heat, in the warmest part of the stove, where the sunlight is abundant. The young growths should be fastened to lengths of fine string, placed close to the glass, so that the wood may become matured. When the flower-buds show themselves, the growths should be trained on a trellis, which has been some time before fixed in the pot, and kept turned round every few days so as to ensure evenness of growth. Cuttings of Dipladenias may now be made, choosing pieces of the young wood, and inserting them singly in tiny pots of sandy peat, plunging these in strong bottom-heat in a temperature of 70°, and covering them with a bell-glass. Dipladenias are excellent flowers when cut half expanded for bouquets, taking only the flower and footstalk.

TUBEROUS ROOTED BEGONIAS.—The tubers should now be examined, and any that have begun to make growth placed rather thickly in shallow boxes half-filled with light soil, or Cocoa-nut fibre refuse and sand mixed together, which mixture they root more readily in than in soil alone. Lay the tubers on the mixture or the mould, and cover lightly, but do not afford any water before roots push forth. The boxes may be placed in a vinery or Peach-house having a temperature of 55° to 60°, and syringed occasionally. In a few weeks, a good quantity of roots will have been put forth, and they will lift from the boxes with little balls of the sand and fibre, and should be potted into pots of good size, using a potting soil of loam, leaf-mould, a good quantity of spent Mushroom-dung and sharp sand. It is well to make the soil rather firm in the pots. The above does not apply to bedding Begonias, it being yet too early for starting those. I find Begonias that have been grown in pots during the summer invariably commence to grow before those taken from the beds. The seed of the Begonia it is intended to sow may be sown at about this date. Shallow pans or boxes are the best for the purpose, and the kind of soil that advised on p. 24. Seedlings now coming up must be shaded, and very carefully watered, too much water soon causing them to damp off.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

APPLES FROM SEEDS AND CUTTINGS.—Apple pips may be sown now, either for raising new varieties or providing stocks for grafting. If only a few choice kinds are to be sown, they may be put singly into small pots and grown under glass for a time, hardening them off in April, and planting them out in May; but if a large quantity of seed is to be sown, it should be sown out-of-doors on prepared beds, sowing the pips thinly in drills, and covering them ½ an inch deep, taking care to preserve them from the ravages of mice. Early in the autumn the seedlings may be lifted carefully and transplanted into rows at about 3 inches apart, and the rows 9 inches asunder, planting in fine, rich soil, and nipping off the end of the tap root at the time of planting. Cuttings put in at that season will root freely, and can, in a few years, be grown into useful bushes. Shoots of last year's growth should be selected as cuttings, if with a slight heel or a small portion of older wood attached so much the better, cutting them into lengths of about 10 inches, and inserting two-thirds of this length in the soil, all buds on the underground portion being cut out. Plant the cuttings firmly in rows 1 foot apart, and 4 inches between the cuttings on a border with a northern aspect, and afford a slight mulching of rotten leaves between the rows, which will tend to keep the soil from cracking during drying winds. [The Doucin or St. John's Apple and the Paradise grow very freely from cuttings, forming in two years good strong stocks fit for planting in shallow soils. ED.]

GRAFTING.—The clay for grafting purposes next month should be got in readiness at this season. To make this, take equal parts clay or stiff yellow loam, horse-droppings rubbed through a half-inch sieve, and fresh cow-dung; work the clay with water till it is of the consistency of mortar, then add the horse-droppings and cow-dung, well kneading, and mixing altogether. It should be kept under cover till required for use.

NETTING AND OTHER MATERIALS FOR PROTECTING BLOSSOM should be overhauled and put in readiness for the protection of the blossom of fruit trees on walls, &c. Where glass or other kinds of wall coping are in use, it is a comparatively easy matter to shelter the blossom by suspending fish-nets or curtains from the front of this; but where no such copings are provided, the best substitute will be poles laid so as to slant from the top of the wall to a point about 4 feet from the foot of the wall. These should be let slightly into the ground, and stood at about 5 feet apart. At the top a board of 9 inches in width should be tacked on, which will keep the blossom dry to a certain extent, as well as keep the poles in position. To these may be fixed any kind of protective material that is available, from worn-out fish-nets—either doubled or trebled answers well—or cotton shading, which is a first-rate protector, to boughs of Spruce or other evergreens; care must be taken with these last to make them secure, or the wind will displace them to the probable injury of the trees.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

GLADIOLUS.—The beds which will be planted with Gladiolus should consist of well-drained rich sandy loam, and their preparation should be got on with when the weather permits, as from the beginning of next month to the end of April is the best time to plant. The corms should be inserted at a depth of 3 inches, the first batch for early flowering being potted into 5-inch flower-pots, using a good rich soil for these; and as for drainage, there is no need for many crocks, one at the bottom sufficing with some turfy pieces of loam, and short manure placed over it. Put one corm in the middle of each pot, pot firmly, place them in an intermediate-house, and they will be ready to plant out by the middle of May. A dozen good varieties are Ambrose Verschaffelt, Eugène Scribe, Diamant, Formosa, Amathee Opale, Penelope, Seduction, Romulus, Le Pnaré, Hermione, Magnificus. A dozen of late-flowering ones are Fantome, Daphnis, Sultana, Conquérant, Aldebaran, Fatima, Delicatissima, Rayon d'Or, Grand Rouge, Leviathan, Grand Lilas, Eugène Souchet; and showy hardy species and varieties for planting in the borders are the scarlet-flowered Brenchleyensis, Rosy Gem, Favourite, Byzantinus, Cardinalus, Magnificus, President, Formosissimus, Beethoven, Eclipse, Cybèle, and Walmer. For late-flowering, Lemoine's seedlings are extremely useful; and the new giant varieties, G. Nanceianus, are remarkable for their length of flower-spike, size of flower, and brilliant colour. Beds of G. Colvillii alba (The Bride) which were planted in the autumn, should be kept well mulched with short manure.

TIGRIDIAS.—These beautiful summer-flowering bulbs should be planted in good soil in sheltered beds and borders when the ground becomes workable and warmer, planting them in holes of 2 inches in depth, and made firm at the bottom and the soil made firm all round them. Groups of six look well, as does also a bed of them planted at a distance of 16 inches apart. Tigridias are of no use for cutting purposes, only keeping open for one day; but the colours of the flowers are showy and pleasing. The varieties are pavonia, grandiflora, g. alba, speciosa, conchiflora, and canariensis.

HYACINTHUS CANDICANS should be planted in herbaceous borders, or in beds by itself, or where it may form the central object amongst dwarfer plants, where its tall spike of white bell-shaped flowers may be seen. It is also a useful plant for cutting purposes.

BABIANAS AND IXIAS should be planted in March in warm sunny borders of sandy loam and leaf-soil, planting the bulbs 3 inches deep and the same distance apart, mulching the beds with spent Mushroom-dung or the like. These plants are improved by affording them liquid-manure when in full growth. Care should be taken that the beds are well drained. With these summer-flowering bulbs, and requiring the same kind of treatment, may be classed Sparaxis tricolor, Tritonia crocata, T. aurea, Montbretia Potsii, M. Bouquet, Parfait de Feu, Transcendant, and other varieties. All of these are well worth growing or their Gladiolus-like spikes of brilliant coloured flowers

THE ROCK GARDEN.—Considerable attention will be required in this department as soon as the frost has disappeared sufficiently to allow of the various operations of planting and re-arranging not finished in the autumn being undertaken. I fear that many valuable plants will have been lost or much injured in gardens. Wallflowers, Aubrietias, Arabis, and other evergreen rock-plants, which may not have had a covering of snow, look as if they had been burned, but it will not be advisable to throw away anything, but wait, for those which appear to be killed may start afresh. They should, however, be examined, the quite dead parts being removed, and a top-dressing of new soil pressed round about them. Afterwards, in dry, mild weather, some amount of watering will be beneficial. When squeezing plants loosened by frost into the soil, take care not to injure small bulbous plants that may be pushing up to the light.

HARDINESS IN EVERGREENS.—There are often conflicting reports as to any particular variety of evergreen being hardy. In some cases they are said to resist any amount of cold; in other cases they are reported as dying under comparatively little frost; but in most cases, exposure has more to do with these results than low temperature. Almost all of the evergreens will grow together in woods or forests, or perhaps form underbrush, where they are somewhat protected from cold winds. A very large number of beautiful evergreens, now regarded as tender, would prove perfectly hardy when set out in groups together, or if planted where they would not be exposed to severe wintry blasts. Protection from wind is what they mostly desire. *Meehan's Monthly for February.*

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

MONDAY,	FEB. 25	Annual General Meeting of the National Chrysanthemum Society.
THURSDAY,	FEB. 28	Annual General Meeting of the Kew Guild, at 8 P.M.

SALES.

TUESDAY,	FEB. 26	Great Sale of Orchids, from Messrs. H. Low & Co. and Messrs. W. L. Lewis & Co., at Protheroe & Morris' Rooms.
WEDNESDAY,	FEB. 27	Great Sale of Lilies, Palm Seeds, and Tuberoses, at Protheroe & Morris' Rooms.
THURSDAY,	FEB. 28	Lilies, Gladioli, and other Bulbs, at Protheroe & Morris' Rooms. Clearance Sale of Greenhouses, Hot-water Piping, and Effects, at the Nurseries, Chadwell Heath.
FRIDAY,	MARCH 1	Important Sale of Orchids, from various Owners, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.4.

JOHN HUNTER.

JOHN HUNTER'S reputation as an animal physiologist and as a surgeon are so great that they have overshadowed his claim to be considered a botanist. Nevertheless, by the careful observation and comparison of living plants, from the humblest to the most highly organised that he made, HUNTER was clearly an excellent morphologist, and appreciated more clearly than his contemporaries the real significance of classification. HUNTER, moreover, showed the same remarkable aptitude for experiment in vegetable physiology that he did in the animal department. Alike in his inferences from gradually accumulating evidence, and his bold deductions from what was already known, he closely resembled CHARLES DARWIN. Many of the later naturalist's views were, indeed, something more than foreshadowed by the great surgeon. Few even among botanists are aware of what was done by HUNTER, and his name is not even mentioned by SACHS in his *History of Botany*. A cursory inspection of certain sections of the unrivalled Museum of the College of Surgeons, and of the descriptive catalogue, will suffice to show that, if HUNTER's work as a botanist was not extensive, it was deeply significant. The *Memoranda on Vegetation*, by JOHN HUNTER, reprinted in 1860 by the Royal College of Surgeons are mere memoranda, but they deal with the following subjects:—Heat of vegetables (*Phil. Trans.*, vol. lxv., 1775); notes on the growth of plants; formation and decay of leaves; effect produced by the partial or total removal of the bark; and there are records of various experiments on living plants. This aspect of HUNTER's work was treated on at considerable length by Mr. J. W. HULKE, the President of the College of Surgeons, in the Hunterian Oration delivered at the College on the 14th inst. The President was unfortunately precluded by ill-health from delivering his address, which was accordingly read for him by the ex-President, Mr. BRYANT. We deeply grieve to learn that, since this article was written, Mr. HULKE has succumbed to his illness. We venture to say that Mr. HULKE's brief sketch of HUNTER as a vegetable biologist, as exemplified in the following quotation, was as a revelation to many of the surgeons present. The address also passed in review HUNTER's better-known work as an animal physiologist, but to this we need not here do more than allude:—

"We meet to-day to commemorate the 166th anniversary of the birth of JOHN HUNTER, that remarkable man whose name in this college is as a living presence, who did so much, and with such great success, last century to raise surgery from the lower grade of an empirical handicraft, which it then too greatly resembled, to the dignity of a branch of science by basing the principles that should guide its practice on the combined foundation of anatomy, physiology, and pathology. His great achievements as a surgeon, his life-history, and his personality, have been so frequently dwelt on here that I can, without incurring the reproach of neglecting a pious duty, pass these by, and at once take up the theme on which I would speak to you to-day; its subject is JOHN HUNTER, the biologist, the sagacious investigator and interpreter of "Organic Nature." The overshadowing greatness of his zootomical work perhaps accounts for the imperfect recognition by so many of us of how much JOHN HUNTER also occupied himself in botanical research.

In one of several physiological papers, after discussing the agreements and the differences between that which he terms "common or original matter and animate matter"—or as we now should say, between inorganic and organic substances—and affirming the derivation of the latter from the former, for the reason that "animate is found to return to inanimate matter," he proceeds to analyse the resemblances and the differences of the matter of which animals and vegetables are composed. He restricts to vegetables the power of immediately converting common (i.e., inorganic) matter into their own kind. From this he draws the inference that "in vegetable seems an intermediate line between common and animal matter."

In his lectures on the "Principles of Surgery" he reviews the "accord" between the physiological endowments of vegetables and those of animals; he mentions that "self-moving power has been observed and is universally allowed in vegetables," and he adds that "this principle seems to be as much a property in vegetables as in animals." He illustrates internal mechanical work done within the vegetable tissues by reference to HALES' notable experiments on the rising of the sap in trees; and he contrasts the magnitude of the force employed in this movement with that exerted in the heart's systole.

Having defined irritability as the power of responding to stimuli by internal and external work, he calls attention to the visible movements of "whole parts of plants" as examples of this property. He adduces the movements of the leaves of the leguminous plant the Hedysarum gyrans as an example of the phenomenon; and he comments on an apparent analogy between these movements and those of respiration in animals suggested by their periodic repetition in both divisions of organic nature. Here he is, however, careful to avoid the error of attributing to these superficial resemblances an essential correspondence of function. With characteristic cautiousness he proceeds:—"This (i.e., the recurring leaf movements) is an action apparently similar to breathing in animals, though, perhaps, it does not answer the same purpose."

The circling movements of tendrils, as if seeking for a mechanical support, and their twining round this when they have come into contact with it, did not escape JOHN HUNTER's notice. Neither did he overlook the remarkable circumstance which characterises the twining of the stems of certain climbing-plants, viz., its constant direction for each plant. He cites the Honeysuckle (Lonicera), the Hop (Humulus) as climbers, of both of which he says, "Their stems turn to the left, whereas the stem of Clitoria (a Pea) and that of Convolvulus turn to the right."

Other instances of plants endowed with considerable powers of movement, such as the Dionæa, were cited by Mr. HULKE, and of plants which bend their leaflets in response to a coarse mechanical stimulus, and also to the subtle excitation of varying quantities of light incident upon them. The presence of feeble electric currents in a plant was also noted.

That plants, like animals, have "the power within themselves of producing or generating heat" did not, the orator continued, escape JOHN HUNTER's notice. He investigated also their power of resisting very low temperatures, employing, in some experiments, freezing mixtures, and noting the effects of these on succulent and on woody plants, and he found that the latter better resisted great cold. He also carried out a series of observations, prolonged over a year, on the internal temperature of trees relating to that of the external atmosphere. He mentions that he "read his thermometers at 6 o'clock in the morning, and again at the same hour in the evening," and he says that he was obliged to discontinue these experiments, because the sap froze in the holes bored in the tree trunks for the reception of his thermometers. He records that he was careful to allow a sufficient interval to elapse between boring the holes and inserting the thermometer in order that the heat generated by the friction of the gimlet might be dissipated; so he tells us also that he enclosed in a box the part of the thermometer projecting externally beyond the hole, and packed it in wool in order to protect it "against all immediate external influences of heat or cold."

HUNTER also made a series of thermal experiments on vegetable seeds similar to others he had made on eggs. We possess, also, short statements of his views concerning the influence of light on the production of the "green colour" of vegetables, on the changes undergone by the leaf in dying, on the natural decay of the vegetable tissues, on the morphology of the bud, and on "germination and generation in vegetables." I cannot now enlarge on his work in relation to these several subjects; nor is it necessary that I should do so, since the evidence adduced is more than sufficient to justify me in claiming for our great master that he was a very close observer, and an acute reasoner upon many of the phenomena comprised under vegetable physiology."

The Chinese Primrose.

THE variations in the Chinese Primrose, apart from their beauty, have great interest to the naturalist. That interest was naturally increased first by the discovery, and next by the introduction into cultivation, of the aboriginal plant from the mountains of Ychang. Previous to that, what we had were the descendants of cultivated plants obtained from plant-dealers at some of the seaports. As we have on various occasions treated of the history of this Primrose from the beginning until now, we need not go over the old ground, but merely remind the reader that the great interest in the variations of this plant up to the present depend on the circumstance that they are seedling variations from the species itself, and not the result of crossing with allied species (see *Gardeners' Chronicle*, January 26, 1888, p. 115; November 15, 1890, p. 564; and A. H. Sutton, March, 1891, *Journal of the Royal Horticultural Society*, vol. xiii. p. 99). All the manifold variations, in size, form, colour, alike of flower and of foliage, are "specific," not "hybrid variations." It is extremely interesting also to learn that, up to the present, Messrs. SUTTON, who have a stock of the wild form, have been unable to cross it with any other. The plant for the present remains with them an irreclaimable savage, refusing to consort with any out of its tribe. No doubt such civilising missionaries as the Messrs. SUTTON will not be long before they overcome this reluctance, and the "blood of the noble savage" will before long be apparent in many a new form. Messrs. CANNELL, it is said, have been more

fortunate, and have already succeeded in raising a very remarkable form, with as many as seven tiers of flowers one above another. This great vigour is a known indication of hybridity. The form of the calyx in Messrs. Cannell's plants is certainly like that of the wild plant.

Fig. 32.—Althæa ficifolia.

Our present object, however, is to call attention to a peculiar variety, which we first met with in 1887 at Messrs. Carters' nursery. This was a form which we may conveniently call the Ivy-leaved variety, the oblong leaves being not only more glabrous than usual, but dividing into broad deltoid-lanceolate entire lobes, as in some Ivies. From the time we first saw it in 1887 we have occasionally met with it in various collections; but it was not until a recent meeting of the Royal Horticultural Society that we saw it in flower in the collection of Messrs. Sutton. On that occasion the Reading firm showed several plants of this variety, the leaves of some of which showed a tendency to become fimbriated at the margin towards the base of the leaf, so that whilst the distal side of the leaf was marked with deep entire lobes, the basal portions were cut up into fine fringe-like lobules, as in triple-curled Parsley (see fig. 31, p. 233). Even more interesting was the fact that several of the plants were in bloom, and each showed the same general floral characteristics, that is to say, the calyx was distended, obscurely and irregularly lobed; the limbs of the corolla divided into four oblong acute segments of a pinkish hue, the throat being yellow. The stamens, like the style, were both included within the tube of the corolla.

The late President of the College of Surgeons.—Our leading article will show why we make mention in these columns of a gentleman who was not known in the horticultural world, and only slightly so among botanists. Nevertheless, in his early days John Hulke was interested in botany, and we have specimens collected by him in the sand-hills near Deal; and many were the botanical rambles near London in old student days which the present writer was privileged to share with the late eminent surgeon. During the Crimean war Hulke was at Smyrna, as well as at the front, and sent home a few specimens from the then little-known district of the Crimea. Hulke received his medical education at King's College, and was noted for his unremitting diligence as a student. The same conscientiousness and unswerving devotion to duty characterised his whole career. Although as a pupil of Bowman he rose to eminence as an ophthalmic surgeon, he deprecated specialism, and following in the wake of his master, Ferguson, practised general surgery to the last. It is not for us, in these columns, to follow his career at King's College at the Ophthalmic Hospital, and at the Middlesex—a career which culminated in the Presidency of the Royal College of Surgeons, but we may more appropriately allude to him as an eminent geologist, and the discoverer and describer of many Saurian remains from the Isle of Wight, discoveries that led to his election at one time as President of the Geological Society. No trouble or self-sacrifice was too great for Hulke when in charge of an anxious or difficult case, and a journey from one quarter of London to another in the middle of the night to visit some hospital patient was no unusual occurrence, and sometimes induced the resident surgeons to wish their superior officer had been a little less particular. It was this conscientiousness that brought about his death. Only a few nights before the day fixed for the delivery of the Hunterian Oration, Hulke had occasion to visit a hospital patient in the night during the recent severe weather. The result was pneumonia, and death. Did ever soldier or martyr die a nobler death?

Althæa ficifolia is a very old inhabitant of our gardens, having been introduced, so the books say, as long ago as 1597. Nevertheless, it is not so widely known as its merits warrant. It is a native of the Levant. It attains a height of about 7 to 8 feet, with deeply-lobed, Fig-like, rugose leaves. The flowers are of a beautiful sulphur tint, becoming metallic-green as they fade. The stamens are yellowish-cream-coloured. It is a hardy perennial, and may be grown under the same conditions as the Hollyhock. Our illustration (fig. 32) was drawn by Mr. W. G. Smith, in the Royal Gardens, Kew.

The French Academy of Sciences.—M. Guignard has been elected member of the botanical section, in the room of the late M. Duchartre, by 29 out of 57 votes, M. Baillon obtaining 11, M. Prillieux 8, M. Bureau 4, M. Cornu 3, M. Renault 1, and M. Zeiller 1. M. Guignard is known as an anatomist, and specially for his researches on the composition of the cell-nucleus.

Hardy Bamboos.—One of the most interesting new departments at Kew is the Bamboo garden, already mentioned in our columns. It is in a dell well-sheltered by surrounding trees; nevertheless, it was with some apprehension that we paid it a visit a few days since. It is, of course, full early to ascertain what damage the prolonged frost may have

done. Nevertheless, the general impression we gained was hopeful. Very few of the plants seemed much injured, and these included Arundo Donax, which will probably shoot up from the base and Miscanthus sinensis, killed to the ground. Among those slightly injured are Phyllostachys aurea, Arundinaria Fortunei, A. Simoni, A. Hindsii, Bambusa aurea, B. chrysantha. The following species appear to be uninjured, but may show injury later on: Phyllostachys Quilloi, P. nigra, P. viridiglaucescens, P. Kamasasa (broad-leaved), P. nigropunctata, P. bambusoides, Miscanthus Lachiku, Bambusa heterocycla, one specimen of which shows the curious oblique nodes represented in our columns at p. 561, Vol. xiv., 1894. Arundinaria Veitchii, a form with broad leaves and marginal variegation, the same as, or near to, Bambusa senanensis. Arundinaria japonica, better known as Bambusa Metake, is apparently quite unhurt; so are Bambusa tessellata, *alias* B. Ragamowskii, B. palmata, and B. pygmea.

The Kew Guild.—The annual general meeting of this association will be held in the garden library at Kew on Thursday evening, February 28 next, at 8 o'clock. Members who are unable to attend are requested to send contributions for the *Journal*, to be published in May, or any suggestion they may desire to make with respect to the Guild, to the Secretary, Mr. J. Aikman, Whitestile Road, Brentford.

Fructification of Jubæa spectabilis in France.—Experiments in naturalisation lately made in France, with the encouragement and aid of the Socié.é d'Acclimatation, yield from time to time results theoretically interesting, and likely afterwards to be of practical value. Thus, readers may be interested to learn that this year there has flowered and fruited for the first time in France the great Peruvian and Chilian Palm, Jubæa spectabilis, an important sugar producer in its native habitats. The tree which fruited at Antibes is over thirty years old. Its height below the crown of leaves is about 5 and mètres (or 16 feet), and its mighty stem, glossy smooth from the base of the leaves, measures, at the height of a man, 4 mètres (13 feet). The crown of leaves is not in proportion to the thickness of the stem, as it does not exceed that of the Date Palm, and is less widely spreading than that of Phœnix canariensis. Our tree, says M. Naudin, produced two flower-spikes springing from the axil of last year's leaves, about 1 mètre long, and each bearing several hundred flowers, the males with 15 to 20 stamens, and situated on the upper part of the panicle, the females on the lower part. This species is, therefore, monœcious, and needs no artificial fertilisation. The fruits are almost spherical, with a short swelling at the summit; they attained maturity about the end of September and beginning of October. Their size is that of a small Apricot, and the colour rather pale yellow; they are composed of a stringy, not edible, husk, and a large seed with a hard shell, and rather oily kernel, with a flavour suggesting that of a Hazel-nut. In the seed-covering were noticeable the three holes characteristic of the Cocoa-nut tribe, and through one of which the radicle emerges. When the seed is ripe the husk splits, and the seed escapes. Jubæa is one of the hardiest Palms known, and in this respect is almost equal to the Chamærops of Southern Europe. It has also another advantage: it flourishes in dry soil, if this is of a certain depth, and is able, unlike the Date Palm, to dispense with watering, and therefore grows where the Date does not thrive without expensive artificial irrigation. The utility of Jubæa as a sugar-producer is well-established, and the cultivation of it in its native habitat is an important source of revenue. Unfortunately there is often long to wait, even from twenty to thirty years, and, like other trees, it is planted for posterity. As compensation, it lasts for a century, needing no attention beyond the extraction of the sugary sap, cutting the racemes before flowering, or harvesting the flowers if the sugar is not extracted. It should be understood that if cultivation is undertaken, it can only be in Algeria and other places of the same latitude and climate. In France the great Chilian Palm is but a curiosity or ornamental tree. *Ch. Naudin, in the "Revue des Sciences Naturelles Appliquées," November* 20, 1894. [There is a fine specimen in the Palm-house at Kew.]

A New Asylum for the Borough of Sunderland at Ryhope.—The Visiting Committee of the Asylum have, with the Borough engineer (Mr. R. S. Rounthwaite), for some time past been considering the best arrangement for the laying out of the extensive grounds adjoining the new Asylum at Ryhope, and have just accepted the tender of Messrs. Wm. Fell & Co., nurserymen, of Hexham, whose plan they have preferred for the laying out of the grounds, the supply of ornamental trees, and the planting of the same. We understand, that a condition of this contract, local labour only, as far as practicable, shall be employed, but for the present the frost prevents the work from being begun.

Southampton.—An extra meeting of the Shirley and Surrounding Districts Gardeners' and Amateurs' Mutual Improvement Association, was held at the School-room, Highfield, Southampton, on the 15th inst., when the Rector, Rev. Edgar Silver, M.A., presided over a rather small attendance of the members. Mr. E. Molyneux, Swanmore Park Gardens, gave a lecture on the "Chief Points in Vegetable Culture," especially addressed to allotment holders and cottagers; and by way of illustrating what might be done gave a list of vegetables he saw growing on a prize allotment in his own district during the last summer. After some questions were asked, a hearty vote of thanks was accorded to the lecturer, and also to the rector for his kindness in presiding. The ordinary monthly meeting was held at the Parish Rooms, Shirley, on the 18th inst., the President presiding, when Mr. Bartlett opened a discussion on frost and snow, and its advantages and disadvantages to horticulture. A vote of thanks was accorded to him at the close of the meeting.

Birmingham Gardeners' Mutual Improvement Association.—At a recent meeting of this Association, Mr. A. Coombes, gardener to the Dowager Countess of Dudley, Himley Hall, read an interesting and practical paper on the "Tomato and its Cultivation." Referring to the usual mode of exhibiting Tomatos—i.e, fruits singly—he suggested that prizes should be offered for the fruit as grown in the bunch state, the better to test the merits of the fruit and the practical ability of the grower, a suggestion that met with the unanimous acquiescence of the audience. In the discussion which followed, Mr. James Deans observed that in a trial-growth of several varieties, he found that one named Optimus, was superior to Chemin Rouge, which latter is apt to colour somewhat irregularly. An interesting debate followed.

Alleged Impurity of American Clover-Seed.—Referring to an article recently published in prominent English journals, entitled "Seeds or Weeds," which was calculated to convey the impression that American Clover-seed is much more impure than that raised in other countries, Mr. Coville, Botanist of the Department of Agriculture, thus expressed himself to your reporter:—"The Department," he said, "is at present engaged in the preparation of a bulletin upon the subject of American Clover-seed, and pending its completion and publication, I may say that it is a fact, well known and admitted by leading European importers, that American Clover-seed in general maintains a higher standard of purity than that from any other country in the world. This is owing largely to the fact that American seed-cleaning machinery has reached a higher state of perfection than that of other countries. As nearly all the American seed that goes to Europe is sold upon samples, the buyer may obtain seed of whatever grade of purity he desires. No doubt, as a prominent American shipper has said, 'Qualities will be furnished to fit the intelligence and conscience of the buyers,' but the responsibility for placing a low grade of American Clover-seed in foreign markets rests upon the importer. Moreover, it frequently happens that American Clover-seed of a high grade is mixed with seed of a very poor quality after reaching the foreign market, and this mixture is retailed by unscrupulous dealers as American seed. Undoubtedly the opposition to American Clover-seed in foreign quarters is due to the fact that for several years its importation has been so great as to excite the alarm of some foreign producers, lest American seed should crowd theirs from the market; on the other hand, is not our constantly-increasing export of Clover-seed pretty good testimony as to its high quality? At the same time this evidence of jealousy on the part of foreign producers, should make our exporters doubly careful as to the high quality of the seed shipped, and orders for inferior grades or impure seed from foreign dealers should be resolutely refused." *United States Department of Agriculture, Division of Records and Editing, Washington, D. C., January* 22, 1895.

Kew.—The number of persons who visited Kew in 1894 was, according to the *Kew Bulletin*, 1,377,588. The average annual number of visitors is now about a million and a half.

"Botanical Magazine."—The plants figured in the February number are:—

Richardia Pentlandi, t. 7397, Watson, in *Gardeners' Chronicle*, 1892, ii., 123, and 1894, i., 590.—A species with stalked cordate oblong acuminate leaves, and spathes like those of the common Richardia æthiopica, but gamboge-yellow instead of white, rugulose on the inner surface, and with a purplish blotch at the base. The spadix is relatively very short. Kew.

Aphaerema spicata, Miers, t. 7398.—A South Brazilian plant, discovered by Mr. Weir when collecting for the Royal Horticultural Society. It has a singular but entirely superficial resemblance to Clethra alnifolia. This plant, however, is herbaceous, and the long tapering spikes of flowers are yellow. The genus belongs to the Samydaceæ.

Aloe brachystachys, Baker, *Botanical Magazine*, t. 7399.—A tree Aloe from Zanzibar, whence it was sent by Sir John Kirk. The leaves, arranged in a tuft at the end of the stem, are linear lanceolate, toothed at the edges. The flower raceme is covered with boat-shaped membranous bracts, from which emerge slender pedicels bearing each a narrow cylindrical nodding flower, pink, with greenish-yellow lip. Kew.

Cephalanthus natalensis, Oliver, t. 7400.—A South-east African shrub, with hairy branches, small opposite lanceolate leaves, and decurved globular heads of flowers, 1 to 1½ inch across. Each flower is rather less than an inch long, trumpet-shaped, five-lobed, purplish. The fruit is said to be edible. Kew.

Musa Hillii, F. v. Mueller, t. 7401.—A tropical Australian species, with a tall stem, linear oblong leaves, erect spikes, boat-shaped yellow bracts, and monœcious flowers. Fruits ovoid, more or less three-sided. Seeds very numerous. Kew.

The Royal Horticultural Society of Southampton.—We have before us the 33rd annual report and statement of accounts of this successfully-managed society, the President of which is Sir Samuel Montague, Bart., Chairman of the council, Alderman W. H. Rogers, J.P., and Managing Secretary, Mr. C. S. Fuidge. Although there is a small deficit on the ordinary account, the society is in a better financial position than it has been for several years. Had it not been for the very unfavourable weather on the first day of the summer show, and on the second of that of the Chrysanthemum show, there would doubtless have been a good balance on the credit side. The income from all sources amounted to about £1144, and expenses about £1109. The amalgamation with the Cycling Club in a joint show and athletic fête on Whit Monday proved a successful venture, being attended by more than 12,000 persons. On the August Bank Holiday, 20,000 persons visited the show, of whom 17,000 paid for admission at the gate. The popularity of the Chrysanthemum show was shown by the large attendance on the first day, when 4500 persons paid for admission. For the success of these shows

the society is much indebted to those patrons who placed liberal donations towards the prize fund at the disposal of the council. The society is conducted on what are termed popular lines, the management being in no way troubled with qualms of conscience in associating horticulture with ballooning, athletics, fireworks, cycling, and the like out-of-doors pastimes. It affords amusement and recreation for all who care to visit the shows, especially the one held on the August Bank Holiday; and in certain directions it encourages good gardening with doubtless excellent results. What is chiefly wanted at the present time is a greater number of new men amongst the exhibitors, the best prizes seeming to us to fall to nearly the same lot of men every year, a fact that will in time tend to the discouragement of exhibiting.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE." This work, so often spoken of in our columns, has now reached the article Laitue (Lettuce). It is a translation of NICHOLSON'S *Dictionary*, with many additional illustrations and articles.

SEED ORDERS AND SEEDSMEN.—A correspondent, with evidently a wholesome apprehension of the dangers of delay in connection with the execution of seed orders, writes, "You will confer a blessing upon us poor seedsmen's assistants if you will kindly urge upon your readers the advantages which fall to those who are buyers of seeds if their orders are sent forthwith, and not held over, as is the usual custom, until mild weather ensues, which means a very great increase to our labours. Practically we are at the moment idly waiting for the work which will overwhelm us directly the frost goes. I do not write for the benefit of my firm in particular, but for the entire seed trade.

"THE NATURAL HISTORY OF PLANTS."—The tenth part of this excellent cyclopædia of vegetable physiology, published by Messrs. BLACKIE, is mainly occupied with the devices and contrivances by which undesirable insect visitors are deterred, and desirable guests allured to the flower. It is a chapter of abounding interest to plant lovers and gardeners.

THE STUDENT'S ENGLISH DICTIONARY, by JOHN OGILVIE, as newly revised by Dr. CHARLES ANNANDALE, and published by BLACKIE & SON, Old Bailey, may be confidently recommended to young gardeners and garden libraries as an excellent and comprehensive dictionary. It is in comparatively small compass, and is published at a relatively low price (*7s. 6d.*). It is intermediate in character between a school dictionary and a bulky lexicon. It is illustrated by numerous small, but clear woodcuts. The botanist and gardener will hardly look to this dictionary for information on their specialties, and this makes us think that it would have been better to have omitted such very inadequate explanations as are given, as for instance under "Akee" fruit, "Cactus," and "Yucca." A key to noted names in fiction, a guide to literary allusions, a list of English and American authors, pronouncing vocabularies, translations of commonly used phrases from foreign languages, and various miscellaneous information, combine to render this work a miniature encyclopædia.

TADCASTER PAXTON SOCIETY.—At a well-attended meeting of this Society, held on Thursday evening, February 14, an excellent paper was read by Mr. MCINTOSH, of York, on the "Cultivation of Chrysanthemums." The paper dealt at some length on the pinching-back system, as applied to plants intended to be used in masses together and groups. Much interest was taken by the audience in the subject-matter, from the fact that the author is a well-known Chrysanthemum grower and exhibitor in York. The chair was occupied by Mr. H. BROMET. A hearty vote of thanks was accorded to Mr. MCINTOSH for his paper.

EDINBURGH BOTANICAL SOCIETY.—This Society met on the 14th inst. at St. Andrew Square, Edinburgh, with a fair number of members present. Surgeon-Major H. H. JOHNSTON was proposed to occupy the chair, afterwards occupied by Mr. LYMINGTON GRIEVE, Vice-President. The principal paper read was that by Surgeon-Major H. H. JOHNSTON, being a "Report on the Flora of the Outlying Islands in Mahébourg Bay, Mauritius, with Exhibition of Specimens Collected." Thirty-eight species were found upon the six islands visited, which consisted of seventeen Dicotyledons, ten species Monocotyledons, and eleven Cryptograms. On one island a species of Pandanus, probably P. vander Maerschii, the collector was informed by the lighthouse-keeper had been abundant upon the island, but had been cut by the fishermen for fire-wood, only one specimen remaining at the time of the collector's visit. The reader was awarded a hearty Vote of Thanks for his valuable contribution. Dr. W. CRAIG read the report of the Scottish Alpine Botanical Club's visit to Tyndrum in August, 1894, mentioning many plants of interest collected by the members. A Vote of Thanks was passed for the communi-

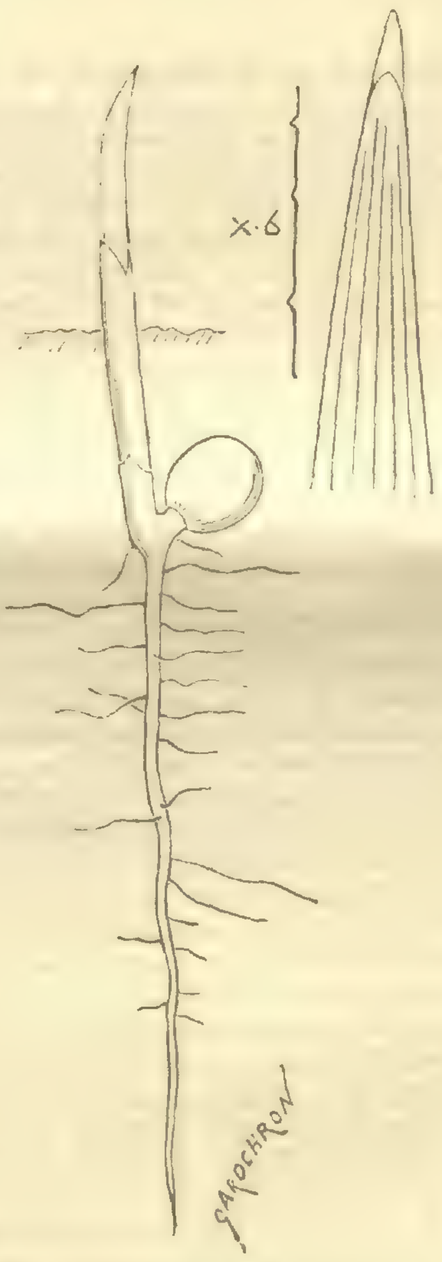


FIG. 33.—GERMINATION OF OREODOXA REGIA.

cation. From the Royal Botanic Gardens, Mr. LINDSAY showed branches of Ericas split by frost; and mentioned in his report on the vegetation, that not a single plant had flowered outside during January, while, in the corresponding month of last year, twenty had been in flower. Mr. R. L. HARROW gave a series of notes on plants in the houses of the Royal Botanic Garden, and exhibited several specimens. In the meteorological observations taken by Mr. A. D. RICHARDSON during the month of January, the following are a few of the principal items:—The mean reading of the barometer reduced to 32° for the month was 29·671 inches, being 0·085 inch below the average for the month of January for the past four years. The highest temperature registered in the screen was on January 18, when 40·7 was read, the lowest was on the 10th, when 15·4 was reached. The mean of the month being 31·6°, or 5° below the average for January for past four years. Frost occurred on 25 days, on the grass on 30 days, the minimum being 10·8°. The total record of sunshine was 34 hours 55 minutes. The total rainfall for month 1·850 inch, the greatest fall for twenty-four hours occurred on the 17th, this being 0·280 inch. The meeting then adjourned until March 14 next.

"MEEHAN'S MONTHLY" for February has an illustration showing what may be done on the leads of a house-top. In this situation a large tank is placed, covered by a glass roof, and in the tank Water-Lilies, such as Nymphæa zanzibarensis, capensis, rosea, dentata, and others, are grown so well, that many of the leaves are 16 inches in diameter, and the flowers are produced continuously from June to November. In the case of the Lilies which close at night, Mr. BINGHAM, the proprietor, passes a circlet of wire round the base of the stamens, and passes this wire between the petals to fasten it around the flower-stalk.

M. TRUFFAUT.—French horticulture has lost one of its most distinguished representatives by the decease of M. TRUFFAUT, of Versailles, at the age of seventy-eight. M. TRUFFAUT was highly appreciated by his friends on this side of the Channel, and their sympathies will be extended to his son, the present head of the firm, and to his grandson, who, marching with the times, has had the wisdom to base his practical studies on the sure basis of vegetable physiology.

CATASETUM.—The two numbers of the *Lindenia* for January and February of the present year are devoted to the description and illustration of various species and varieties of Catasetum. As we shall have occasion to recur to this remarkable monograph at a future time, we do no more at present than call attention to it. The French edition is already issued, and the English version will speedily follow. We commend it to all Orchid lovers.

PROFESSOR GREENE, of the University of California, who visited us last autumn, has accepted the Chair of Botany in the Catholic University of Washington. Professor GREENE intends, however, to continue his work in connection with the botany of California.

PUBLICATIONS RECEIVED.—*Index seminum in hortis Musaei Parisiensis, anno* 1894 *collectorum.* Exchange list of seeds. Apply to the Director of the Muséum d'Histoire Naturelle, Rue Cuvier, 57, Paris. —*Delectus seminum quæ hortus Botanicus Universitatis Rheno Trajectinæ pro mutua commutatoine offert.* Exchange seed list, Botanic Garden, Utrecht (J. K. BUDDE, Curator).—*Delectus seminum*, St. Petersburg Botanic Garden, Director M. BATALINE.—*Delectus seminum*, Cambridge, R. IRWIN LYNCH, Curator.—*Royal Botanic Gardens, Glasnevin.* List of seeds for exchange.—*Bulletin of the Botanical Department, Jamaica.*—*Transactions of the Scottish Horticultural Association.*—The *Album*, a journal of photographs of men, women, and events of the day. *Illustrated London News* Office. An excellent series of photographic reproductions.

SEEDLINGS OF OREODOXA REGIA.

A QUANTITY of seeds of this Palm were planted, and thirty-eight to forty days afterwards one-half of them had germinated, whilst the other half (52 per cent.) delayed for another twenty to thirty-two days, when they also germinated. The seedlings (fig. 33) have but a very short hyporcotyle, the hypoblast is situated next to the seed. The first root is slender, and at a very early age beset with young horizontal secondary roots. Adventitious roots issue from the hypoblast as soon as the third leaf appears. The first three leaves are sheath-like, of about 2 lines, 1 inch to 2 inches in length. The fourth leaf has a folded blade of about 10 inches in length

by 7½ lines broad. It has five nerves, a minutely-toothed margin, and a sharp cartilaginous apex. I received the seeds from Buitenzorg, through the kindness of Professor Treub, so that there is no doubt about their being true to name. *Dr. Udo Dammer, Friedenau, Berlin.*

CULTURAL MEMORANDA.

EUPHORBIA JACQUINIÆFLORA AND ASPARAGUS PLUMOSA.

WHERE there is space at command in a house having a night temperature in the winter of about 55°, the two above-named plants may be grown to perfection. In an intermediate house with this degree of warmth, the plants of Euphorbia might be planted out in borders as well as cultivated in pots for various purposes. My plants stand on a side stage, and over the hot-water pipes, a bed about 8 inches deep and 1 yard wide being formed of fibry loam, leaf-mould, and sand, with plenty of finely-broken charcoal and bone-meal, a compost that suits the plants admirably. Great care must be taken not to over-water the Euphorbia at any season, or it will succumb. I prefer planting one-year-old plants, which have been grown in pots, these being strong to start with, and sure to yield a number of flowering shoots by the end of the season. Old plants of Asparagus, if taken up and divided into middling-sized pieces, answer well for planting, and it is a good way of propagating the plants, and I renew the bed and plants every second year. Mature shoots of Euphorbia may be planted in the month of March, cutting them into lengths of 6 inches, and planting firmly in the bed of soil in rows, a little extra space being allowed for the Asparagus. A few pieces of wire, separated from each other by about 1 foot, may be stretched the length of the bed to which to fasten the growths, which should be laid in regularly. When the exhaustion of the soil shows itself in weaker growth, a top-dressing of Thomson's Plant Manure should be afforded and well watered-in. The combination of the two plants forms a pretty feature during the flowering season, the Euphorbia growing luxuriantly, and producing very fine sprays of its brilliant-coloured flowers, that are well set off by the Asparagus. The one side of the house need not be entirely occupied by these, as by using pieces of slate under the pots other plants may be arranged on the border. I remarked about renewing the bed and plants every second year. My meaning is, that that I dispense with the old plants of Euphorbia because I find younger plants give better results. The Asparagus plants are utilised again. *Herbert May, Markree Gardens, Sligo.*

VIRESCENT HELENIUM.

In the course of last autumn a correspondent obligingly sent us a specimen of an Helenium, possibly H. autumnale, in which not only were the corollas green, but some of them were also prolified, so that a branchlet appeared to proceed from the centre of the flower. The nature of the change will be obvious from the illustration (fig. 34, p. 241). The whole flower was green, showing once more how little essential difference there is between leaf and flower.

HOME CORRESPONDENCE.

DAPHNE MEZEREUM—I note in the list of trees and shrubs growing at Markree Castle (p. 168), a reference is made to the refusal of this deciduous shrub to grow. In the garden here almost the same difficulty is experienced; the plants make hardly any progress, in spite of the compost being prepared with peat, leaves, and loam. In several cottage gardens, close to us, this plant flourishes, I may say amazingly, considering the barbarous manner they are pruned. An ordinary bill-hook is employed to remove almost the whole of the head. In spite of this treatment, new growth is quickly made, and abundance of blossom is put forth in a very short time, as if nothing had happened. *E. M.*

HYBRID CYPRIPEDIUMS.—In your list of hybrid Cypripediums, there is an error which I shall be glad if you will give me an opportunity of correcting. The name Lewis is given as the raiser [or introducer] of Cypripedium rubrum (venustum × Hookeræ). I cannot think Messrs. Lewis have intentionally given their names to anyone as the producers of this hybrid. I raised it, and exchanged a plant with them after it had been shown at a meeting of the Royal Horticultural Society. I see also the name Burton put to the hybrid Lowi and Hookeræ. This is a mistake. It is the same plant as rubrum. The late Mr. W. H. Gower, on my sending him a flower, suggested calling it Burtoni, as he considered it so distinct; and he said he thought Lowi was one of the parents. I replied it had already been shown at a meeting of the Royal Horticultural Society as rubrum, and I did not feel at liberty to alter it. *F. M. Burton, Highfield, Gainsborough.* [If our correspondent will kindly refer to the list, he will find that the column is headed introducer *or* raiser, and our reasons for doing so are stated. No doubt the publication of the list will serve to clear up some of the history of these plants. ED.]

THE POSITION OF GARDENERS.—It would be highly interesting to see published *bonâ fide* statements of the opinions of gardeners as to the articles on the education of gardeners now appearing, and similar articles which appear from time to time. I do not mean the opinion of men who have made their name and position, and perhaps also their money, and can therefore afford to dictate with calm indifference to any practical outcome. Horticultural journals persist in theorising, while they ignore the painful truth, that there are everywhere large numbers of qualified gardeners of good character who cannot obtain suitable employment, far less situations; there are also a considerable number who are compelled to accept and remain in situations at inadequate remuneration, besides other and even more serious disadvantages. I possess most of the qualifications detailed in the article in question, including a knowledge of Greek, which I consider of more value than the writer infers. I have had twenty-four years' experience in all grades from apprentice to head gardener; yet, I am obliged to carry on an establishment, which normally should employ a staff of ten, with less than half that number, and at a wage about equal to a good labourer's. My case is unfortunately a common one at the present time. Theorizing as to qualifications will not alter the facts, nor improve the cases of those so unfortunate. Years of consideration, and a wide knowledge of situations of all classes, convinces me that the first real step towards improvement will be some system of registration of gardeners, so that identification may be at once simple and certain. I cannot see that this need be so difficult as is frequently supposed. The existing horticultural directories could be taken as a basis. Let a committee of the horticultural press undertake a revised edition of one or other of these directories, which would include every head-gardener in the country, and also single-handed if his situation had certain defined merits. All who use these directories as they are, know that they are quite unreliable as a register of gardening establishments. If the useless matter were taken out of them, a directory on the lines indicated would not occupy greater space than at present, and would at least be evidence that a man had really held a situation as gardener. The compilation could best be undertaken by a local gardener in each district, who in most cases would furnish the necessary information gratuitously, and revise the proofs before finally going to press. Even if such a directory cost a little more than the price hitherto charged, its universal value to all concerned with horticulture would ensure its wide acceptance, and I earnestly trust the matter will be taken up without delay. *J. Trotman, The Gardens, Forest Park, Windsor.*

CRACKING OF MADRESFIELD COURT GRAPE.—I do not think that most cultivators of Grapes will agree with "F.R.H.S.'s" statement at p. 39, that the best way to grow this variety is in pots. No trouble need be experienced from the cracking of the skin if the lateral shoots are properly regulated, and the atmospheric condition of the vinery is what it should be. He would, indeed, be a bold man who asserted that equally good produce could be had from Vines in pots as from those in borders. I regard Madresfield Court as a most accommodating variety, for if close-spurred single rods are employed, or two or three rods are taken from one stem, or the Vines be trained so as to fill a house, it is usually attended with good results. Mr. Meredith, when at Garston, well exhibited its accommodating nature in this respect. With one Vine of this variety he filled an entire vinery, and this one, if I remember rightly, had an eastern aspect. His successors at Garston extended the branches of this Vine into an adjoining vinery. I have seen larger bunches and berries than those that were cut from this Vine, but not any of better average quality, having regard to all points that count in a good Grape. The worst examples of Madresfield Court which have come under my notice were cultivated in low, narrow vineries, with rafters of about 10 feet long. The Vines were closely planted. The bunches and berries were of fair size, but nearly every one was cracked. The roots of these Vines were confined in narrow borders. Madresfield Court Vine seems to require large borders, not narrow ones, and certainly not pots or tubs; and plenty of space is wanted for the shoots and foliage. Our Madresfield Court Vines are upon their own roots, and the rods 15 feet long, which allows space for its ample foliage, and the fullest extension of side-shoots. This last detail is, in my opinion, an excellent preventative of the disastrous splitting of the berries. There are gardeners who seem afraid to afford moisture in sufficient quantity to the roots, and the result of this is the berries do not attain their proper size and colour. To allow a Vine border to become very dry and then saturate the soil with water, is never conducive to success in Grape growing, and would lead to the splitting of the fruit. The skin of this Grape is thin, and not able to bear a sudden increment of sap consequent upon saturation following dryness at the root. There need be no fear of anything occurring to Madresfield Court Vines, provided the watering of the soil is done with regularity, the Vines allowed to carry ample foliage, the atmospheric conditions are not abnormal, and no great fluctuations of temperature or of dryness and moisture causing a moist deposit on the berries when these are cold. Buoyancy of the air in the vinery is the most important point of all in the prevention of splitting; a hard-and-fast rule as regards the temperature is not necessary, but fluctuations of heat and cold are a sure forerunner of trouble. *E. M.*

PHALÆNOPSIS APHRODITE.—In reply to Mr. Eden's query, I may mention that the spray of the Phalænopsis which I referred to was branched similar to the usual form of that of P. Schilleriana, and more gracefully than those of P. Stuartiana. I think I have previously mentioned the fact of P. grandiflora not succeeding so well with me as do the other varieties we grow. Possibly, it requires a different kind of treatment to what plants can be afforded in an ordinary plant stove. *Thos. Coomber, Hendre Gardens.*

THE ROYAL HORTICULTURAL SOCIETY AND CHISWICK GARDENS.—At the annual meeting of the Royal Horticultural Society, the President, Sir Trevor Lawrence, felt himself bound to allude to the apparent ignoring of Chiswick as a meeting-place for the Society during the present year. His excuse for such action was that the Fellows of the Society could not be induced to visit meetings or conferences at Chiswick. I do not think that can be regarded as a sufficient excuse, because there is no reason to assume that the majority of the Fellows care for horticulture at all, or if so, only in a very perfunctory way. On the other hand, the really horticultural Fellows do visit the Chiswick meetings largely, and, indeed, in the summer regard a meeting at Chiswick as a most enjoyable change from the dull and monotonous surroundings of the Westminster Drill Hall. Last year's Conference at Chiswick was held under singularly depressing weather influences, that would have been equally depressing anywhere, and it is most improbable that such aspects will recur often. Were it assumed such would always be the case, outdoor exhibitions would long since have ceased to exist. Even the Temple show suffered at the first wofully from bad weather; but perseverance, in spite of weather, has found its reward. So also would be the case at Chiswick, were the same perseverance shown. Oddly enough, more than one Fellow at the annual meeting strongly pleaded for greater publicity for the practical work done at Chiswick, work which is at present far too much

hidden from view. It was agreed by the President that such publicity was needful, but there remains the unhappy fact, that whilst nothing tended so much to the publicity of this work as the holding of meetings of the Society at Chiswick, yet that very means of publicity has been unhappily abolished, because of some prejudice against Chiswick, for it seems to be impossible to find any other good reason. What would it cost the Society were the President and Council to organise a little floral *fête* at Chiswick in the summer, and to hold a reception of the Fellows and their friends, have some good music, illuminate the gardens, and altogether make them bright, beautiful, and attractive to visitors just for once? The trade would respond in the furnishing of a beautiful flower show readily if asked, and a delightful function might be conducted in a way that would be productive of immense good. A second day could be devoted to a Conference and some practical work, and I doubt whether any better theme for a Conference could be found than in "The Chiswick Gardens, their History, Uses and practical Work;" on such a theme, therefore, papers might be read, or qualified speakers might dilate, creating the greatest interest, and thus showing how valuable an element in horticulture the gardens are, and how, perhaps, that value may yet be greatly enhanced. It is so obvious that it only needs on the part of the Council a "Chiswick mind" to make summer meetings there successes. That we may well hope further discussion and wider expression of opinion may help to that end. I notice in the programme of meetings for the present year that with the exception of the great Fruit Show at the Crystal Palace, where it seems no meetings of the committees are to be held, that there are no meetings at all fixed for September. That is most strange. Surely, the Council cannot have realised the injury this may inflict on many persons accustomed to send meritorious exhibits to the meetings during that month, when they will be unable to obtain or enjoy the same privileges that others still have whose exhibits may be at other times in season. Surely, if any other proposal fails it may be possible yet to have fixed a meeting, Show and Conference, during September at Chiswick. If that be not so arranged, it will be a great misfortune; and indeed may, in many directions, cause great disappointment. As there is yet ample time to make amendments in the year's programme, the drawing attention to this matter needs no apology. *A Fellow.* [Our readers will be glad to have the opinions of those best qualified to judge on the question of the development of Chiswick. The serious dilapidations consequent on former financial difficulties have now been thoroughly restored, and it remains for the Society to turn their experimenal garden to the best account. Excellent work is already done in a few departments, but much more might be accomplished, and Chiswick made the headquarters of horticultural progress and experiment rather than of mere routine, which can be seen and learnt anywhere. Could not the proposed Vegetable Show be held there this autumn with great advantage? Ed.]

FERDINAND DE LESSEPS GRAPE.—In reading Mr. B. Wadds' interesting article on the Strawberry, and Isabella or American Fox Grapes, I think he must be in error as regards the delicate constitution of F. de Lesseps. My experience with it is quite the reverse. Thirteen years ago, when planting one of the vineries here, my employer wished me to plant a Vine of it. An eye was struck in the ordinary way in the spring, and planted in June, it grew away well, and reached the top of the rafters before the others. Although pruned back every year to one or two eyes, it generally shows two and three bunches from each lateral, and is the most vigorous Vine of the twelve in the house. On passing a tape round the stem 7 inches from the border, I find the girth to be 12 inches. One of my labourers once remarked, when assisting to water the border, that he thought that that "fellow" would be a good one to breed from. *S. A. Woods, Osberton Gardens, Worksop.*

HOW TO KILL RED SPIDER ON GOOSEBERRY BUSHES.—It may interest your readers to know that we were very successful last spring with the "Demon" Insecticide made by a firm at Bridgnorth. We used it in our Gooseberry plantations, in the proportion of one to thirty-eight or forty of water, and the wash was certainly the best remedy for red-spider we had ever used. The bushes that were infested the worst in the previous season, and a failure in fruiting, turned out to be best last year, owing to the early washing they got with this insecticide. It thoroughly destroys the spider, and gives the foliage a healthy appearance; it also keeps the sparrows from injuring the bloom. The washings for red-spider should, of course, be done in bright weather, as the spider is then on the top of the leaves; in dull and wet weather it gets underneath. A washing should take place on the first appearance of the pest, and it should be continued at intervals of a few days, about four washings being enough, we believe, to thoroughly rid the bushes of red-spider, however badly infested. *Chandler & Son, Fruit Growers, Goldstone, Ash, Kent.*

COLOURING OF APPLES.—Having read the correspondence in the *Gardeners' Chronicle* on the above subject, I would like to give its readers my ideas on this subject. The most essential facts in the colouring of the above fruits are sun, air, and

Fig. 34.—A virescent Helenium autumnale. (see p. 240.)

direct sunlight. The soil may, in some instances, be a greater help to this end than in others, such as light or sandy soils may have the effect of hastening the colouring. In our garden the staple is a heavy loam, of course retentive of moisture, and the hot dry summer of 1893 was just the right thing for the Apples, and the colouring of these fruits was higher in tone than I can ever remember it to have been; which shows us that light and warmth have more to do with the giving of colour than has the nature of the soil. Again, Apples grown under glass have brighter colours than those from trees outdoor; how is this? I think it must be because they have more warmth, are protected from cold winds and fluctuations in temperature, and have better attention in thinning the wood to let in light to the fruit than outdoor fruit generally. We know the great difference in the colour of most of the Apples grown in our northern counties, compared with those from southern or western ones, leading us to doubt their identity, so much do they differ in appearance. I think this goes to show that sunlight gives colour, not the soil. Those who exhibit know if the leaves cover the fruit after a certain stage the fruit will remain green. Why does it not colour under the leaves as well as outside, if the colouring process is so much due to the soil? And again, the brighest fruits are from the tops of the trees. *F. Q C., Lifton Park, Devon.*

—— Like your correspondent "E. M." in a recent issue, I do not believe that it is from the soil alone that Apples receive their colouring matter, but rather from sunlight, air, and warmth; and my experience is that where fruit is not exposed to these agencies it will lack bright colour, and my practice is so far as time allows to pick away the leaves which overshadow the fruit on pyramids, wall, and espalier trees, and exposing it to the light and air. I do this all through the growing season, and not as "E. M." says keeping the fruit, for exhibition, covered till a short time before the show. Some gardeners may object to this plan as being one likely to check development, but I cannot say that I have observed any falling-off in size by taking off the few leaves that cover a fruit now and again as it seems required. That the presence of iron in the soil has much to do with the quality of Apples I fully believe, but it has more to do with flavour than colour; and how it helps colouring is by its absorbing sunheat and thus rendering the soil warmer than is the case where it is not present. If we take a large standard Apple tree, some persons will assert that from such a tree well-coloured fruit are obtained as a rule, and yet one cannot very well go over the tree to thin off the shadowing leaves—but, do these trees require it? I say they do not, simply because an old tree does not make an abundance of leaf-growth as does a young tree, owing to the abundance of plant food within reach of its roots and its better powers of assimilation, therefore the fruit on the standard is exposed sufficiently without the gardener's aid. As to lifting and replanting Apple trees, as "W. R." would seem to suggest, being good for colouring, I cannot say that. I have never required to replant a tree for non-colouring alone, but I have had to do so for non-fruiting; and it is my opinion that where the fruit is fully exposed it will not be wanting in colour if the tree is in a thriving condition. *A. Burgess, The Hyde, Middlesex.*

WHAT IS LAUDANUM?—Will any reader of the *Gardeners' Chronicle* have the kindness to tell me what is the history of the modern drug called laudanum, which I take to be an empirical preparation of opium, not recognised in medical science? I should like to know at what time and place the name was transferred from the gum of the Cistus to its present application. Herodotus calls this gum ladanum or ledanum. Dioscorides, Pliny, and European herbalists of the fifteenth and sixteen centuries have used the same name, with slight variations, in the same sense. Clusius, who is very full on the subject of the Cistus, and describes the mode of collecting the gum practised in Crete, says that the Latin name of it is ladanum, but its "official" or druggists' name is laudanum. Gerard says it is called in shops lapdanum, or labdanum "uncorrectly." Sieber, who visited the island of Crete early in this century, gives the same description as Clusius of the mode of collecting it which he saw in practice, saying that the rustics can collect three or four pounds each in a midday's work. Loudon, who quotes Sieber, tells us (*Arboretum*, vol. i., sub. Cistus creticus) that it is mostly sent to Constantinople to be used for chewing and fumigating, and for making "laudanum." Now, although no reasonable man will believe medical and other dictionaries, which say that the word laudanum is derived from laudo, "I praise," because the drug is so highly praised for its uses. The suggested derivation seems to imply that it was first advertised as a patent medicine, and was perhaps represented to be the produce of an aromatic shrub as denoted by the name. *C. Wolley Dod, Edge Hall, Malpas.* [Laudanum is no empirical preparation, but simply the Tinctura opii of the Pharmacopœia; and, of course, totally different from the produce of Cistus ladaniferus, which is ladanum. How the confusion arose we do not know. Ed.]

THE WEATHER. — *Bishopsteignton.* — We are having a sharp spell of cold weather here in one of the reputedly mildest places in South Devon. It began on January 27 with a sharp frost and 3 in.

of snow, which has remained on the ground until to-day, when it is fast disappearing under the rays of a hot sun. My thermometer is 5 feet above ground, well-screened, facing west, and has at 9 A.M. not been below 32° for the last sixteen days. On February 6 it was 19°, and this morning it was 22½°. In Teignmouth it has been about 7° colder on each day. There they had violent easterly gales on February 9 and 10, which brought the leaves off the evergreen shrubs to an alarming extent. The gardens there are rich in evergreens, and the roads and pathways were, on the 11th, covered with leaves of Laurel, Privet, Aucuba, Laurustinus, and Bay. *W. T. T., February* 12.

EXTRAORDINARY FROST.—"Can the thermometer be accurate?" The editor's note last week is very much to the point. One of my own, a maximum and minimum-registering thermometer, which cost about 17s., got over 12° wrong last winter, and another of a different make, erred by more than 20°. The verifying of a thermometer is so exceedingly simple a matter that there is no excuse for error. No thermometer of any kind can be depended on to retain its correctness, but if the error is known this matters very little, as it can always be allowed for. The standard-testing points are zero, freezing, and boiling points of water. To test for zero, make a mixture of four parts snow and one part salt, and immerse the thermometer in the resulting "slush," and zero of Fahrenheit should be indicated. For freezing point, 32°, place the thermometer in a mixture of broken ice or snow, and water; any difference shown from 32° will give the error of the indication. For boiling point keep the thermometer in water which is steadily boiling, for a few minutes, and any difference from 212° [with the barometer at 30°. ED.], will show the error to be allowed for. In ordinary garden use it is only necessary to test for 32°, freezing point, and this is always obtained by a mixture of ice or snow, and water. As both ice and snow are common enough just at present, and every thermometer in the place can be tested and verified in a few minutes, there is no excuse for a wrong temperature being recorded. *Thomas Fletcher, F.C.S., Grappenhall, Cheshire.*

APPLE CANKER.—If we accept the teachings of Mr. Greaves (see p. 72 of *Gardeners' Chronicle*) in regard to this troublesome malady, we must assume that the fungus (Nectria ditissima) is the sole cause of the canker in Apple trees. I have carefully read Mr. Greaves' paper, and cannot come to any other conclusion but that that is the gist of what he says. The theory advanced by Mr. Greaves [It is not his, nor is it a theory only. ED.] will require further confirmation, or it will need strengthening by himself before it is accepted by "the rank-and-file of practical gardeners." My experience of Apple canker leads me to the conclusion that the trouble more often arises from cultural conditions than anything else. According to Mr. Greaves, if an affected tree is not ridded of the fungus by the external application of some wash, after paring the branches, and so forth, the canker will certainly kill this particular tree. If this were so, I fear many more trees would die outright than is at present the case. Take, for example, Warner's King: this variety is not so susceptible to canker as some others. Suppose a standard, bush, or a pyramid tree be planted rather deep in heavy, wet, retentive soil; the second year its branches exhibit distinct traces of canker. The tree is replanted early in the autumn, this time upon a slightly-raised mound; lighter soil is put about the roots, and the tree is carefully attended to in regard to affording water and mulches during the succeeding summer, should the weather be hot and dry. Under this treatment this tree recovers without its branches being dressed with any fungus-destroyer whatever. How will Mr. Greaves account for this occurring? The method pursued as here detailed is the common one amongst the "rank and file of practical gardeners." The theory advanced by Mr. Greaves may do for the scientist, but not for the grower. Mr. Greaves ignores altogether the cultural conditions of the trees. I warrant that all the sprayings imaginable will not arrest the spread of canker if the roots are left untouched. If the spraying fails to cure the disease we can come to no other conclusion than that the condition of the trees is the result of their being raised from grafts infected with Nectria ditissima, which, as Mr. Greaves puts it, "sooner or later these must cause the characteristic sores of canker, and the destruction of the tree is only a matter of time." I hope our fruit-tree nurserymen will take note of this theory, and steer clear of all grafts that may in the course of years produce canker. *E. M.*

COLONIAL NOTES.

ANTIGUA.

MR. C. A. BARBER, the superintendent of agriculture, has written a paper on the Grasses of the island suitable for pasture. In this connection, Mr. Barber mentions Guinea Grass, Panicum jumentorum, Andropogon caricosus, a newly-introduced Grass from the East Indies, whose introduction to Antigua is mysterious; Cynodon Dactylon, which is peculiarly susceptible to the influence of nitrogenous manure, and springs up where the surface has been denuded by the trampling of shooting parties who leave heaps of old cartridge cases on the ground, which speedily become covered with this Grass. Andropogon saccharoides, another Grass suitable for pasture, is mentioned, and Sporobolus indicus, the Tussock Grass (of Antigua). So long, however, as the tops of the Sugar-canes can be used for food, there is little need of other resources.

JAMAICA.

The *Bulletin of the Botanical Department*, which has just reached us, contains notes on the most interesting plants of the Castleton Botanic Gardens, 19 miles from Kingston. The plants are arranged alphabetically, and the information given is just what is required by the ordinary visitor.

CASTLETON GARDENS, JAMAICA.

"Castleton Gardens is scarcely thirty years old, and therefore as a botanic garden it is still in its infancy. It is, however, the only representative of a botanic garden in Jamaica, as the old garden at Bath is reduced to the smallest dimensions, and has been shorn of the glory of former days. Castleton is 19 miles from Kingston, but the drive there and back more than compensates for the distance. In going to Castleton we pass through some of the most characteristic and beautiful scenery in the Island. To the stranger the marvellous variety of the tropical vegetation is simply bewildering. He sees, perhaps, for the first time, groves of the Bread-fruit tree with its handsome foliage, endless clumps of the feathery Bamboo, rows of the truly tropical Banana, and in the alluvial soil of the valley of the Wag Water acres of well cultivated Tobacco plants; while the hills arise on either hand, their sides covered with patches of Yams, Sugar-cane, Cocoa, Coffee, Coco-nut Palms, &c.

To those who have lived long in the island, these natural products will be familiar in themselves, but still the combination in endless variety is always novel and always charming, so that the ever-changing scene, with the river below, and the fertile hills above, so occupy the attention that Castleton is reached almost too quickly." *Bulletin of the Botanical Department, Jamaica, Oct., Nov., and Dec.*, 1894, *vol. i., parts* 10, 11, *and* 12.

NOTICES OF BOOKS.

CULTURE DU CAFÉIER: SEMIS, PLANTATIONS, TAILLE, CUEILLETTE, DÉPULPATION, DÉCORTICAGE, EXPÉDITION, COMMERCE, ESPÈCES, ET RACES, par E. Raoul, avec le collaboration pour la partie commerciale de E. Darolles. (Paris: Augustin Challanel, 5, Rue Jacob, 1894.)

THIS is the first part of the second volume of a *Manuel des Cultures Tropicales*, by E. Raoul and P. Sagot. The ground-work is that of the late Prof. Sagot. It is brought up to date by M. Raoul. The latter has had wide experience in the French tropical colonies. He has also given attention to economic subjects. The work is divided into two parts, viz., *Partie Culturale* and *Partie Commerciale*. The former deals with the distribution of Coffee cultivation in various parts of the world, and the methods pursued in establishing regular plantations. It occupies, however, only twenty pages, and is the weakest part of the book. The diseases of Coffee are discussed in fuller detail. An important chapter deals with the analyses of various parts of the Coffee tree, including the stem, branches, leaves, pulp, parchment, and beans. The preparation of the crop or export is well described. The botanical part is the least satisfactory. It consists of a bare list of species without any indication as to those of economic importance. For all practical purposes we have only Coffea arabica, with its several varieties, more or less distinct, which yield about 99 per cent. of all the Coffee known to commerce. Coffea liberica comes next, chiefly from Java, Malay States, and West Africa. Coffea stenophylla yields locally some Coffee at Sierra Leone; and the Abeokuta Coffee of Lagos may come from a fourth species not yet identified. A very useful list is given by M. Raoul of suitable shade trees for Coffee. Shade trees, as a rule, are not much in favour with Coffee-planters, but those mentioned are certainly the best. A final page is devoted to the precautions necessary to keep out from existing plantations the destructive Coffee-leaf disease of Ceylon. This disease has already almost destroyed all the Coffee plantations in the old world. It has also reached East Africa, but is not known on the West Coast. It has also hitherto been kept out of the New World. This is by far the greatest enemy known to Coffee cultivation at the present time.

It is not probable that this Manual will replace any of the existing works on Coffee. It has, however, a special merit in dealing rather more fully than usual with the machines and appliances for cleaning and curing Coffee; and the commercial part, so far as we have tested it, is accurate and exhaustive.

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEUR AND VILLA GARDENS (*continued from p.* 169).—In our last paper we were speaking about half-hardy annuals, and now we come to such as are quite hardy, which require no artificial heat whatever, and the seeds of which germinate in the open ground. All that were mentioned on pages 80 and 81 for autumn sowing, to bloom early in the spring, may be sown in the spring for summer and autumn blooming; and to these I may add a few others which are really deserving of culture, and, on account of their great beauty, merit a place in every villa garden, viz., Coreopsis, also known as Calliopsis, grandiflora, C. coronata, C. tinctoria, C. Drummondi, C. atrosanguinea, and C. marmorata; these are all showy hardy annuals, of rich bright colours, and they grow from 2 to 3 feet high, continuing to bloom for a long time. They are specially adapted for those villas which are in the immediate vicinity of large towns. The plants must not be crowded, therefore thin them well out in the early stages of their growth. Clarkia elegans, pulchella, and pulchella alba are well-known annuals; for five or six weeks they make a grand display. They are perfectly hardy, of easy culture, and will grow with great freedom in any ordinary soil. Of the Godetias we cannot say too much; they are really magnificent flowers, blooming for a long period during the summer season, and retaining their loveliness for several days when cut and placed in vases of water. There are several of the Godetias which are worthy of a place in the flower garden, including G. Lady Albemarle, Bridesmaid, Duchess of Albany, and Satin Rose. All these are free-flowering annuals, adapted for small beds, as well as for growing in clumps and masses; they are also valuable for the margins of shrubberies and the herbaceous border; they produce a profusion of conspicuous cup-shaped flowers of brilliant colours. The Lavatera trimestris is a very effective-looking plant, suitable for the background of large borders; it grows about 3 feet high, and produces a profusion of showy red flowers. The Linums also form an interesting class of hardy plants of very easy

culture, thriving well in any situation, and continuing in bloom for a long period. L. grandiflorum coccineum should be found in every collection of hardy annuals; its brilliant scarlet flowers are exceedingly beautiful.

Lupines, of which there are several good varieties and species, should not be overlooked. They vary in height from 1 to 3 feet; if they are well supplied with water, and the dead flowers and seed vessels removed, they will bloom for a long time. Lupinus subcarnosus is a strikingly handsome variety, that on account of its almost-continuous-blooming habit may be used for bedding out, as it only grows one foot high. Then there are L. sulphureus, L. superbus, and L. albo-coccineus, all deserving of their high popularity. Besides being grand border ornaments, they are all most beautiful for cut flowers.

Mignonette is a plant that should be grown largely in every garden, for its delightful perfume. It is most delightful to find patches of Mignonette in the wayside flower-gardens, when each passer-by inhales the grateful perfume. We would also advise it to be grown in narrow boxes on the window-sills, and when the window-sashes are thrown open in the morning, it would fill the room with fragrance. Of Nasturtiums there are both tall and dwarf varieties, and such as are adapted to all sorts of places and situations; a raised bed of the dwarf Tom Thumb would give a continuity of bloom until destroyed by frost. These, however, unlike the generality of annuals, bloom with the greatest freedom in a poor soil. The tall sorts are suitable for training round the villa window, porch, over rustic arbours, old buildings, or any kind of rustic-work. Chrysanthemum coronarium, both the yellow and white varieties, must be included, and C. Dunnetti, fl.-pl.; the white double variety is quite equal in symmetry of contour to our best Pompone Chrysanthemums that bloom in our greenhouses during October and November. To these I would add of the annuals, C. W. E. Gladstone, C. purpureum, C. Lord Beaconsfield, C. The Sultan, C. atro-coccineum, and C. Burbidgeanum. The annual Chrysanthemums are very popular, and should be grown largely, not only on the mixed border, but in any odd corners, as they are invaluable for indoor decoration.

The Sweet Peas, which have become so popular of late years, and deservedly so, must not be omitted from the list, for they not only produce an abundance of charming flowers of a great diversity of shades, but they are highly esteemed for their delicate odour. Sweet Peas require good culture, and enjoy themselves on the fat of the land; instead of growing them in clumps on the mixed border, I prefer growing them in rows by themselves. The ground should be deeply dug and manured some time before sowing, in order that the manure may become thoroughly decomposed and brought into a fit state as food for plants. They must not be crowded; and, moreover, if we wish for fine blooms, we must give them plenty of room. When they are 2 or 3 inches high, stake them neatly; place a mulching of half-rotten manure a foot wide down each side of the row, and afford manure-water in dry weather. Gather the flowers as they expand, for the more the blooms are cut the longer the plants will continue to flower. Viscaria oculata and Venus' Looking-glass shall complete our selection of annuals; others might be added, but the above will be found ample for a garden of moderate size. My purpose is not merely to give a list of names, so much as to indicate those plants which will prove ornamental. I may just add, that for annuals to be satisfactory, they must have good culture. The great mistake made in trying to cultivate them is to sow too thickly; very frequently twenty, yea forty, and even 100 seeds are cast into the ground, where there is only space for one plant to develop, and show its real character. Some seeds are very small, and hundreds lie in a small space, as, for instance, the Poppies, and the inexperienced villa gardener is in danger of sowing 100 seeds where only one is required. In my younger days I was taught a golden rule—"to sow thickly, and thin quickly," and this may be applied to many other things besides annuals. The two essentials in growing annuals is, in the first place, to have the ground in good heart; and secondly, to never allow twenty plants—no, nor even two—to grow where there is only room for one. Much may be done to keep up a succession of bloom by having fresh sets of plants, either in pots or in the open ground, to take the place of those that are beginning to fade. *R.*

(To be continued.)

TRADE NOTICE.

THE business known under the name of "The Westerham Nurseries and Seed Company," is now carried on by Mr. William J. Edmunds, son of the late proprietor. The style of the firm remains as heretofore.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending February 16.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1895.	Accumulated. Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1895.	Rainfall. Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	10 —	0	92	— 46	+ 293	11 —	29	4·3	56	25
1	15 —	0	132	— 57	+ 395	5 —	26	3·6	50	24
2	12 —	0	107	— 55	+ 304	4 —	34	5·0	58	26
3	14 —	0	120	— 56	+ 309	4 —	29	3·6	43	25
4	16 —	0	132	— 70	+ 370	5 —	22	3·5	44	28
5	14 —	0	107	— 74	+ 312	5 —	23	3·0	38	26
6	14 —	0	114	— 66	+ 341	11 —	22	2·6	30	27
7	13 —	0	104	— 59	+ 391	6 —	24	3·1	45	29
8	13 —	0	92	— 94	+ 306	8 —	25	4·6	30	30
9	11 —	0	86	— 97	+ 268	7 —	27	4·0	35	27
10	10 —	0	59	— 141	+ 195	4 —	28	5·8	33	26
*	12 —	0	63	— 101	+ 202	5 —	32	4·8	34	40

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending February 16, is furnished from the Meteorological Office:—

"The *weather* continued extremely cold and wintry during this week in all parts of our Islands. A little snow was experienced in some of the northern and western districts, but the conditions were very dry and bright.

"The *temperature* was again much below the mean, the deficit varying from 10° to 11° in 'Ireland,' from 10° to 15° in 'Scotland,' and from 12° to 16° in 'England.' The highest of the maxima were registered towards the end of the period, when they ranged from 38° in 'England, E.,' and 40° in 'England, S. and N.W.,' to 46° both in 'Scotland, N. and Ireland, S.' These readings were chiefly at coast stations, those inland being considerably lower. The absolute minima were again exceedingly low, and were recorded during the earlier part of the period. In 'Scotland, E.' (at Braemar on the 11th), the sheltered thermometer fell to —17°; in the 'Midland Counties' (at Stamford on the 10th), to —2°; in 'England, N.E. and E.,' and in 'Scotland, W.,' to 1°; in 'England, S.W.,' to 3°; and in 'Scotland, N.,' to 4°. Elsewhere the minima ranged from 7° in 'Ireland, N.,' to 11° in 'England, N.W.,' and to 21° in the 'Channel Islands.' The general tendency of the temperature was to rise slowly towards the end of the period.

"The *rainfall* was much less than the mean. Over the greater part of the Kingdom there was no precipitation whatever.

"The *bright sunshine* was again very prevalent, and largely exceeded the mean in nearly all districts. The percentage of the possible duration ranged from 58 in 'England, N.E.,' 56 in 'Scotland, N.,' and 50 in 'Scotland, E.,' to 33 in 'Ireland, S.,' and to 30 in 'Scotland, W. and England, S.W.' The highest percentages recorded at any individual stations were 59 at 'Durham and Oswaldkirk,' 58 at 'Fort William, Braemar, and Stonyhurst,' and 55 at 'Stornoway, Fort Augustus, and York.'"

MARKETS.

COVENT GARDEN, February 21.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	5 0	6 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays	0 6	0 9
Hyacinths (Roman), doz. sprays	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	5 0	6 0
— Czar (French), per bunch	1 9	2 0
— doz. bunches	4 0	6 0
— (English), per dozen bunches	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ficus elastica, each	1 0	7 6
Ferns, small, doz.	4 0	12 0
— various, doz.	5 0	12 0
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	10 0	18 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Grapes, 1st quality, black, English, lb.	1 6	2 6
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	4 0	6 0
Cobs, per 100 lb.	25 0	27 6
Pine-apples, St. Michael, each	2 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, per lb.	1 0	1 6
Cauliflowers, p. doz.	2 0	3 0
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb.	1 3	1 6
Potatos, Channel Islands, per lb.	0 6	0 7
Onions, per bush.	2 0	2 6
Rhubarb, per dozen bundles	1 3	1 6
Seakale, p. punnet	1 3	1 6
Tomatos, Canary Islands, per lb.	0 3	0 6

OLD POTATOS.

Very short supply, with very high prices, have ruled during the past week. Many thousands of tons are reported damaged, and fairly high prices are likely to rule during the remainder of the season.

NEW POTATOS.

Demand for above has been brisk during the past week, at prices between 14*s.* and 28*s.*, according to size and sample *J. B. Thomas.*

SEEDS.

LONDON: *February* 20.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that country buyers still seem indisposed to operate, and consequently, for the time of year the volume of business passing in Clover and grass seeds is remarkably small. Quotations, for the most part, show no important change. Trefoil is however, somewhat easier. Canary seed keeps steady, and Hemp seed is strong. Haricot Beans are in brisk request at the recent advance. Blue Peas, owing to serious injury done to vegetables by the long frost, and also to some heavy speculative buying, are substantially higher. Fine new Scarlet Runner Beans are now obtainable on very tempting terms. Rape seed tends upwards. Mustard dull and neglected. Linseed is firmer.

FRUITS AND VEGETABLES.

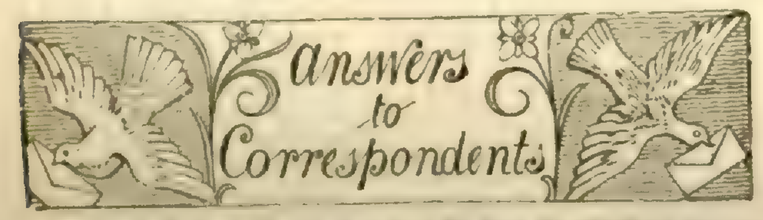
BOROUGH: *February* 19.—Quotations:—Savoys, 3*s.* to 5*s.* per tally; Cauliflowers, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen; Sprouts, 1*s.* 6*d.* per half-sieve; Carrots, 1*s.* 6*d.* to 2*s.*; Turnips, 3*s.* per bag; Parsnips, 2*s.* 9*d.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Celery, 8*s.* to 14*s.* per dozen bundles; Onions, English, 5*s.* to 7*s.* per cwt.; do., foreign, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 13*s.* to 18*s.*; and other sorts, 8*s.* to 10*s.* per barrel.

STRATFORD: *February* 19.—The supply to this market during the past week has been good; and, with plenty of buyers, a brisk trade was done at the undermentioned prices:—Cabbages, 2*s.* to 2*s.* 6*d.* per tally; Savoys, 2*s.* to 5*s.* do.; Turnips, 3*s.* 3*d.* to 3*s.* 6*d.* per dozen bunches; do., 35*s.* to 60*s.* per ton; Carrots, household, 22*s.* to 22*s.* 6*d.* do; do., cattle-feeding, 14*s.* to 18*s.* do.; Parsnips, 60*s.* do.; Mangels, 8*s.* to 14*s.* do.; Swedes, 10*s.* to 18*s.* do.; Rhubarb, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen; Onions, English, 90*s.* to 110*s.* per ton; Dutch, 3*s.* to 4*s.* per bag; Bordeaux, 5*s.* to 6*s.* per case; Apples, English, 4*s.* to 6*s.* per bushel; American, 10*s.* to 13*s.* per barrel; Watercress, 7*d.* to 8*d.* per dozen.

FARRINGDON: *February* 21.—Quotations:—Curly Kale, 2*s.* per bushel; Seakale, 2*s.* per punnet; Savoys, 3*s.* to 3*s.* 6*d.* per tally; Rhubarb, 1*s.* 6*d.* per dozen; Carrots, 1*s.* 6*d.* per cwt.; Turnips, 4*s.* per bag; Parsnips, 3*s.* 6*d.* do.; Horseradish, 1*s.* per bundle; Onions, English, 4*s.* 6*d.* to 5*s.* per cwt.; Parsley, 1*s.* per bunch; Apples, Baldwins, 13*s.* to 16*s.* per bushel; Grapes, English, 2*s.* 6*d.* per pound.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending February 16, and for the corresponding period last year:—1895: Wheat, 19*s.* 10*d.*; Barley, 21*s.* 10*d.*; Oats, 13*s.* 8*d.* 1894: Wheat, 24*s.* 10*d.*; Barley, 28*s.* 3*d.*; Oats, 18*s.*



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

CENTROPOGON LUCYANUS×: *U. D., Berlin.* This is a cross between Siphocampylus betulifolius ♂, and Centropogon fastuosus ♀. See *Revue Horticole*, 1868, p. 291.

CORRECTION: Mr. Arderne's porch. The Rose shown in the illustration in our last issue was "Cloth of Gold," sent from the Cheshunt Nurseries by Messrs. Paul and Son, and not Rêve d'Or as we erroneously stated. Messrs. Paul have sent a large quantity of Rhododendrons to stock the garden of Mr. Rhodes, which is close to that of Mr. Arderne at the base of Table Mountain. Baron Ferdinand de Rothschild, who has lately visited Mr. Arderne's garden, speaks in rapturous terms concerning it. Romneya Coulteri is 6 feet high, and as much through.

CRICKETS AND ANTS: *J. Illman.* Other means having failed to drive these destructive creatures out of the plant-house, you should try the effects of carbolic acid sprinkled in their hiding-places and runs. Ants have a great partiality for treacle, and many may be caught by using saucers half-filled with it. There is a beetle-trap made with a glass top, which is an excellent one for crickets. Once in, it is impossible for them to get out. We believe it is kept by most horticultural sundriesmen.

HYACINTH WITH DECAYED ROOTS: *Constant Reader.* Our reporter on plant disease reports as follows:—"There is no trace of a fungus or of any other kind of disease in the bulbs, which are perfectly sound." We should suppose that the loss of roots was due to an excessively wet state of the soil, or to the presence of something inimical to the plant in the soil or the coal-ashes above and below the pots.

MUSHROOMS: *R. B.* Want of warmth in the bed will cause the Mushrooms to be arrested in growth, like those sent; they then wither and decay, becoming a prey to various species of moulds.

NAMES OF PLANTS: *G. H. S.* The Aloe is A. ciliaris, and the other plant Bilbergia nutans (*Bot. Mag.*, t. 6423). The white flower next week. —*C. Goulter* sets us a task, but we will do what we can. 1 is the seed of a Pinus, but of which one it is impossible to say; 2, the Custard Apple is a species of Anona; 3, the Mummy Pea is a Pea which produces fasciated flower-stalks regularly. It has as much to do with mummies as with the moon; 4 is evidently the fruit of some Composite near Helianthus; 5, what you call Italian Buckwheat, looks like the seed of some Juncus.—*Newport, I. W.* 1, Abies Pinsapo; 2, Cupressus nootkaensis, *alias* Thuiopsis borealis; 3, Pinus, perhaps excelsa; 4, doubtful, perhaps the common Silver Fir, Abies pectinata; 5, Retinospora plumosa aurea of gardens; 6, Abies nobilis. It is almost impossible to name scraps of Conifers.—*A. B.* 1, Cattleya Harrisonæ; 2, Celsia arcturus; 3, Diplacus glutinosus; 4, Heuchera sanguinea probably, but no flowers sent. —*C. L., Carlisle.* Gomesa planifolia.—*F. Y.* Lychnis Githago, commonly called Corn-cockle; it is a common annual. The sample sent is disgraceful; but what redress your client has, your solicitor can tell better than we.—*M. A.* Ficus minima, a greenhouse plant of easiest culture, well adapted for covering the wall of a fernery or similar structure.—*H. Henkel.* Not Romneya. We will give you the proper name next week.

YOUNG GARDENER'S NOTICE TO QUIT: *G. J.* One week should suffice.

ODONTOGLOSSUM: *J. F.* The leaves of Odontoglossum sent seem to have been damaged by excessive cold. In towns, fogs sometimes cause a similar appearance, generally in the oldest leaves.

PALMS: *H. E., Highgate.* There is no doubt that the spotting on the leaves of the Palms was caused in the house in the manner you suggest.

PERRY PEARS: *Bunya Bunya, Brisbane.* Rock: density of juice, 1·075; do., after 24 hours' exposure, 1·084; 100 parts by weight of the juice yielded—sugar, 17·600; mucilage, salts and tannin, 4·150; water, 72·250. Perry rich, rough, and full flavour. In consequence of its great strength, it is seldom used alone. It is a late bloomer, and a good crop of fruit may be looked for every other year with certainty. Other good perry Pears are:—Coppy; it has one-fifth less sugar, and more water than the foregoing. Winnall's Longland makes a strong luscious perry. It is rough in flavour, and not fit for bottling. Newbridge is an early-ripening fruit, very juicy. The perry made from it is very luscious, and of pleasant flavour, light in colour, strong and clear. Yolking House makes a pale perry, sweet and good, but not strong; it is used to mix with other varieties. Barland, Black Huffcap, Dymock Red, and Turner's Barn are perry Pears of good repute. We will give a list of cyder Apples next week.

PLANTS TO BE NAMED: *H. & Son.* Why send such things to the Publisher, who has no more to do with editorial duties than the Editor with those of the Publisher? The two departments are perfectly distinct.

RICHARDIA FLOWERS AND SPATHES, CAMELLIA FLOWERS, &C, BROWNED AT THE EDGES: *X.* The effect of cold-drip, probably. There is no disease.

VINES AND MEALY BUG: *Mrs. Rodgett.* It is possible that the fumes from the paint, the house having been recently painted on the inside, may, in conjunction with those from the large quantity of petroleum used in the two washings, and the want of ventilation during the frost, have caused the injury spoken of. There is nothing in the directions given in this column on August 4 which, if the work was carried out early in the winter, whilst the Vines were thoroughly at rest, that could cause damage to the foliage. If our correspondent will kindly refer to the recipe given, she will find that the washing twice with petroleum, and repainting the woodwork, refers to a case where the old canes and borders are removed and new Vines planted, and not to old Vines. Afford the vineries not yet started as much air as possible, to dissipate the fumes.

COMMUNICATIONS RECEIVED.—Sutton & Sons.—U. D., Berlin.—Dr. Kränzlin, Berlin.—H. B., Reigate. Many thanks; we shall figure a flower.—W. H. W. Many thanks.—Herr Wolter, Madgeburg.—Mansion House Association on Railway and Canal Traffic (too late).—X. Y. Z. (shortly).—H. B.—S. H. S.—T. C.—T. T.—W. S. (next week).—W. R.—L. L., Brussels.—A. C.—Sander & Co.—A. B. R.—J. v. d. B., Tirlemont.—H. W.—C. L.—H. H., Darmstadt.—Wild Rose.—C. C.—W. W.—H. W.—P. L. S.—J. M. S.—W. R.—T. W.—W. C.—E. C.—J. D.—A. P.—J. S.—E. M.—G. Inglefield.—A. G.—H. & Sons.

GRAPE VINES.—Well-ripened, short-jointed Canes, of all the popular kinds, established in pots, extra strong, for fruiting this year in pots, 6*s.* to 10*s.* 6*d.* each; for planting, 2*s.* 6*d.* to 5*s.* each; extra strong, 6*s.* to 10*s.* 6*d.*
WM. PAUL AND SON, Waltham Cross, Herts.

CONFERENCE TOMATO PLANTS, strong for planting, 2*s.* per dozen, 12*s.* 6*d.* per 100; or exchange Small Ferns or Bedding plants.

PRIMULA OBCONICA, strong plants in 32's, 6*s.* per dozen.

SOURCE D'OR CHRYSANTHEMUM CUTTINGS.—Strong, 2*s.* 6*d.* per 100, 15*s.* per 1000. Cash with order.
T. WELLINGTON, Milton, Lymington, Hants.

SMILAX.—Seed of this lovely decorative twining plant, 6*d.* and 1*s.* per packet. MARGUERITE CARNATION, Clove-scented, large double flowers of brilliant colours, blooms this summer from seed sown now, 6*d.* and 1*s.* per packet. MILLER'S GIANT PANSY, enormous flowers of stout substance, perfect form, and rich colours, 1*s.* per packet. All post-free. SEED CATALOGUE free.
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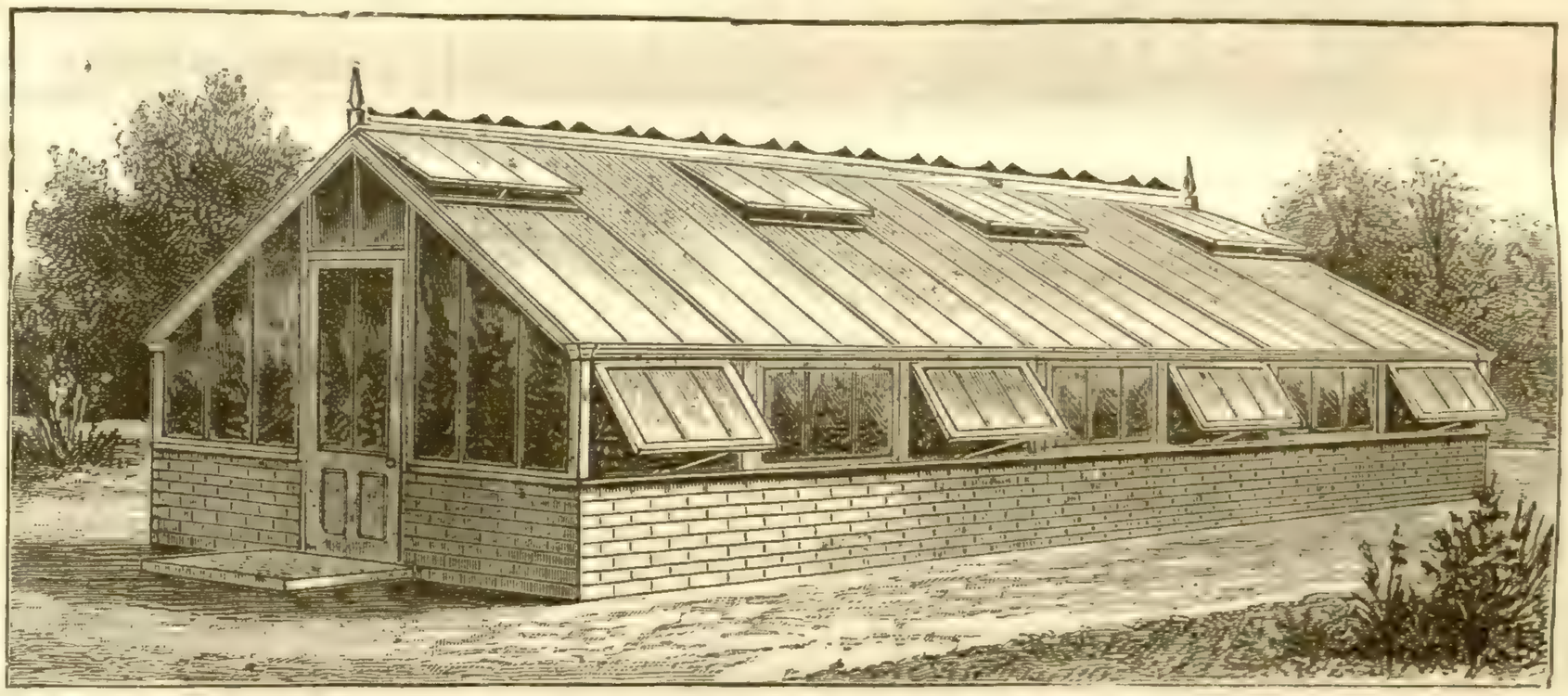

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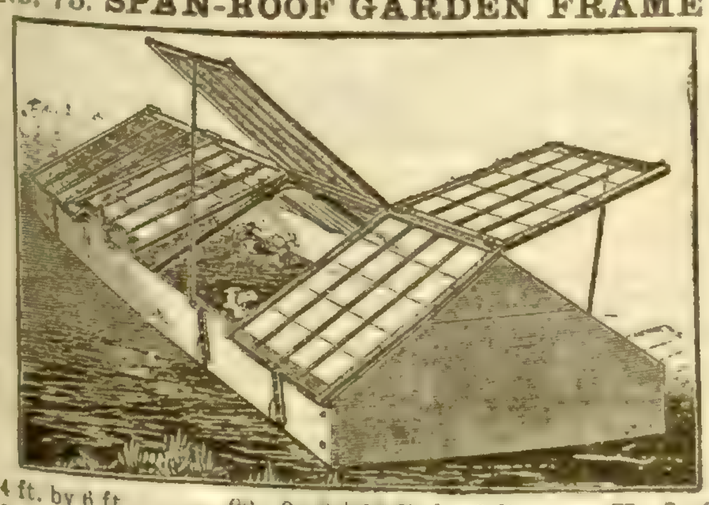

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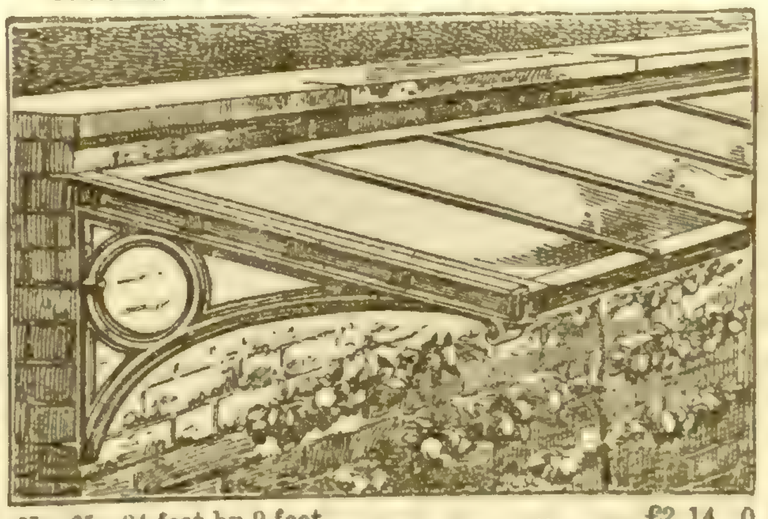

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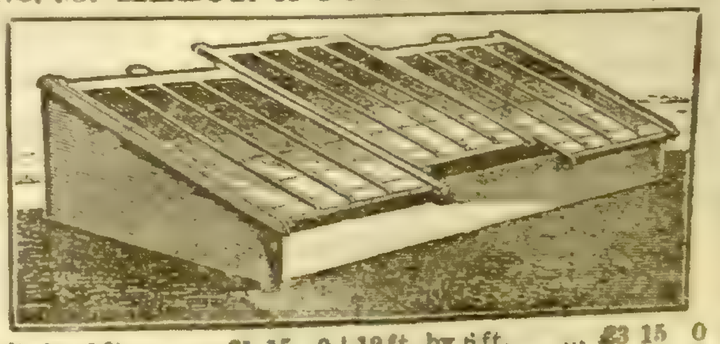

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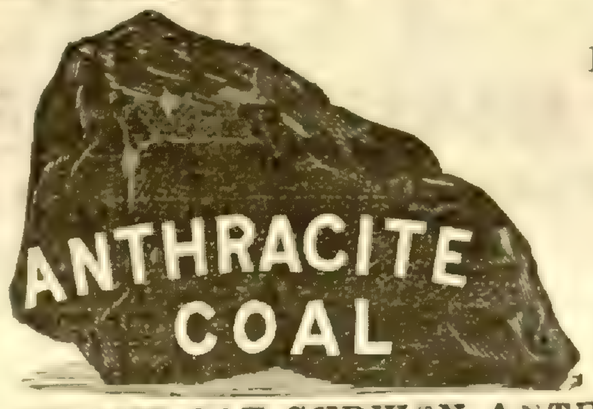

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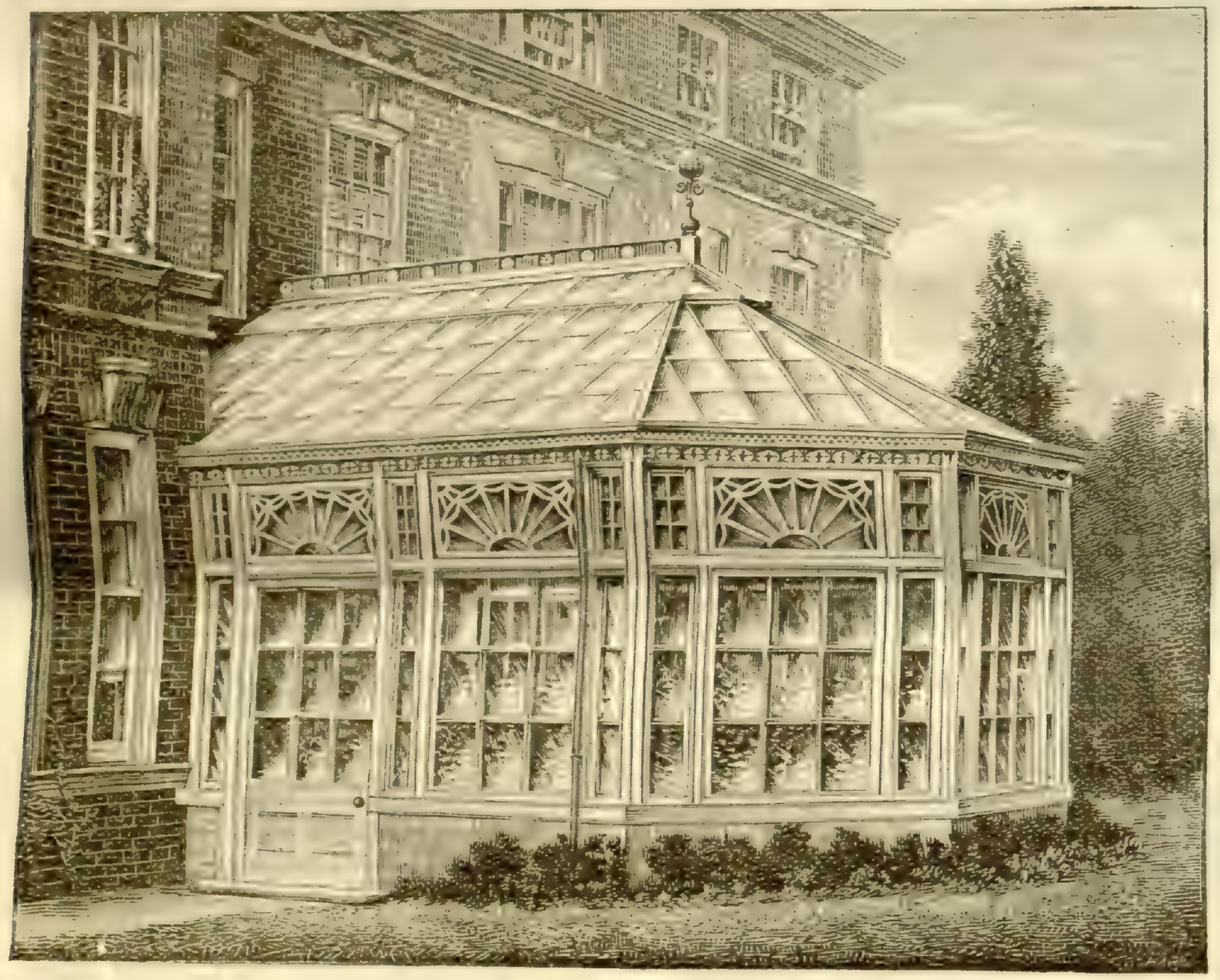

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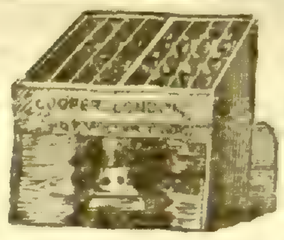

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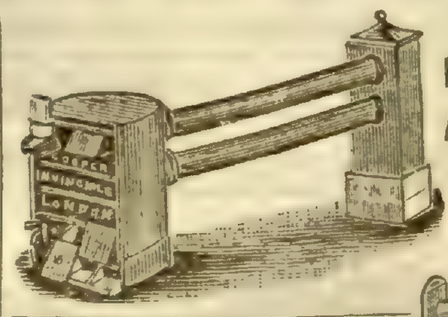

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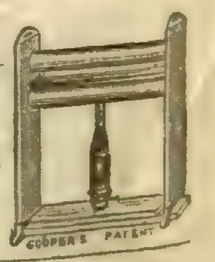

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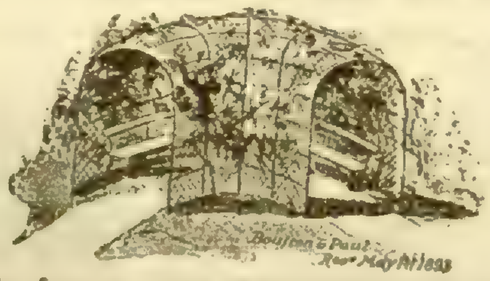

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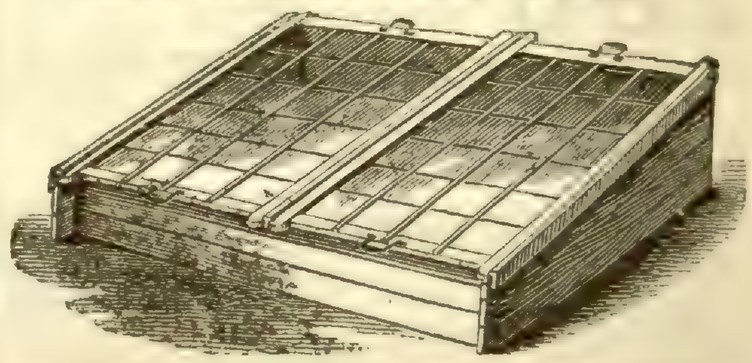

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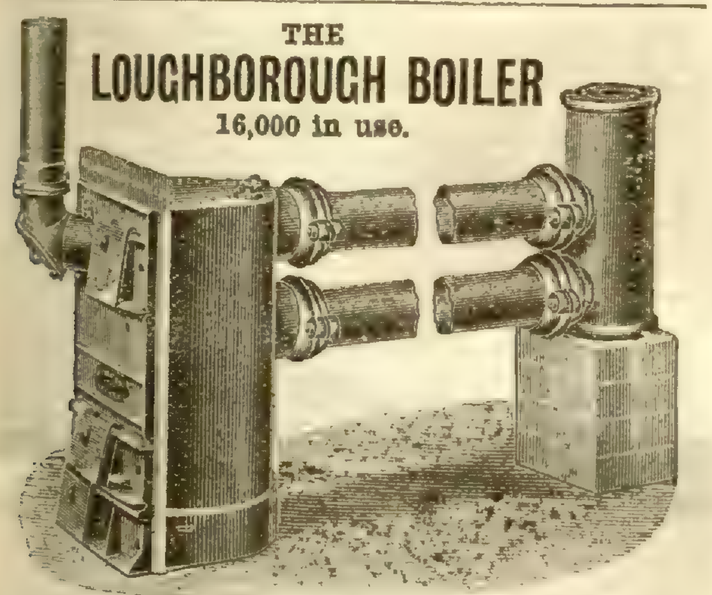

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To Nurserymen.

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WM. PAUL AND SON, Waltham Cross, Herts.

DICKSONS LATE SPRING SAVOY is a most valuable Winter and Spring Vegetable. Will remain in fit condition for use until April, without the heads bursting. To be had only in Sealed Packets at 1s. each from DICKSONS, Seed Growers, Chester.

LARGE EVERGREENS from Specimen Borders, at greatly reduced prices. The choicest Green and Golden Varieties, from 4 to 12 ft. Perfect Specimens and safe to move, transplanted within two years. Inspection invited. PENNELL AND SONS, Lincoln.

NOW IS THE TIME TO PLANT PÆONIES.
Catalogue of KELWAY AND SON, Langport, Somerset.

THE LATE MR. DODWELL'S GRAND CARNATIONS.—No collection complete without these choice varieties. Write for List.
ARTHUR MEDHURST, Stanley Road, Oxford.

GRAPE VINES. — Well-ripened, short-jointed Canes, of all the popular kinds, established in pots, extra strong, for fruiting this year in pots, 6s. to 10s. 6d. each; for planting, 2s. 6d. to 5s. each; extra strong, 6s. to 10s. 6d.
WM. PAUL AND SON, Waltham Cross, Herts.

WANTED, several thousands oval-leaved PRIVET, 12 to 15 inches, for Estate Cover. Lowest price per thousand to A., 28, Wallace Avenue, Manchester.

WANTED, large TREE FERNS and PALMS, also Cuttings of CROTONS, DRACÆNAS, or any Stove Plants. Price and particulars to—
JAMES GRIMES, Cilwendeg Park Gardens, Boncath, R.S.O., South Wales.

WANTED, rooted CHRYSANTHEMUM CUTTINGS. — Madame La Croise, W. H. Lincoln, Lady Lawrence, L. Canning, W. Seward, Golden Gem, Source d'Or, and President Hyde.
Price per 100 or 1000 to—
E. PHIPPEN AND SON, Nurserymen, Highgate, N.

LOVEL'S YORKSHIRE STRAWBERRIES. Autumn transplanted, 25, 1s.; 100, 3s.; 500, 12s. 6d. Carriage paid. Descriptive LIST free.
W. LOVEL AND SON, Strawberry Growers, Driffield.

OUR NEW MELON, "BARON HAMILTON," still maintains its position as one of the finest yet introduced. Price, per packet, 1s. 6d., post-free. The stock entirely in our hands. — JAMES DICKSON AND SONS, Seedsmen, 32, Hanover Street, Edinburgh.

PLUM STOCKS.—Good roots, and trimmed for quartering. BRIARS, selected for grafting or budding. ROSES, GRAPE VINES, Fruit trees of all kinds.— WILL TAYLER, Fruit-tree and Rose-grower, Hampton, Middlesex.

NEW SENSATIONAL AMERICAN CHRYSANTHEMUM, "PHILADELPHIA."—Received Highest Award on every occasion exhibited. Strong plants, 5s. each, 6 for 27s., 12 for 50s.—B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
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Highest Market Prices. Prompt Cash.

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CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

LILIES.—All the finest varieties: Henryi, Aur., Rubro-Vittatum, Virginale, &c. Magnificent quality. Lemoine's Gladioli, Begonias, Tigridias, Rare Bulbs, &c.
LYCORIS AUREA (see Plate in *The Garden*, January 19, 1895), L. SQUAMIGERA (hardy new), L. SANGUINEA (new orange-red). List of these beautiful bulbous plants, with cultural notes, free.—R. WALLACE AND CO., Colchester.

BOX'S BEAUTIFUL BEGONIAS.—Quality and Quantity. Seed of Singles, 1s., 2s. 6d., and 5s.; of Doubles, 1s. 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers to colour for Bedding, from 20s. per 100. Choice Hybrids for pots, 7s. 6d. to 42s. per doz. Illustrated Price List and Pamphlet Gratis.—JOHN R. BOX, Begonia Grower, Croydon.

CARNATIONS.—For the Best New and Old Varieties apply to J. DOUGLAS. Thirty-one First-class Certificates and Awards of Merit in 1894.
CARNATION and PICOTEE SEED, 2s. to 3s. 6d. per packet.
AURICULA PLANTS, Show and Alpine, to name.
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The First Edition, 128 pages, *now in Press*, Price 1s. 6d.; Cloth Bound, 2s. *Free by Post*, upon receipt of remittance by—
H. A. CHALFONT, Steam Printer, 62A, Tottenham Court Road, London, W.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Tuesday Next.

BURMESE ORCHIDS, including Cypripedium Bellatulum, C. Charlesworthi, Cypripedium new species, Dendrobium cambridgeanum (ochreatum), D. Falconerii, D. Thyrsiflorum, Vanda cœrulea, V. Benseni. V. Amesiana, V. Kimballiana, Thunia Marshallianæ; 100 lots of ESTABLISHED ORCHIDS, by order of the Executors of the late E. C. Pressland, Esq., of Harrow.

1500 BURMESE LILIES from the Shan States, consisting of L. Wallichianum superbum, L. nepalense, and other varieties; 200 BLETIA SPECIES (? Shepherdi), a small consignment of CALIFORNIAN LILIES, ORCHIDS in FLOWER and BUD, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 5, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, March 5.

7000 Japanese LILIES, 7000 GLADIOLI, 10,000 Pearl TUBEROSES, 4000 Exhibition BEGONIAS, LILIUM AURATUM, SPIRÆAS, 50 Lots of choice Stove and Greenhouse FERNS and PLANTS, and 300 Dwarf ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, March 5, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

JAPANESE LILIES in variety, Standard and Dwarf ROSES, 36 CAMELLIAS, 36 AZALEA INDICA, 50 A. MOLLIS, KENTIAS, ASPIDISTRAS and DRACÆNAS from Belgium, 50 Lots of STOVE and GREENHOUSE PLANTS, Satyriums and Nerine corusca, received direct; Anemones, Tritomas, Hollyhocks, Lilium Szovitzianum, TWO CASES ARAUCARIA EXCELSA PLANTS, one Case containing 500 and the other 200, just received in splendid condition; 900 DAHLIAS, named and mixed; 3500 GLADIOLUS GANDAVENSIS, 10,000 GLADIOLI RAMOSUS, GANDAVENSIS, LEMOINEI, &c.; 200 Mrs. Reynolds Hole CARNATIONS, English-grown LILIES, 1200 Dutch LILIUMS, comprising L. rubrum, L. roseum, L. umbellatum, L. longiflorum, and L. Harrisii; 1500 LILY OF THE VALLEY CROWNS, 150 VALLOTTA PURPUREA, Double and single BEGONIAS, SPIRÆAS, 10,000 PEARL TUBEROSES, Hardy BULBS in variety, TIGRIDIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, MARCH 6, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

Hardy Border BULBS and PLANTS, ROSES, Double and Single BEGONIAS, GLADIOLI in variety, ANEMONES, HOLLYHOCKS, English-grown LILIES, TUBEROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 7, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

THURSDAY, MARCH 14.

MESSRS. SANDER AND CO.

WILL OFFER, AT

MESSRS. PROTHEROE AND MORRIS'

GREAT ROOMS,

67 & 68, CHEAPSIDE, LONDON, E.C., on

MARCH 14, NEXT,

GRAND NEW DENDROBE.

THE WHOLE IMPORTATION WILL BE OFFERED WITHOUT THE LEAST RESERVE, ON

THURSDAY, MARCH 14,

AT

MESSRS. PROTHEROE AND MORRIS' Great Rooms, Cheapside, London, E.C., by order of MESSRS. F. SANDER AND CO., St. Albans.

For Description and Full Particulars, see next week's "Gardeners' Chronicle."

Chingford, Essex.—Dissolution of Partnership.

Re Messrs. Kelman & Page. Preliminary notice.

MESSRS. PROTHEROE AND MORRIS having Let the Nursery, are instructed to SELL by AUCTION on the Premises, The Queen Elizabeth Nursery, Chingford, eight minutes walk from Chingford Railway Station, early this month, the whole of the NURSERY STOCK, Utensils in Trade, Stack of Hay, Cart Horses, and other effects.

Further particulars will appear.

Preliminary Notice.—Wednesday, March 13.

ENORMOUS CONSIGNMENT of JAPANESE LILIES.

50,000 LILIUM AURATUM,

Received direct for unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY, March 13, at 12 o'Clock.

Fuller particulars will appear next week.

On view morning of Sale, and Catalogues had.

Friday Next, March 8.

By Order of Messrs. F. Sander & Co., St. Albans.

SALE of ORCHIDS,

comprising some of the rarest and most beautiful Orchids known, among others, fine plants of the lovely CATTLEYA CRISPA and C. LEOPOLDII PERNAMBUCENSIS, a noble and extremely rare dark-red variety. Magnificent plants of the beautiful

ONCIDIUM PRÆTEXTUM,

the freest-flowering and most charming of the whole crispum section.

Many fine DENDROBES will be offered, including—Dendrobium formosum giganteum, D. infundibulum, D. Chrysotoxum, D. densiflorum, D. Wardianum, D. Falconerii, D. Findlayanum, D. secundum, &c., all in superb condition.

A grand new importation of

CYPRIPEDIUM INSIGNE MONTANUM

plants in splendid condition, quite perfect. The whole consignment will be included.

Fine plants of the lovely VANDA KIMBALLIANA, and the beautiful dark-blue VANDA CŒRULEA, will also be offered, besides grand plants of LÆLIA PURPURATA, CYPRIPEDIUM NIVEUM, CYPRIPEDIUM PARISHII in spledid health—absolutely perfect. Also fine plants of the beautiful ivory-white

CYMBIDIUM EBURNEUM,

and magnificent plants of the Charming

EPIDENDRUM NEMORALE MAXIMA,

Positively the most beautiful of all Epidendrums. Numerous other useful, easily-grown, and beautiful ORCHIDS will also be included, LYCASTE AROMATICA MAJUS, L. CRUENTA, L. DEPPEI, &c., ONCIDIUM HÆMATOCHILUM, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 8, at Half-past Twelve o'Clock.

Catalogues may be had, and the Plants viewed on the morning of the Sale.

Wednesday Next.

GREAT SALE of ENGLISH and GERMAN ROSES.

A splendid Collection of Choice-named, Beautifully-grown, Standard, Half-standard, Dwarf, and Climbing ROSES, from a celebrated and trustworthy German Grower, including a fine assortment of most of the newest and best sorts, just received direct; also another Collection from an English Nursery.

A Consignment from Ghent, comprising some extra fine AZALEA INDICA, PALMS, BEGONIAS, GLOXINIAS, &c. A Choice Selection of Pyramid and Dwarf-trained FRUIT TREES, comprising APPLES, PEARS, PLUMS, PEACHES, CHERRIES, NECTARINES, &c. Also RASPBERRIES, GOOSEBERRIES, CURRANTS, &c.

A Large and Varied Collection of Border Plants, including a Collection of CARNATIONS and PINKS, HOLLYHOCKS, DAHDIAS, IRIS to name, &c.

A Surplus Stock of Small Ornamental Shrubs, EVERGREENS, FLOWERING TREES, &c., consisting of HYDRANGEAS, DEUTZIAS, LAURELS, THUYA, BOX TREES, CUPRESSUS, LILACS, AZALEAS, KALMIAS, PRIVET, &c.

An Importation of Liliums from Japan, in fine order; Home-grown LILIUMS, a Collection of GLADIOLI to name, S. African and Pearl TUBEROSES, SPIRÆA JAPONICA and PALMATA, AMARYLLIS, PANCRATIUMS, CYPRIPEDIUM SPECTABILE, NARCISSUS, DIELYTRA SPECTABILE, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 6, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

The Glenthorne Collection of Orchids.

MESSRS. JAMES AND BAXTER are instructed by J. W. Yates, Esq., of Glenthorne, Erdington, Warwickshire, to SELL by AUCTION, at their Rooms, Temple Street, Birmingham, the entire collection of Orchids.

Catalogues free by post. Commissions carefully executed.

This day, Friday, at the

AUCTION MART, TOKENHOUSE YARD, BANK, LONDON, at half-past 12 o'Clock.

MESSRS. JAMES AND BAXTER will SELL as above,

90,000 AMERICAN PEARL TUBEROSES.

Auctioneer's Offices, Temple Street, Birmingham.

Frettingham's Nurseries, Stapleford, near NOTTINGHAM.

(Ten minutes' walk from Stapleford and Sandiacre Railway Station, Midland Railway.)

IMPORTANT TO GENTLEMAN, NURSERYMEN, BUILDERS, AND OTHERS.

FINAL CLEARANCE SALE of the valuable and well-grown NURSERY STOCK, being the best and most recently transplanted stock in the nursery, covering upwards of 30 acres.

MR. T. NEALE has received instructions to SELL by AUCTION, at the Nurseries, as above, on WEDNESDAY, March 6, 1895, and two following days, commencing each day at 12 o'Clock precisely, the whole of the VALUABLE NURSERY STOCK, absolutely without reserve, the freehold having been sold and possession required, comprising 16,000 CONIFERS, Cupressus Lawsoniana in great variety, a fine stock of GOLDEN YEWS, a large quantity of GOLDEN and SILVER HOLLIES, a great number of FINE SPECIMEN ORNAMENTAL TREES, 1000 FRUIT TREES, &c.

DESCRIPTIVE CATALOGUES may be had on application, by post or otherwise, at the Nurseries; at the Auctioneer's Offices, Wheeler Gate, Nottingham; or at the offices of ARTHUR T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham.

ORCHIDS! ORCHIDS!

JOHN COWAN & Co.

(LIMITED),

Have just received, ex steamer "Tagus," a large and fine consignment of the following and other ORCHIDS:—

CATTLEYA CRISPA
" INTERMEDIA
" GUTTATA LEOPOLDI
LÆLIA PURPURATA
" PERRINII
ONCIDIUM MARSHALLIANUM
" CRISPUM
SOPHRONITIS GRANDIFLORA

All of which are in grand condition. Inspection is earnestly invited. Descriptive and Priced Circulars post-free on application to the Company.

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WANTED to Purchase, a SEED and FLORISTS' BUSINESS, doing a good sound cash trade, one with small nursery trade not objected to.—NURSERY, 41, Wellington Street, Strand, W.C.

WANTED to RENT, from 2 Acres of LAND, with Cottage and Glass. Southern county preferred.—J. H., 183, Loughborough Road, S.W.

WANTED to RENT, near London, a few Acres of LAND, suitable for Nursery Purposes, with Glass and a Cottage preferred.—SULTAN, 41, Wellington Street, Strand, W.C.

GENUINE FLORIST and SEED BUSINESS for DISPOSAL, fine Shop, with Stable and Greenhouse, in excellent position, established ten years.

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KENT (Swanley).—TO BE SOLD, a capital FREEHOLD NURSERY, comprising 9 Houses, Cottage, and Stabling. Capital water supply; also a well-built House, comprising 8 rooms, kitchen and offices. The whole area comprises about 5 acres. Price Freehold, £2600.—Apply to Messrs. PRALL, Estate Agents, Dartford, Kent.

MIDDLESEX.—TO LET, in the best part of Market Garden District, 15 miles from London, 1¼ mile main line station, 160 acres (50 of which are old pasture), with 10-room well-built House and commodious buildings. Suitable for Market Garden and Dairy Farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

NURSERY TO LET, at Tottenham, about 1 Acre in extent, with five large Glasshouses. Abundance soft water. Rent low. No Stock or Goodwill. Apply—Mr. ALF. RICHARDS, 816, High Road, Tottenham.

LONDON, S.W.—A NURSERY in an excellent position. Good jobbing business. Four Glasshouses, Frames, efficiently heated. Lease 17 years; ground rent, £17. Option of freehold. Price £190. Ill-health cause of disposal. Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

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Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

CLEMATIS.—Strong Plants, in 48-sized pots. Jackmanni, 12s. per dozen, 75s. per 100. Fifty other best kinds, 12s. to 18s. per dozen, 75s. to £6 per 100. The new crimson kind, Madame Edouard André, 3s. 6d. each.

Also fine stocks of IVIES, HONEYSUCKLES, JASMINES, ROSES, WISTARIAS, MAGNOLIAS, ESCALLONIAS, CEANOTHUS, and all other hardy Climbing and Wall Plants. Priced List free by post.

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Of every description, from 1s. each; samples, post-free, 1s. 3d. RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

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	£	s.	d.		£	s.	d.
Mrs. Denwood Harrison	0	2	6	A. F. Barron ...	0	10	0
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Messrs. F. Sander & Co.	1	1	0	Sir Edwin Saunders	2	2	0
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PEACHES and NECTARINES.—Standard and Dwarf-trained; fine bearing trees. Sure to please. Price list free.—WILL TAYLER, Hampton, Middlesex.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
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PRICE LIST free.

Strawberries and Raspberries.

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ROSES in POTS.—A magnificent Stock of extra strong plants, established in 8-inch pots, suitable for present forcing or greenhouse culture. TEA-SCENTED and NOISETTE varieties (dwarf and climbing kinds), 30s. to 60s. per doz. HYBRID PERPETUALS, 24s. to 42s. per doz.
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Turner's Crimson Rambler Rose.

CHARLES TURNER can supply extra strong plants from ground, 8 to 10 feet high.
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MRS. PARKER RETURNS her most GRATEFUL THANKS to all Subscribers to the Royal Gardeners' Orphan Fund, contributed by their votes towards the Election of her son, F. S Parker.

ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

STRAWBERRY ROYAL SOVEREIGN (LAXTON).—Well-rooted Runners, 3s. per doz., 20s. per 100; STRONG FRUITING RUNNERS, 6s. per dozen, 40s. per 100; free cash.—S. HAMILTON, Mayfield Gardens, Perth, N.B.

VIOLAS. — Strong Plants from Cuttings (true):—Countess of Kintore; do., Wharncliffe, Duchess of Fife, Magpie, Skylark, Archie Grant, Goldfinch, &c., 8d. per dozen, 4s. 6d. per 100; Inula glandulosa, Heuchera sanguinea, Pink Her Majesty, 3-yr.-old plants, 3d. each.
M. McALPINE, Wymondham, Norfolk.

CHOICE GARDEN PEAS.—Finest quality.—Taber's DUKE OF YORK, very choice, 1s. 6d. per quart, 10s. per peck; DUKE OF ALBANY, 1s. per quart, 7s. per peck; Sangster's No. 1, 8d. per quart, 4s. per peck; WILLIAM THE FIRST, 9d. per quart, 5s. per peck.
Write for my List of Seeds at exceptional prices.
THOMAS COLEMAN, Saffron Waldren.

SEEDS, of best quality only. — BONNETT'S popular Vegetable Collections, 16 to 34 varieties; prices, 2s. 6d. to 50s. Satisfaction guaranteed. Amateurs' Guide for 1895 and Catalogue, free.
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Sample on application.
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EVERGREENS UNINJURED by FROST.

VARIEGATED HOLLIES.

Unique Specimens to the Smaller Sizes.

LARGE GREEN HOLLIES, 5 to 7 feet.
GREEN YEWS, 5 to 6 feet.
PINUS AUSTRIACA, 4 to 6 feet.
CONIFERS in great variety, 3 to 8 feet.
RHODODENDRONS, named, 2 to 4 feet.
" PONTICUM, bushy, 2 to 3 feet.

DECIDUOUS
SHRUBS AND TREES,
in immense Number and Variety.

PAUL & SON,
THE OLD NURSERIES, CHESHUNT.

NEW ZONALS, NEW CANNAS, NEW PELARGONIUMS

CATALOGUE NOW READY,
Free on application, from
J. R. PEARSON & SONS,
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FLORISTS' FLOWERS
AND
HARDY BORDER PLANTS.

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For 1895 is Now Ready,

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The NEW CATALOGUE for 1895 is enlarged to about 150 pages, and very materially improved, embracing everything worth cultivating in the way of FLORISTS' FLOWERS and HARDY BORDER PLANTS, with accurate description and prices, copious notes as to their origin, how and where best to grow, a full index of the common or popular names of HARDY BORDER PLANTS, and a vast mass of other valuable information, which cannot be had elsewhere, which render this the BEST, MOST RELIABLE and COMPLETE CATALOGUE ever issued on this popular class of plants.

JOHN FORBES, NURSERYMAN, HAWICK, SCOTLAND.

GARDEN SEEDS—FARM SEEDS

SHARPE'S STANDARD SEEDS

Special Offers on application.

CHARLES SHARPE & CO.,
LIMITED,
Seed Growers, Sleaford.

LILIUM AURATUM.

GRAND PLUMP BULBS, fresh from the Japanese Cases.

	Per doz.	Per 100.
FINE BULBS, up to 9 inches	3 0	18 0
GRAND BULBS, 9 to 10 inches	5 0	30 0
LARGER BULBS, 10 to 11 inches	7 0	50 0
EXHIBITION BULBS...	10 6	...
AURATUM PLATYPHYLLUM	12 0	...
" PICTUM	24 0	...
ALBUM KRÆTZERI, large	10 0	...
RUBRUM CRUENTUM	7 0	...
BATEMANNIÆ (apricot)	9 0	...
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Smaller quantities at same prices.
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W. H. HUDSON, F.R.H.S., Japanese Lily Importer,
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THE BEST SEEDS FOR THE GARDEN.

SELECT VEGETABLE SEEDS, CHOICE FLOWER SEEDS. SEED POTATOS, GARDEN TOOLS, SUNDRIES, &c.

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DICKSONS, CHESTER.

EXHIBITIONS.

CRYSTAL PALACE.—SPRING EXHIBITION of FLOWERS and PLANTS.
SATURDAY, March 16.
Schedules and Entry-forms, free by post, on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E. Entries close on Saturday, March 9.

BRIGHTON and SUSSEX HORTICULTURAL SOCIETY.
SPRING SHOWS, March 26, 27.
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Canna Queen Charlotte	Patrinia rupestris
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ALDER, 3 to 5 ft., 35s. per 1000; 5 to 8 ft., 50s. per 1000; 10 to 12 ft., 40s. per 100.
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JOHNSONS' BOSTON Q. Q.

(Quantity and Quality.)

High record yield, 223 lb., raised from 2 lb. of Seed.

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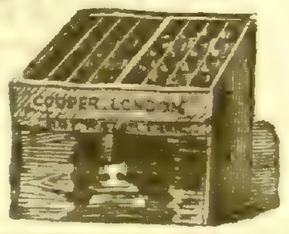

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THE

Gardeners' Chronicle.

SATURDAY, MARCH 2, 1895.

LINCOLN'S INN FIELDS.

IT was impossible for the visitor not to enter into the enthusiasm which prevailed at the opening to the public on Saturday last of Lincoln's Inn Fields, a ceremony which was performed by Sir John Hutton, the Chairman of the London County Council. The extraordinary thing is, that such an important space, the indubitable heritage of Londoners, should have been closed for so long a period; and still more, that it has now been secured only by the weighty consideration of £12,000. If there is one open space in London, which, more than another, has been neglected by the privileged few, it is that of Lincoln's Inn Fields; and to this it may be added, that no "breathing-spot" in the metropolis will be more fully appreciated, or is more urgently required. London is yet a long way off from the realisation of Ruskin's dream, when "the children shall not play in the gutter, but there shall be real flowers and real sunshine, and the children shall dance because of their joy." There are between 4000 and 5000 school-children being taught in the immediate vicinity of Lincoln's Inn Fields, and for these there was scarcely any playground better than the streets and the gutters until Saturday last. So that, if London has had to pay heavily, Londoners of to-day, and those who will come after us, owe a deep debt of gratitude to the County Council for having at last put them in possession of a very splendid area of over 7 acres in extent. Before the County Council came into existence, that admirable institution the Metropolitan Public Gardens Association made several attempts to throw this space open to the public; but the trustees of Lincoln's Inn declined, upon every attempt, to accede to a demand which was entirely philanthropic. It is said, indeed, that they were prevented by the terms of their Act from throwing the place open—if such is the case, it can only be said that the Act was one of the most iniquitous which was ever passed. They held a lease in the property for 900 years from 1657, at a rent of 20s. per annum; but those who have worked for the public acquisition of this space knew very well that it was not so much a question of a resignation of this "rights" by a special Act of Parliament as it was a matter of compensation. In 1892 the Bill, which was to give power to open Lincoln's Inn Fields was rejected by the House of Commons, and in the following year a similar Bill was thrown out by the House of Lords; last year, however, the Bill was accepted by both Houses, and so the third attempt of the London County Council was rewarded with success.

The history of Lincoln's Inn Fields is full of interest. Far back in the mists of the ages, the place was known as Fikattesfield, Ficetsfeld, and Fiket's Field, and also as the Templar's Field, and the place was then actually a field. Mr.

Clinch, in his interesting sketch of the locality in his work on *Bloomsbury and St. Giles'*, points out that from a petition respecting it presented to Parliament during the Commonwealth, this place was a common walking and sporting place for the clerks of chancery, apprentices, students of the law, and citizens of London as early as 1376. From this same document also we learn that a certain Roger Leget was imprisoned for setting "iron engines called caltrappes*" in this field with malicious intent. The place continued to be a place of public recreation until a considerable portion of it was built over towards the reign of Elizabeth. In 1618, James *I.* appointed or granted a commission to dispose of the whole, the ordering of which was granted to the Lord Chancellor Bacon, with the Earls of Pembroke, Worcester, Arundel, and others, assisted by the King's architect, Inigo Jones.

The Commission alleged in their report that more public works had been undertaken near and about the city of London within the sixteen previous years than in ages before. That the ground called Lincoln's Inn Fields were much planted round with dwellings and lodgings of noblemen and gentlemen of quality; but at the same time were much deformed by cottages and mean buildings, encroachments on the Fields, and nuisances to the neighbourhood. The Commissioners, desirous to reform those grievances, had determined to frame and reduce these Fields into "such walks, partitions, or other plots, and in such sort, manner, and form, both for public health and pleasure, as by Mr. Inigo Jones should be accordingly drawn by way of map." The last-named drew up a plan of a magnificent square, and gave it the exact dimensions of the Great Pyramid of Egypt; but the bold design was not executed, except, possibly, the west side of it, the remaining three sides being either unbuilt or occupied by cottages. For nearly half a century after the partial or total collapse of Inigo Jones' scheme, the space comprised three portions—Purse Field, Fiket's Field, and Cup Field, in which a common horse-pool was constructed. The place degenerated rapidly, and rubbish of all kinds got deposited here in such quantities, that recreation of any kind became impossible except to mudlarks.

It was decided in the year before Cromwell's death, that two further sides should be built, which, with Portugal Row, would complete the square, which was to have a water-house not exceeding 10 yards square, in the centre. But these "improvements" had very little effect in ridding the place of thieves, beggars and other vicious classes who made the locality their favourite resort. Gay's *Trivia, or the Art of Walking the Streets of London*, 1712, contains in Book III. (lines 133 to 144), the following description of the place:—

"Where Lincoln's Inn, wide space, is rail'd around,
Cross not with venturous step; there oft is found
The lurking thief, who, whilst the daylight shine,
Made the walls echo with his begging tone:
That crutch, which late compassion mov'd, shall wound
Thy bleeding head, and fell thee to the ground.
Thou then art tempted by the linkman's† call,
Yet trust him not along the lonely wall;
In the midway he'll quench the flaming brand,
And share the booty with the pilfering band.
Still keep the public streets, where oily rays,
Shot from the crystal lamp, o'erspread the ways."

* A caltrap, it may be mentioned, was a military instrument with four iron points, so disposed that any three of them being on the ground, the fourth projects upwards They were scattered on the ground where an enemy's cavalry were to pass, to impede their progress by endangering the horses' feet. Leget was clearly a person with a peculiarly evil mind.

† It may be pointed out that the "link-man," who carried a link or torch to light passengers, played a very important part in the social history of London at this period, when street-lamps were unheard of and undreamt of.

For nearly a quarter of a century after Gay wrote the foregoing lines, the place remained a wilderness, and one of the most dangerous spots in the metropolis. In 1735, however, trustees were appointed by Parliament to superintend the railing-in and planting of the square, in the centre of which a pool or reservoir was constructed, and the place returned to the "sweetnesse, uniformitie, and comelinesse" which it was said to have attained when Inigo Jones laid his improving hands upon it. This final phase of its history appears to have come about, not so much because it was an intolerable public nuisance and danger, as because a boy, exercising a horse, in 1733 rode over the then Master of the Rolls, Sir Joseph Jekyl—an indignity to the majesty of law which only the most drastic measures could wipe out.

Among other parts which Lincoln's Inn Fields have played in the history of London is that in relation to executions. The most distinguished person executed here was William Lord Russell, who, as Macaulay puts it, appears to have been guilty of no offence falling within the definition of high treason, was condemned by reason of his supposed connection with the Rye House Plot. He was executed in Lincoln's Inn Fields, and was attended by Bishops Tillotson and Burnet. Lord Russell's house was a mansion occupying the north side of Bloomsbury Square.

Many distinguished persons have lived in Lincoln's Inn Fields, notably the Earls of Bristol and Sandwich, in the time of Charles II.; Sir Richard and Lady Fanshawe, in a house on the northside · the Duke of Newcastle, in Newcastle House; the great Lord Somers, in Powis House; Lord Kenyon at No. 35, in 1805; Lord Erskine, at No. 36, in 1805; and Spencer Perceval, at No. 57, in 1805. The house of the distinguished architect, Sir John Soane, is on the north side of the Square, and has "a singular but pleasing effect, though not quite desirable, perhaps, in this northern climate, where light and air are in request." It presents a case of stone, added to the original front, and comprising a balcony and arcade. The edifice was built by Sir John himself, in 1792, and since his death his valuable Museum, which is not nearly so well-known as its extraordinary interest deserves, is open to the public on stated days. It contains a collection of antiquities, books, manuscripts, and pictures, which he bequeathed to the nation, with the sum of £30,000, the interest of which is to be applied in maintaining it.

Sufficient, perhaps, has been said of the ancient history of Lincoln's Inn Fields. Its modern history dates forward from last Saturday. Some considerable time must necessarily elapse before it can be placed in thorough working order. The fine Plane trees will, in the meantime, make up for the neglected condition of the grounds as a whole. The place is in a bad state of repair; the walks will require much labour and attention before they can be traversed with comfort. The shrubs require attention, and many of them should be entirely removed, and more suitable ones planted in their place. Not very much can be done perhaps in the way of flower-gardening; and, as a matter of fact, not much is needed. The Fields will be far better and more enjoyable laid out in grass, than covered with a number of gaudy beds of bedding-out plants which require so many conditions to be a success, and which, in such summers as we have been having during the last few years, are always failures. No extensive alterations, indeed, are necessary, but many minor improvements naturally suggest themselves to the horticultural visitor. *W. Roberts.*

New or Noteworthy Plants.

FLEURYA PODOCARPA, *Wedd.*

This is a very curious Urticaceous plant from Western tropical Africa. It is a creeper growing in muddy soil, where the runners send up stems of about 1½ foot high, with long-stalked, ovate-acute, serrate leaves. The flowers are diclinous, the almost sessile males are arranged in little clusters along a more or less long flower-stalk, whilst the long-peduncled females grow singly or in loose racemes. The most curious feature is, as Prof. Engler shows in an illustrated publication of the Royal Academy of Sciences at Berlin, that the plant bears female flowers on the upper parts as well as on the lower parts, and that the latter are often subterranean. Now, though these subterranean flowers are decidedly unisexual, they develop into fruits which differ from the aërial fruits, in that they are somewhat broader and contain somewhat larger seeds. It is well known that there are certain plants which ripen their fruits in the soil. Some of them bear aërial flowers, of which only the lowest ripen into fruits, after they are thrown or protruded downwards into the soil, as Arachis hypogæa, Voandzeia subterranea, Trifolium subterraneum, Morisia hypogæa, Geococcus pusillus, Astragalus hypogaeus, Okenia hypogæa. It is also known that the flower-heads of Plantago cretica bend downwards to the soil after the flowers are fertilised, and that the capsules of Cyclamen move to the soil by the curling of the flower-stalk. But all these flowers are hermaphrodite but chasmogamous, i.e., they cannot fertilise themselves. Other species, as Vicia angustifolia var. amphicarpos, V. pyrenaica, Lathyrus sativus var. amphicarpus, L. setifolius, Trifolium polymorphum, Galactia canescens, Amphicarpæa monoica, A. sarmentosa, Polygala polygama, Viola sepincola, Linaria Cymbalaria, L. spuria, L. Elatine, Scrophularia arguta, Catananche lutea, Commelina bengalensis, and Milium amphicarpum, bear aërial chasmogamous and subterranean cleistogamous (i.e., self-fertilising) flowers. The former kinds include the geocarpic species, the second one the amphicarpic species. Fleurya podocarpa is also an amphicarpic plant, but the first known instance with diclinous flowers. Professor Engler supposes that the subterranean flowers are fertilised by the pollen of the aërial male flowers, which, as in other Urticaceous plants, is spread out by the anthers, and may be conveyed by insects or worms to the stigmata. But it is noteworthy that Professor Engler also found one male inflorescence, though not in organic connection with the plant, adhering to a root, and that this differed in more than one way from the aërial male inflorescence. Geocarpy and amphicarpy are, according to Engler, more perceptible in physiological than in biological causes. *U. D.*

LYCORIS AUREA.

Our illustration, copied from a photograph taken in the Royal Gardens, Kew (see fig. 35, p. 263), gives a representation of Lycoris aurea, a pretty Chinese Amaryllid, which, although first introduced into English gardens as far back as the year 1777, has never been cultivated to the extent which its neat habit and elegant golden-yellow flowers seem to warrant. In favourable situations, in the warmer parts of the British Isles, it would doubtless thrive tolerably well in the open air in like manner to the rose-coloured L. radiata, which is more commonly known as Nerine japonica, but greenhouse culture is the safest and most satisfactory. The species of Lycoris grow remarkably well when grown in a cool house or heated frame, and in company with Cyrtanthus, Nerine, &c. In common with other bulbous plants the Lycoris thrive best in soil chiefly composed of turfy yellow loam; and in the matter of repotting, it is best to leave them at least two years undisturbed (provided the soil in the pots is still fresh), for frequent shifting causes the Lycoris to miss flowering, and is probably the chief cause of their having acquired the name of shy bloomers, which at present is the only reflection on their character as useful and pretty garden bulbs. Lycoris aurea was figured under the name of Amaryllis aurea in the *Botanical Magazine*, t. 409, as long ago as 1798.

CROTONS.

Though seldom represented by varied and well-grown collections, Crotons, (botanically species of Codiæum,) are present in more or less numbers in the majority of private gardens, and the frequent absence of a thoroughly good collection is attributed to an alleged lack of interest in the plants entertained by employers. They are, when properly grown, one of the most useful groups of plants available for stove decoration, and they form a creditable addition to the permanent occupants of this structure; especially is such the case at the present time when flowers are scarce, and anything that produces a bright colour is very valuable. There exists, however, a very popular opinion that to produce a high colour in Crotons (without which the plant is valueless and uninteresting), an excessive amount of fire-heat is essential. This is an erroneous idea, and prejudicial to the commercial prospects of the family. A high temperature by sunheat in summer may be indulged in to advantage and is desirable, but during winter and late autumn, when fire-heat has to be resorted to, a high temperature is a useless waste of fuel, and a likely forerunner of aphis, if nothing worse. Another opinion which is widely held, is that a particular course of chemical stimulants has to be given. I would willingly admit the use of these and their effect, but from the fact that I have never found it necessary to resort to this artificial means of producing high colours, given a light structure, due attention to watering, and to maintaining a moist temperature, and above all a healthy clean stock to work with, they can be sufficiently coloured to satisfy the most exacting worshippers of this plant.

To meet the demands for house and table decoration, we devote the front bench, 4½ feet wide and 30 feet long, in a house having a southern aspect; the pots are stood on finely-broken clinkers, the dark colour of these contrasting with the bright colours of the Crotons. Propagation by means of ringing is usually commenced the first week in January. I have tried repeatedly the rooting of tops in the ordinary manner, but have failed to retain all the leaves near the base of the cutting; and as this was most noticeable in very highly-coloured tops, I am led to think that to attain the best results, the process of ringing or splitting must be adopted. The usual application of sand and moss to the stem is deferred until the first indications of roots are apparent. The rooted "top" is severed from the stock-plant with a sharp knife, and placed in a small pot when the number of roots visible through the moss warrants this step being taken. The pots are plunged in a propagating-case, and in a fortnight's time the plants may be safely removed to a shelf or bench near the glass, where they should be shaded if the leaves are inclined to droop. After a few days in this position, the plants are re-potted into large and small 48's; these should be thoroughly clean, and drainage added somewhat liberally, over which a thin layer of live-moss may be laid. The smaller pots are used for the weaker or narrow-leaved varieties, now so much in demand. These include C. Chelsoni, C. Aigburthiensis, C. angustifolius, C. Mrs. Dorman, C. Golden Ring, C. Cronstadti, C. gracillimus, and many others. The stronger-growing varieties are given slightly larger pots. Amongst the best in this class are C. Queen Victoria, C. Andréanus, C. Reidi, C. Evansianus, C. Mortii, C. Mooreanus, C. Etna, C. Sunshine, and C. Nevillei.

Generally, fibry loam from which the fine earth has been freely shaken, should form the basis of the compost used for potting, together with one part each of peat, sand, and leaf-mould, adding a few pieces of charcoal to sustain porosity. To such sorts as C. Chelsoni we usually give more peat and less leaf-soil. Potting should be done somewhat firmly, pressing the soil with a thin lath between the root-mass and the sides of the pot.

Unless when the thermometer indicates 100°, and we have frequently let it run up to 105° by sun, we never open the ventilators, and then only very sparingly, for about an hour. I much prefer drawing a thin shading over them, and syringing overhead if the sun is very hot. This shading, which is on a roller, is used for Caladiums growing on the back shelves, and is not drawn over the Crotons so much for a shield against the sun's rays as to preserve the moist temperature which we endeavour to maintain by syringing the foliage, and damping the paths, walls, &c.

In regard to watering, Crotons, in common with many other moisture-loving plants, are most impatient of anything approaching stagnation. When water is needed the operation should be done thoroughly. The syringe plays an important part in this respect, and may be applied any time during the day in bright weather. The spray should be fine and smartly applied both under and over the foliage.

Temperatures should be as follows: During summer at night, 65° in dull or rainy weather, and 70° in bright weather, allowing the thermometer to run up to 100° by sun-heat, provided the structure is well charged with moisture; and 55° by night and 60° by day during the winter months will suffice.

J. F. McLeod.

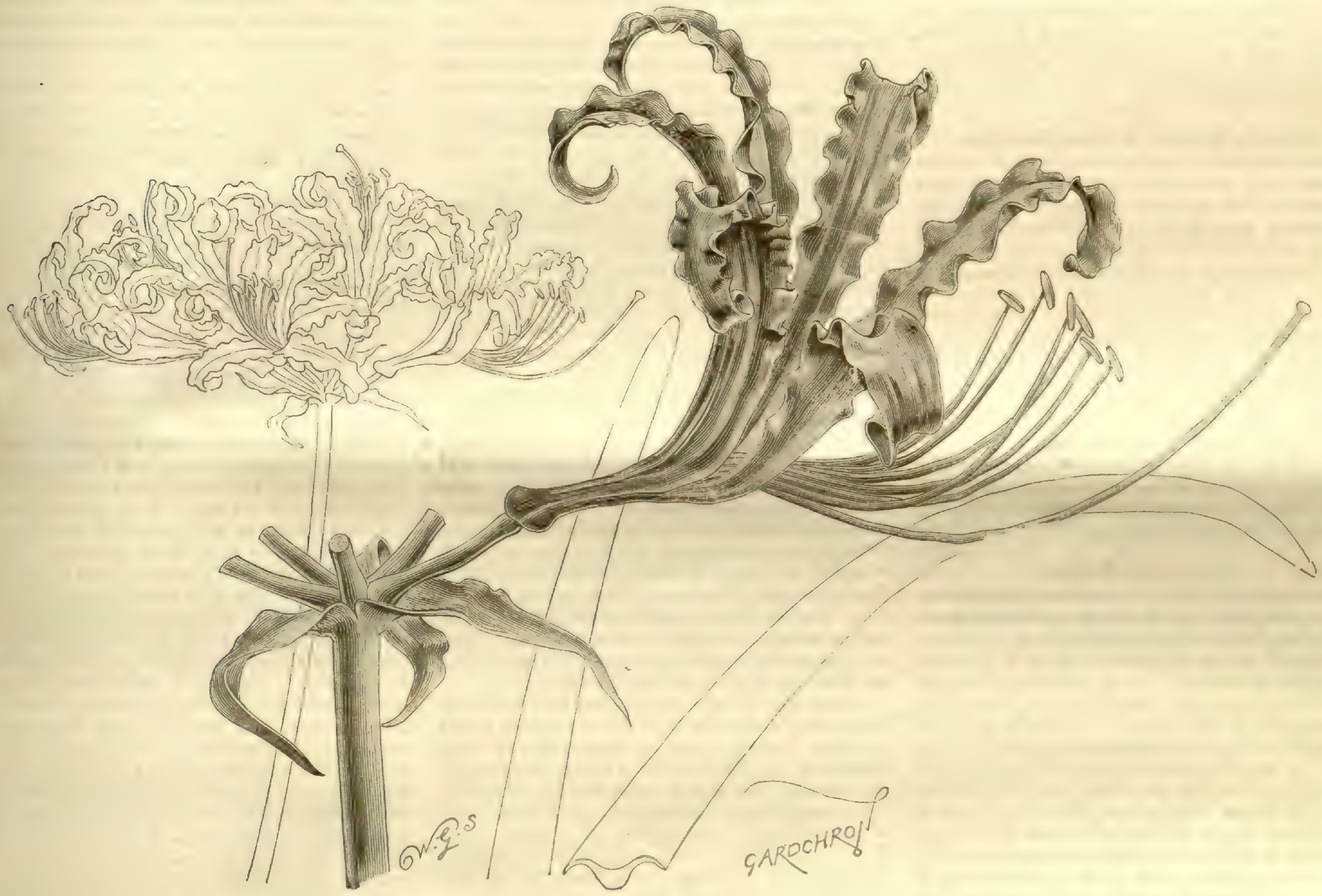


Fig. 35.—Lycoris aurea: flowers golden yellow. (see p. 262.)

Orchid Notes and Gleanings.

CATTLEYA TRIANÆI VARIETIES.

The Trianæi section is one of the handsomest and most variable of the C. labiata group, and it is found distributed over a greater range in its native habitat than any other. Unfortunately, the species easiest of access, and which cost the least to get, are worthless when compared with the Popayan and Ibague varieties, from which the named and recorded novelties have chiefly sprung. From various sources we have received remarkably beautiful forms of C. Trianæi this season, and three very superb flowers now sent by Mr. Alfred Tomalin, gardener to Stephen White, Esq., Oakwood, Crayford, Kent, are equal to the best, the size of the flowers, and the brilliancy of their colours, being remarkable. No. 1 is of the C. T. eboracen sis class, with light lilac sepals and petals, rich pur ple lip, and orange throat; No. 2 is lighter in colour, and has a purple feather at the tips of the petals; and No. 3 has a fine lip, with circular, crimped front lobe; bright crimson, with lavender margin. With Siberian weather outside, such flowers are pleasant to view.

Cattleya Trianæi, Popayan Varieties.

The excellence of the Popayan type of Cattleya Trianæi, and its superiority over those from other districts, is well shown at the present time in the Right Hon. Lord Rothchild's gardens, Tring Park, Tring, where some plants imported last year from the neighbourhood of Popayan are making a fine show. The size and colour of the flowers are of the highest order, and, beside them, the ordinary varieties look very poor. They are all of the high-coloured class, and the bright violet-crimson on the fronts of their broad labellums no doubt indicate the peculiarity which led to the report that a blue Cattleya was to be found in the district whence they come. Mr. E. Hill, the gardener at Tring Park, says they are the most satisfactory Cattleyas of this class which he has grown, not a single indifferent form having appeared, and their gorgeous blooms at this season being invaluable.

Cypripedium Hybrid.

A problem in hybrid Cypripediums is forwarded for the second time by Mr. Jones, gardener to W. C. Clark, Esq., Orleans House, Sefton Park, Liverpool, who states that it is alleged to be C. × Leeanum superbum × Stonei. There certainly does not appear to be much of C. Stonei about it, but careful examination of the staminode reveals some slight traces of the peculiar structure of C. Stonei, and the wax-like white upper sepal, with its broad, purple line up the centre and less distinct lines on each side may tell of the same species. The lower sepal is light-green, the lip and petals greenish-yellow, with brownish veining, and a tinge of the same purplish-brown over the face of the lip and inner halves of the petals. The intercrossing of these plants so often affords strange results that it is difficult, or next to impossible, to foresee what their progeny may be like. It is a handsome and rather distinct flower, although it is closer to the C. × Leeanum section perhaps than could have been wished.

FRENCH BEANS AND OTHERS.

The use made of this vegetable differs according to locality, and varies sometimes even in the same locality; hence a corresponding number of distinct varieties and methods of cultivation. Requiring more heat than moisture, of rapid growth, the French Bean is easily interposed as a summer crop between a crop gathered early in spring, such as early Potatos, Spinach, or Trifolium rubrum, and an autumn cereal. From a cultural point of view, Beans are primarily divided into Runner Beans, which need supporting with stakes, and Dwarf Beans, which form a low and self-supporting tuft. As regards cultivation on a large scale, we will here deal with Dwarf Beans only. The others, that is to say, French Beans, with the stakes that they require, pertain especially to the department of market-gardening, properly so called.

From the point of view of consumption, Beans are divided into edible-podded Beans, in which seed and pod are eaten together (French Beans), and Beans which are shelled, and the seed only used (Flageolets, Haricots). The latter can be utilised either with the young pods gathered green (these are the "Haricots verts"), or as ripe seed (flageolets); or, lastly, as ripe and dried seed (Haricots), this latter usage being the most important of all. In many parts of France the raising of Beans, which is carried on in connection with other crops, either among the Vines or in the Maize-fields, gives a yield almost comparable to that of cereals, and most important for public food, as the seeds of the edible Leguminosæ, and those of Beans in particular, are among the substances furnishing nitrogenous elements at most moderate prices.

It is very difficult to indicate the varieties of Beans most valuable for harvesting as dried seeds. The advantages vary in one particular and another, and the fancy of the buyer has always to be considered. It has often much influence on the very varying profit yielded by products of equal intrinsic quality, but of which one is in fashion while the other is not.

It may be said, generally speaking, that the white-seeded species are preferable. White Flageolets with puckered leaves, and "Early Etampes" are among the best Beans of fine quality, together with the dwarf Haricot de Soissons, the dwarf Bonnemain, and the dwarf Haricot Riz, or Comtesse de Chambord. The Haricot Suisse Blanc (Royal Dwarf White Bean), and especially the dwarf variety, and the dwarf Dutch Haricot sabre, can also be confidently cultivated for the dried seed; the produce will always find a buyer when in good condition.

Haricots with greenish seeds, Chevrier, Merveille de France, Bagnolet vert, &c., are more valuable than white-seeded Beans, but to obtain these well-coloured and uniform, necessitates that work and knowledge on the part of the grower shall assist Nature a little. As soon as growth is beginning to cease, which is easily known by the fall of the leaves, and while the pods are still green, the plants should be pulled up by hand and piled up into little heaps. The leaves, and, if necessary, some straw, serve to cover over the heaps to make them dry gradually, and to exclude the light as far as possible. After ten days or a fortnight, if the weather is favourable, the Beans are dry, and can be threshed.

Among the coloured Beans most in demand for eating may be mentioned Haricot Flageolet Rouge (Crimson Wonder Bean), or rognon de coq, long, cylindrical, very shiny, which is always much valued; and the dwarf Haricots de Chartres and d'Orléans, smaller and shorter, olive-shaped, and of which there is a considerable consumption in France. The Haricots suisses sang de bœuf, rouge (Long Spotted French Bean), or Indian, the Haricot Turc are sent in quantities dried to the Paris Halles.

The crop can always be gathered within five months. It is harvested still sooner in the case of Haricots shelled green, and still more so for the "Haricots verts."

In the environs of Paris where the cultivation of Haricots for supplying Flageolets is carried on to a considerable extent, there are three varieties almost exclusively devoted to this purpose, and of which two have been already named, Haricot Flageolet blanc (Early Laon Bean) and dwarf Soissons. The third is Haricot Flageolet jaune (Pale Dun Bean), very early, very sturdy, and productive, the seed of which gathered when full-sized, but still fresh, is nearly white, thick and very delicate.

The seeds of the Flageolet rouge (Crimson Wonder) is also when green, but more rarely.

For the production of Haricots verts (French Beans), which is extremely important in the neighbourhood of all large towns, and of Paris in particular, the number of suitable varieties is almost endless. In one village alone, where all the growers are devoted to this industry, there are fifteen different kinds grown, and each justifies by some special merit the preference shown for it. Further, the very early strains which yield the first supplies for the market, the Haricot Flageolet d'Etampes, Noir de Belgique (Belgian Negro Bean, or Dwarf Belgian Bean), Chocolat, rival each other for this purpose. The advantage of early production is, however, counterbalanced by the smaller yield, and it has lost much of its importance owing to consignments which arrive rom countries more favoured as to climate.

Beans are, like Asparagus, but in a less degree, one of the products which bear transport well. They come into Paris from Bordeaux, Provence, and even from the South of Spain.

For the main crop, species are preferred that yield largely, have long, straight, and rather cylindrical than flattened pods, of a fine green colour, and free from black spots. Dwarf Beans intended to be used green should not be too short in the stalk. It is, in fact, an inconsistency which demands that a plant shall be very dwarf and at the same time bear long pods, as these then touch the ground at their lower end, becoming soiled and often rotten from contact with the damp soil.

Among dwarf Beans suited for use, as Haricots verts, these must be cited as the most important: the Haricot Bagnolet, or suisse gris (Black Speckled Dwarf Bean), one of those most generally cultivated in the environs of Paris. It is not very early, but extremely productive, hardy, sturdy, and perpetual. There is now a sub-variety with puckered foliage. H. solitaire (Bush Haricot), is a more branching form of Bagnolet (Black Speckled Dwarf Bean), more bushy and with smaller seeds. It is so named, it is said, because a single seed suffices to raise a sufficiently dense clump. In spite of this, it is sown as are the others, three or four together in each dibble. The Haricot Gloire de Lyon precedes H. Bagnolet by some fifteen days. It has wider and less numerous pods. The two strains can be so grown as to secure a continuous crop, beginning early and ending late. Haricot Russe, a little less large and branching, resembles Bagnolet in the length of the pods; it has a grey seeds, dull, and not shiny, as are the other Haricots. The Haricot Flageolet Noir (Black Canterbury Bean) is still considerably grown around Paris; it is rather tender, but its long pods are of remarkable beauty. Shah of Persia is coming more and more into use for French Beans; it is, of all dwarf Beans, that bearing the longest, straightest, and finest pods. It is very sturdy, bears broad leaves, and prefers soil which always maintains a certain degree of moisture. It is possible, to a certain extent, to combine the cultivation of Beans eaten whole (or edible-podded) with that of Haricots verts. In one case as in the other, in fact, the pod is gathered and eaten whole, but in Haricots eaten whole the stage of development is usually more advanced, and the seeds are already more or less developed when the pod is eaten. The best known and most valued around Paris of all the edible-podded Beans is the long-podded dwarf Haricot Beurré Noir. It is widely different from the old dwarf Haricot Beurré Noir, or Dwarf Noir d'Alger (Dwarf Butter-bean), as the spaces between the seeds are longer and thinner at the extremities. The pod, instead of being short and dilated, is much more elongated, and attains more nearly to the dimensions of a pod of Haricot Flageolet. The plant is sturdy, hardy, and yields a considerable crop. The extra early Haricot Nain Mange tout, and the dwarf white Haricot Beurré, are also commendable, because of the white colour of their seed; and in the case of the former, its extreme earliness. Among the Haricots eaten whole with green or coloured pods, the dwarf Haricot Unique should still be named as extremely productive and resisting, with numerous and thick pods; also the curious dwarf Bean with violet pods (the Purple-podded Bean, or King Theodore Summer Kidney Bean), early and abundant, of which the pods lose in cooking their deep violet colour, and become green like the others.

The culture of Beans does not occupy the soil very long, and generally leaves it in an excellent

state of cleanliness and fertility for the succeeding crops. For this reason it is to be recommended. The cultivation for dried seeds does not require nearly as much hand-labour as does the cultivation for French Beans. *H. de Vilmorin, in an Address on "Les Legumes de Grande Culture," at Troyes.*

FORESTRY.

QUALITY OF BRITISH-GROWN CONIFEROUS TIMBERS.

(Continued from p. 137.)

Cryptomeria japonica (Japan Cedar).—Age 43 years; cubic contents 47 feet; soil black, dampish loam, on a low-lying situation. Timber remarkably light, nearly white, soft, and easily worked. In the dry it has remained perfectly sound for twelve years. Compared with foreign planks, those produced in this country differ but little.

Cunninghamia sinensis (Chinese Fir).—Age uncertain, probably 34 years; cubic contents 27 feet; soil rich black loam. Timber of a beautiful light mahogany colour, firm, clean-grained, and taking a good polish. That of a specimen cut at Esher Place, Surrey, planted probably 30 years, and 37 feet high, was also of good quality, and the colouring rich, though not equal to the first-mentioned tree. It was growing on deep sandy soil, but was shabby of appearance. A portion of the trunk was sent to the Surveyors' Institution.

Cupressus Lawsoniana (Lawson's Cypress).—Age 27 years; cubic contents 19 feet; soil gravelly. Timber of a pleasing yellow colour, very close-grained and hard, and works well under the tools of the carpenter. Fencing-posts made of the wood have stood a seven years' test satisfactorily; but for household carpentry the wood is evidently best suited. It is sweetly-scented, and very elastic.

Cupressus macrocarpa (Large-fruited Cypress).—Age 38 years; cubic contents 43 feet; soil good yellow loam. Timber of first-rate quality, being remarkably hard, and very beautifully grained. It is Barberry-yellow in colour, but towards the centre reddish-yellow, very compact and close-grained, and it works smoothly under the tools of the carpenter. The lasting qualities, both in and out-of-doors, are quite satisfactory. I consider the timber of this Cypress superior to that of most of our home-grown woods, and doubt not that it will yet be largely used for constructive purposes.

C. nootkaensis (Alaska Cypress).—Age 23 years; cubic contents 19 feet; soil gravelly loam. Timber excellent, even in the immature specimen to which I refer, of a pleasant light yellow colour, and agreeably scented. It is light, close-grained, and, being clean, works and polishes readily, but is rather brittle. When tested out-of-doors, the results were favourable, more so than we expected from the immature specimens at our disposal.

C. torulosa (Tufted Cypress).—Age 35 years; cubic contents 26 feet; soil black loam. Timber highly fragrant, purplish-yellow, hard, close-grained, and fibrous. For indoor work it is especially valuable, and in such has remained unchanged for fully thirteen years.

Ginkgo triloba (Maidenhair Tree).—Age unknown, being a wall tree, probably 50 years; soil light rich loam. Timber soft, brittle, and of a light yellow colour. For indoor work it looks well, and appears little different after seven years' wear.

Juniperus Bermudiana.—Age uncertain, felled, owing to injury by the frost. Height, 17 feet, timber soft, light, easily worked, slightly fragrant, and of a buff yellow colour. [It would be interesting to know what tree was meant. It is not at all likely to be J. Bermudiana. Ed.]

J. communis (Common Juniper).—Wood of a beautiful yellowish-brown colour, hard, but readily cut, and very aromatic. Made into ornaments, it seems to stand well, there being no perceptible difference, in thirty-eight years.

J. recurva (Weeping Indian Juniper).—The wood of a specimen 17 feet high that succumbed to frost was hard and fine of grain, and looks well polished.

J. virginiana (Red Cedar).—Wood yellow outwards, and reddish towards the centre, light for its bulk, close-grained, and fragrant. The specimens I had were cut from the trunk of a 20-feet high specimen.

Larix pendula (Tamarack, or American Larch).—Age about 32 years, cubic contents 18 feet, soil light, deep sand. Timber dark in colour towards the centre; lighter, almost white, outside; heavy, hard, strong, and not so fine in grain as our commonly cultivated species. Have only cut up the timber, but not used it in any experimental way.

Picea alba (White Spruce).—Age uncertain, not less than 50 years, cubic contents 38 feet; soil, peat or gravel, rather damp. Timber, light, soft, but compact and fine of grain, and of a pleasing light yellow colour. It is so soft as to readily take an impression made by the finger-nail.

P. Smithiana (*Morinda*), (Himalayan Fir).—Age 43 years; cubic contents, 37 feet; soil, loam on gravel. I have cut up many specimens of this particular species, but in all cases have found it exactly the opposite of what it is described by travellers. Here it is weightier, firmer, and probably more brittle than the common Spruce; but in trees of equal age, I am inclined to say that the timber of P. Morinda is the superior of the two.

P. nigra (Black Spruce).—Ages varying from 30 to 50 years. Removed all the trees from a plantation. Soil, dampish black loam. Timber nearly white, rarely yellowish-white, soft and long of grain; very light, and easily indented. Lasts well when kept dry and in an equable temperature, but is of little or no value, comparatively speaking, for out-of-door work.

P. orientalis (Eastern Spruce).—Age 37 years; cubic contents, 29 feet; soil, gravelly loam. Timber not unlike that of the common Spruce, but perhaps yellower in colour, and equally firm. Not tested out-of-doors; very satisfactory when used for pannelling.

Pinus Cembra (Swiss Stone Pine).—Age of largest tree felled, 43 years; cubic contents, 29 feet; soil, good stiffish loam. Timber soft and springy, easily worked, and susceptible of a smooth and high polish. It is very light, and the graining so fine as to be hardly perceptible. Resembles very closely that sent from abroad. Not used for any out-of-door purpose, but planks of the wood do not seem to differ after being cut up thirteen years ago. *A. D. Webster.*

(To be continued).

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

GENERAL WORK IN THE HOUSES.—Owing to the frost many gardeners have found a difficulty in moving plants from house to house, and where the conservatory is distant from the houses and still must be kept bright, the plants may yet be removed if care be taken with them. They should be put into a covered hand-cart with a covering of mats or shading stuff, or they may be even laid on their sides on a hand-barrow and covered with some light shading, the time for doing this being midday. Fresh supplies of plants and bulbs should continue to be brought into the forcing-house. This should be done at longer intervals now than at an earlier period, as nearly everything which is forced comes in rapidly. Some more pans of Celosia and Streptocarpus, and another batch of pots of Mignonette may be sown. If large plants of Mignonette have flowered throughout the winter, the seed-pods should be removed, and the plants put into gentle heat, and watered occasionally with liquid-manure; under which kind of treatment they bloom anew, and prove very useful if there is much decorating to be done.

IXORAS.—Any of these requiring potting should now be attended to. The compost should consist of peat, leaf-soil, and a fourth part of sharp sand; add to this a little cow or sheep-manure, and finely broken charcoal. Pot the plants rather firmly, and plunge them in a bottom-heat of about 75°. Keep the atmosphere well charged with moisture, and syringe the plants twice a day. They should be carefully sponged, and examined for mealy-bug or scale, both of these pests being very partial to Ixoras. Cuttings from half-ripened shoots may now be put in thumb-pots filled with fine peat and sand, and plunged in the propagating-case.

CYCLAMEN.—If seedlings of these raised last September, have since been pricked off into pots or pans, they should now be transplanted into small pots. The compost should be composed of loam, leaf-soil, a little good fibrous peat, and some sand. The pots must be quite clean. Examine the plants carefully for fly, and dust any off that are present with a small brush. When potted, give the plants a good watering, and stand them on a shelf in the stove until rooted, when they may be removed to the greenhouse.

DAPHNE INDICA.—Plants which have finished flowering should be given a temperature of 55° by night to 60° by day, and be syringed on sunny days. Any potting that is required should now be done, employing fibrous loam, leaf-soil, and a little peat, and adding sand enough to keep the soil porous. If soil is moderately moist, they will not require water for three or four days, when they should receive a thorough soaking, and afterwards watering must be carefully performed. Those not needing potting should be top-dressed, and occasionally afforded a little weak manure-water while growing. If green-fly appears, fumigate at once. Towards the end of May, when they have made their growth, they should be placed in a cold frame and given plenty of air to thoroughly ripen the wood.

THE PLANT-STOVE.—Here there may be 5° increase on the warmth maintained at night, and 10° by day with sun-heat. Caladium tubers now starting to grow, should be re-potted into flower-pots of 6 and 8 inches in diameter, these being very useful sizes for Caladiums that have to be used in the indoors decoration. C. argyrites being of small stature, should be put into 4½ and 3-inch pots, the potfuls of these sizes forming nice edgings for the benches and for other uses. After a lapse of two or three days, the re-potted tubers should receive a good watering and water must be afforded with care, till the pots fill with roots, when more liberal supplies will be needed, with occasionally some weak manure-water. A small quantity of Cockscombs and Coleus seed may now be sown. It sometimes happens that one gets a few good varieties of the latter from seed, and it is an easy matter to weed out poor varieties when the leaves appear. Sow seed of Grevillea robusta, a useful and graceful plant when grown in or out of pots, and one of easy culture. The plants are of service either in decorating the conservatory or bedding out. Care must be taken to shade the seed-pans of Begonia and Gloxinia seedlings, but only during sunshine. When fumigation is needed by the inmates of the stove, these and other tender seedlings should be removed, or they will run the risk of being spoilt by the fumes.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

VANDAS.—One of the most delightful of Orchids when in bloom is Vanda cœrulea, but it is a difficult plant to preserve in a healthy condition for many years together. During the winter months, the best position for it is the lightest and most airy part of the East Indian-house; but as the spring advances, and the days get warmer, the roof of the Cattleya-house is a better place for it. New growth has already commenced on this plant, and ere long roots will make their appearance. As receptacles in which to cultivate V. cœrulea, upright Teak cylinders or baskets may be used, the lower leaves of the plant needing only just to clear the top of the rods, filling up around the stem with large crocks, leaving space for a thin surfacing layer of sphagnum moss. Plants that do not need rebasketing should have the old moss picked out from amongst the roots, &c., replacing it with fresh sphagnum. Abundance of water should now be afforded at the roots.

EULOPHIELLA ELISABETHIÆ.—Now that the flower-spikes of this new species are rapidly pushing forth, the grower should be cautious not to afford over-much water, the flower-spike being very liable

to damp-off from this cause. Such species as Aërides, Angræcums, Anæctochilus, Phalænopsis (particularly the green-leaved kinds), Bolleas, Pescatoreas, also many of the Cypripediums, especially C. superbiens, the foliage of which quickly assumes a yellowish hue if exposed only for a short time to direct sunlight, should now be afforded thin shading during the hours of warm sunshine. The dwarf-growing Masdevallias that are suspended close to the roof-glass should also be carefully protected from its rays. Small seedling Orchids of all kinds are also susceptible to injury from this cause.

SHADING.—During the past week the sun has shone forth on several occasions, sufficient to raise the inside temperatures very much higher than it has been for some months past. Put, therefore, the blinds and shading in order, and if a continuance of bright days should occur, they will be ready for use. The collection as a whole will require to be more closely shaded than usual, as the growths are less solid than usual, owing to the comparatively sunless summer and autumn of last year. It is better to be on the safe side, and not unduly expose rare plants to strong sunlight; at the same time do not allow the shading to remain down longer than is really necessary. No system of shading I have known of answers the purpose better in our climate than the ordinary canvas and roller blinds. But I may mention that in Belgium and France I have seen wooden lattice blinds largely used, and, judging from the general good health of the plants, &c., I should say with very great success. They are made to roll up and down, similar to the roller-blinds, and in some places are raised nearly a foot above the glass, by having a slight iron or wooden framework fixed on the roof to support them, thus allowing a current of cool air to pass between the blinds and the roof, the benefit of which to growing Orchids is very great. I was informed by the foreman of M. Duval's establishment at Versailles, where Cattleyas and Odontoglossums are thoroughly well cultivated, that although plenty of light passes through the laths: these prevent the sun's rays remaining long upon any part of a plant, and scorching of the foliage is of rare occurrence, nor is there any difficulty in moderating excessive heat in very bright weather. In mentioning this system I do not advocate its use, except as an experiment, but I am told that its value will be thoroughly tested by several well-known English cultivators during the coming summer, so that we may hope to benefit by their experience.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

MELONS AND CUCUMBERS IN HOT-WATER PITS AND HOT-BED FRAMES.—The pits, which will be required for the cultivation of Melons and Cucumbers, should be emptied of the old materials, and the walls lime-washed. The fermenting materials required for the purpose of supplying bottom, and in some cases, top-heat also, will need preparation before using it. This will consist of throwing together and well-mixing Oak, Beech, Chestnut, or other hard tree-leaves with stable litter. If the latter be dry the heap will require moistening, or fermentation will be a slow process. In any case the heap will require to be turned, the sides into the middle several times, sprinkling it with water if at all dry each time. When heating has taken place, and the grosser fumes of fermentation have escaped, that is in about one week or ten days, the pits or hot-beds should be made up, putting the materials evenly and firmly together, treading and beating them with the fork as the work proceeds, and having due regard to the sinking of the mass after a time. A pit should therefore be filled almost to the top, and a frame hot-bed may not be less than 4 feet in depth and 1½ foot wider than the frame that will surmount it. If tree leaves form one-half of the total mass, the heat afforded will be gentle and lasting; but for making outside linings, stable dung should predominate. The loam, spent Mushroom-dung, and wood ashes, that will be required for forming the hillocks, &c., in the pits and frames, should be kept dry and under cover till required.

VINES.—Considering the severity of the weather, early Vines have made satisfactory progress. Some Vines showed a tendency to make tendrils rather than bunches of fruit, but with a little extra heat applied and less moisture in the air this was checked. Bunches which were thinned three weeks ago are swelling kindly, and a brisk heat is kept up, with a liberal quantity of aërial moisture charged with ammonia by sprinkling the borders with liquid manure, or affording occasional top-dressing of cow-manure, which is milder and more suitable than that from the stables. If the bunches that have been thinned appear still to be too crowded, remove a few berries from near the centre of the bunches, but the footstalks, being long on early-forced Grapes, the berries may be left much closer together than is advisable with later Grapes. Always bear in mind that no more berries should be removed from the top of the bunch than is really required, or the bunch will be loose. With bright sun and cutting winds now prevailing, some difficulty will be experienced in keeping a regular temperature in the different vineries, and it will be found advisable to reduce the heat in the pipes early in the day by shutting down the valves gradually as the sun-heat mounts higher, the day temperature, as far as possible, being made to depend on solar heat, the artificial heat being gradually applied as the day declines. Ventilation must be afforded in small amount, in accordance with the rise in the thermometer and outside conditions, the idea being to admit fresh air, rather than reduce the warmth of the vinery. As a protection against an inrush of cold air, tiffany may for the time being be fastened over the ventilators, and all ventilation should be obtained from the top of the vinery until the foliage gets strength, and the weather becomes balmy. A night temperature of about 65° will be sufficiently high, the vinery being closed early on bright afternoons at a temperature of 80°.

LATER VINES.—These, if coming into flower, should have a drier atmosphere, more air afforded, and a moderate degree of moisture present in the air. At least twice a day all bare surfaces in a vinery should receive a good syringing with clean water. Vines, whilst in flower, should be afforded a night temperature of from 65° to 70°. Muscats of Alexandra and other shy setters may be fertilised with the pollen of the Black Hamburgh or other varieties that produce it freely, gently shaking the pollen grains when mature into a Vine leaf, and transmitting it to the flowers requiring it with a rabbit's tail or soft brush.

LATE GRAPES, such as Lady Downes, Black Alicante, &c., should now be encouraged to grow, the fruit keeping much better when thoroughly ripened by the beginning of the month of September, and by starting them early, a longer season of growth is secured. A slight warmth in the pipes with a moist atmosphere will be sufficient to start these Vines. Syringe the rods on bright days, and see that the borders are thoroughly moistened.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HOT-WATER PITS AND HOT-BED FRAMES.—Owing to the continuance of cold weather, constant attention will be required in making fresh linings, and in the case of hotbeds made upon the ground, surrounding them with thatched hurdles to keep in the warmth. Much better than such makeshift contrivances are pits heated with hot water, offering as they do, a controllable means of heating, and facilities for attending to the occupants in any state of the weather. It is well not to overheat the hot-water pipes, but to cover the pits in good time in the afternoon, whilst thick linings of fermenting materials placed round the sides will render very great heat in the pipes less necessary.

PARSNIPS.—Although it is not yet possible to work the piece of ground which has been assigned to this crop, something may be done to facilitate the operation. The ground for Parsnips should be as rich as possible, and the use of green farmyard manure should be dispensed with. If the ground was laid up roughly, the screened remains of burned garden-rubbish, potting-shed refuse, if it can be spared, especially where the soil is heavy, a dressing of bone-meal if the land was not manured at the autumn digging, and another of lime or of soot may be afforded—but not both, may be spread over the plot, but the stirring of these into the soil must be postponed till the surface is sufficiently dry to admit of this being done. If the finest roots are desired, make a wooden model of a regular symmetrical root, of a size larger than you would wish to see your perfection Parsnips. Drill a large hole into the top of this and insert a strong shaft with a cross handle at the top similar to the common foot-dibber. Supposing the ground to be already trenched, choose a dry day for sowing the seed. Having placed the line, let one man go in front with a large iron bar, and drive this down 2½ feet perpendicularly, followed by the man with the wooden model, this being wide enough at top for him to put both feet on it if necessary for thus utilising his weight, he will easily make the holes by inserting the dibber into those made by the iron bar. A third man then comes along with a bucket or wheelbarrow, and another fills up the holes with some prepared soil, pressing it down as firmly as possible with the hand, and leaving it heaped up, to indicate centre of the hole. Select the best seed, and in the middle of these heaped-up stations place three seeds. Dobbie's Selected and Hollow Crown are good exhibition varieties. The soil wherewith to fill these holes may consist of fine loam, burnt garden refuse, leaf-mould, with some sand, soot, and a small quantity of lime and bone-dust, all of which ought to be passed through a fine sieve. This may seem a lot of trouble merely to grow show roots, but three men will sow a large bed in one day, if everything be prepared in advance. One root well grown in the above manner will often equal two or three of ordinary cultivation. The lines should be 16 inches apart, and the holes from 12 to 14 inches apart.

RED CABBAGE.—Where seed was sown in the autumn, and the seedlings left in the seed bed, these may be transplanted at the first opportunity. When spring sowing is adopted, the seed should be sown at once, putting it in heat to vegetate, but removing it directly afterwards to cooler quarters. Red Cabbage, autumn sown, is much to be preferred to spring sown.

HINTS ON WORK IN GENERAL.—If Asparagus-roots were stored under cover in readiness for forcing, a number of them may be started on a hotbed of 75°, or a permanent forcing-bed may be started. Rhubarb will need the same kind of attention. Sea-kale being in more constant use than either, the roots should be put in a dark warm place at more frequent intervals. Continue to turn the stable manure-heaps, and to mix dung and tree-leaves together, turning them occasionally.

THE APIARY.

By Expert.

EQUALISING DOUBLE STOCKS.—A useful little appliance has been devised for equalising stocks in Wells' hives in spring. It consists of a box about 6 inches long, by 4 inches wide, and 2 inches deep. Three sides of the top are grooved, in order that a piece of glass may be slid in, and the bottom is covered with queen-excluding zinc, fastened with bent wire-nails, so that by turning them round it is readily removed. Before the "equaliser" is put on the hive, it is best to fill it with candy, in order to serve the double purpose of stimulating and keeping the two stocks friendly disposed. When this is done it will be ready to go on the hive, in the centre first, cutting the quilts for that purpose, and taking care that half fits closely over each stock. When the bees have consumed the candy, the "equaliser" will be an index to the state of affairs in the hive, as when the latter seems crowded with bees, it may be taken as a sign that more breeding-space is required, or that the hive is ready for supering.

BEES AND THE SEVERE WEATHER.—The mortality amongst stocks this winter will doubtless be excessive. Those that were weak in numbers, and not provided with winter passages, even though they may have had stored combs, would scarcely stand a chance through not being able to shift the position of the cluster for a month or longer time. Many bee-keepers will have to bewail the loss of stocks starved in the midst of plenty, and if only one mild day had intervened to enable the bees to get to fresh combs, all would have been well. To winter bees successfully, all weak stocks should be united in autumn, the bees should be confined to about seven frames, containing plenty of stores, over which a passage should be provided, and plenty of warm coverings placed on the top. The kind of quilt, too, that is used is important, and although American-cloth is preferable for summer use, it is not so suitable for winter, as unless great care be exercised in properly ventilating and covering up warmly, the moisture condensing on its under-side and running down into the hive, makes all so wet, which is doubtless a fruitful cause of dysentery in many cases. If a porous quilt be used, the entrance need only be left open about 1 inch, and the hive will be found quite dry when the spring examination takes place.

CANDY FEEDING.—The mild weather will have caused breeding to commence, and feeding should therefore be started, in order to get stocks at full strength as early as possible, to take advantage of

the first honey flow. A quick way of making the candy, instead of boiling it in the usual manner, is to procure some icing sugar, which costs about 3*d.* per lb., and mix it into a stiff paste with cold water, adding at the same time Pea-flour, to take the place of pollen.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

MISCELLANEOUS OPERATIONS.—The pruning and training of wall-fruit trees should be proceeded with as fast as the weather will allow, so as to make a finish of this kind of work as soon as possible. Raspberry canes may be shortened according to their strength, tying the canes, and mulching the land. Planting of all kinds of fruit trees should soon be ended, but waiting, of course, till the frost is well out of the ground. All newly-planted trees should be mulched without loss of time.

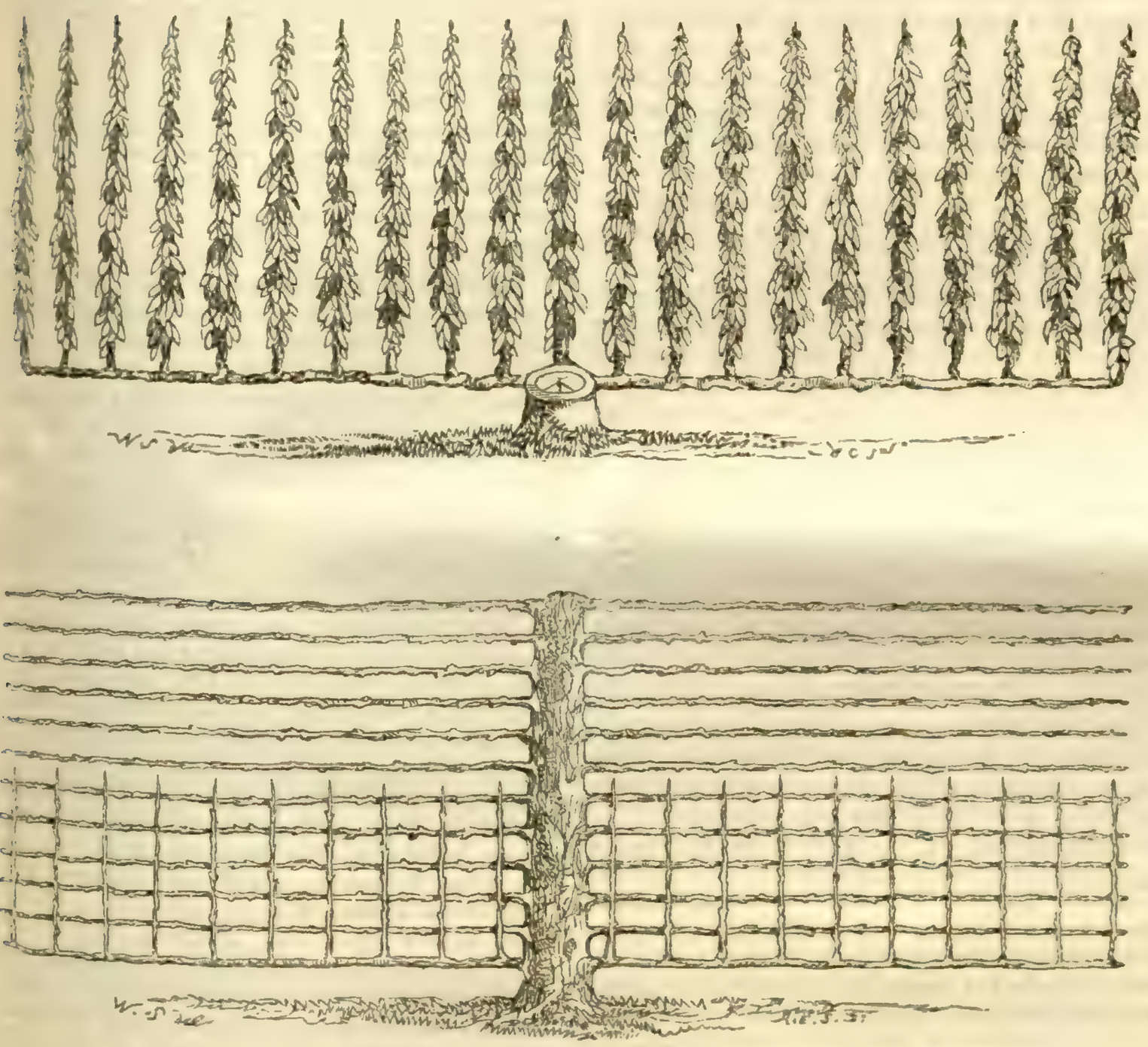


Fig. 36.—RENOVATING OLD PEAR TREES BY GRAFTING OR TRAINING IN NEW BRANCHES.

RE-GRAFTING OLD PEAR TREES ON WALLS.—These trees, if fairly vigorous, and of not much merit, may be profitably utilised as stocks for better varieties; and they should now be cut well back in readiness for grafting in March. If desired, grafting may be extended over two seasons by cutting-back, and grafting every alternate branch in one year and the remainder the next year. Several varieties may be worked on to the same tree, taking care to select such as are about equal in the matter of growth and in habit. [We show in fig. 36, a method by which old trees may be re-grafted, or young wood laid-in, and at the same time some of the branches retained for several years. Ed.]

CHERRIES AS PYRAMIDS AND BUSHES.—The Cherry can be very usefully grown as a bush or pyramid, and as such it is suitable for small gardens or where wall space is limited in extent. The trees may be grown in rows, or grouped somewhat near together, so that it is easy to net the fruit; and to save time some light kind of framework of wood should be made, so that the fruit may be gathered without disturbing the net. The Duke Cherries, which includes May, Late, Royal, and Archduke, Duchess de Palluan, Belle de Magnifique, and the black and red Morellos, are best adapted for this mode of culture, and they should be grafted on the Mahaleb stock. It may be advisable to lift such trees at intervals of two years if growing too strongly, till they come well into bearing. To grow these varieties of Cherries from maidens, that is, trees one year from the graft, the main shoot should be shortened to about six buds, which should result in a central shoot or leader, and five laterals—a sufficient number to form a good foundation. If laterals should push after the main shoots have the points pinched out in June, they should be pinched to two leaves. Cherry trees, periodically lifted to check over strong growth, and bring them quicker into bearing, need very little winter pruning if proper attention be paid to pinching the young shoots in the summer; although the fruit spurs may occasionally need to be thinned out at the autumn or winter pruning.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

THE OUT-OF-DOORS FERNERY.—An examination of this department should be made when the weather permits, and before the growth is made, and all new arrangements and additions to existing rockwork should be completed rapidly, the planting, top-dressing with fresh soil, making it firm about the plants, and removing dead foliage before the new growth is far advanced, are all of them necessary operations which should receive attention. The neglect to do this early in the spring causes injury to many things which is not seen till later in the year. The fronds of evergreen Ferns which may have a browny appearance, due to the effects of frost, should be left on the plants for the present, and time afforded them to recover. I fear considerable damage will have been done to Ferns of many species planted on rockeries which are placed in exposed situations.

PANSIES.—Autumn-struck cuttings of show, fancy, and bedding Pansies which have been stored in cold frames should now be fully ventilated, and when the weather becomes genial, the lights may be quite removed from the frames. If infested with aphides, syringe or sprinkle them overhead with Quassia-water. The beds in which these Pansies are to be planted should be heavily manured and deeply dug; but in the case of land that was prepared in the autumn, a dressing of fresh soot pricked in with a digging-fork previous to planting will suffice. It is desirable that the planting-out should be done during March, so that the plants may get established before the warm weather. An advantage should be taken of dry days for planting, and some slight amount of shade is good for the plants for a short time after planting. It is a difficult matter to afford the shade from the mid-day sun which even established Pansy plants need. When it can be managed they should be planted in beds which are shaded on the east or west side. When planted out a slight protection should be afforded against frost; and for the flower garden a few small branches of the Spruce Fir answer well if stuck in the soil amongst the plants. Amateur growers should use hoods of zinc or thick paper, or cardboard tied to a stake, to keep them from being blown away. Such contrivances are readily removed night and morning. During dry, hot weather, liberal waterings with clear soot-water, and frequent sprinklings with some artificial manure, to encourage growth. If large blooms are required, thin out the shoots on a strong plant to three in number, and leave only one bloom on each. A change of ground is very beneficial to any of the Viola family, the plants often dying suddenly if grown on the same ground for more than two seasons. It is a good practice to keep striking cuttings at most seasons, and changing the sites of the beds. Seedlings that were raised in gentle heat last month, if pricked out in frames or in boxes, will, under good treatment, be large enough for planting about the middle of the month of May, and they will make a fine show during the summer, affording shade and water as above advised. There are several good strains of seeds to choose from, viz., the large-flowering English show variety, large-flowering fancy Belgian, St. German, Peacock, Giant French, Fire King, Odier's Blotched, Trimadeau, Cassier's large flowering; and for bedding purposes there are the Cliveden varieties, purple, yellow, and white, also Blue King, black, gold margined, and Lord Beaconsfield, all of which come true from seed. There is nothing better for bedding purposes than the Cliveden varieties, and to keep them true to colour the plants should be selected, and the best of these raised from cuttings put into boxes or cold-frames during the summer and autumn.

VIOLAS OR TUFTED PANSIES are in great demand for spring and summer flowering, many of them being as fragrant as a Violet. These Violas come true from seeds sown, and treated in the same way as the Pansy. The sweet-scented varieties are acquisitions, and deserve to be largely cultivated, although their flowers are not so large and showy as those of the best bedding varieties. Good varieties of bedders are Archie Grant, Ardwell Gem, Annie King, Bullion, Columbine, Countess of Hopetoun, Duchess of Fife, H. M. Stanley, Glow, Max Robb, Princess Beatrice, Rob Roy, Sunrise, Tory Blue, True Blue, Trentham Purple, White Duchess, Dickson's Champion. Good, Sweet-scented varieties are Goldfinch, Bridal Wreath, Picotee, George Muirhead, Jeanne Turnbull, Old Gold, Miss Joseph Oliver, Violetta, Golden Gage, Summer Cloud, White Lady, Blush Queen.

VIOLETS, VIOLAS, AND PANSIES which were planted in the autumn in outside beds where not protected by the snow have suffered severely by the recent severe frosts; and if any plants have been preserved from destruction in sheltered places, these may be used for filling vacancies in the beds and borders. The injured should be taken up and laid-in in the reserve ground. Sweet Violets will need to have the decayed leaves removed, and otherwise made presentable. It is well to plant a quantity of the Czar, Marie Louise, De Parme, and other fine varieties in the beds of decidious and evergreen shrubs, and if they are planted in clumps of three to six plants in various aspects, some of them are sure to come through the winter well, and in mild weather a few flowers are generally to be found on some of them.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

THURSDAY, MARCH 7—Linnean Society.

SALES.

TUESDAY, MAR. 5 { Burmese Orchids and Lilies, at Protheroe & Morris' Rooms. Gladioli, Tuberoses, Begonias, Spiræas, Roses, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, MAR. 6 { Japanese Lilies, Greenhouse Plants, Tuberoses, Gladioli, &c., at Protheroe & Morris' Rooms.

THURSDAY, MAR. 7 { Hardy Border Bulbs and Plants, Roses, Begonias, &c., at Protheroe & Morris' Rooms.

FRIDAY, MAR. 8 { Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.3.

Before and After the Winter.

ONLY too well do we realise from former experience how great the losses of plants are likely to be this winter amongst our Roses. Not only will the more tender Teas have gone under in great numbers, but also hybrid perpetuals and Bourbons. Usually a mulch or a moulding-up of the dwarfs serves to preserve life in the lower portions of the branches and root-stock, but with the Fahrenheit thermometer at zero and below it, such slight kinds of protection must have been rendered nugatory. Some careful rosarians, with the foresight born of experience, may have heaped snow around the plants, but the majority will as usual have left their Roses to their fate, satisfied that the usual sort of protection would suffice. Of course, we never know what a winter may have in store for us, and trust, with usually good fortune attending our happy-go-lucky methods, to the chance of the frost being not of abnormal severity. To sufficiently protect a number of Roses, standards, dwarfs, climbers, pillar, and arbour, would be a job beyond the ability of the ordinary cultivator, entailing the use of large quantities of litter, Fern, or tree, besides Fir boughs to place over the Roses to save them from being crushed by the weight of the litter and leaves. That is the continental method, and it has its advantages in countries with steady cold weather during the entire winter. Here it is much less practicable, giving as it does, too much protection in mild weather, and thereby inducing growth in darkness, and making the garden wear an untidy appearance at those times when snow does not cover the ground. Where snow lies all the winter long, litteriness is not visible. We come, then, to the one method of protection that is open to us, viz., heaping up earth with a mulch over that of short dung, free from much straw, around dwarfs, and bending down the standards to the earth, laying the lower parts of crown in a shallow hole, and covering it with the soil taken out of the hole in making it, with short dung over all. We say laying in the lower parts of the crown, because it is most undesirable in our climate to bury the whole crown; the tips of the shoots should be left uncovered, so as to afford an outlet for the energies of the plant in the event of growth taking place in continued mild weather.

Should these exposed shoots get killed, there is no harm whatever done, as they would in any case be sacrificed at the spring pruning. When a standard is bent to the earth, the stock should be wrapped round with hay-bands or bracken to preserve it from injury by frost, for although the Dog-rose is seldom hurt by frost in this country, it does suffer at the top of the bend if the frost gets down to zero Fahr.

Roses of a tender character on walls, fences, arbours, &c., may be taken down, and the branches laid at the foot of the walls, &c., and covered with earth or litter. This is a much surer kind of protection than matting them as they stand, and although it may entail a little more trouble in securing them in their places in the spring, it may be carried out in such a way that it is not an eyesore.

Where there have been many losses in the beds, the taking up of the whole of the plants, and trenching and manuring the soil may be a more desirable proceeding than a mere filling up of blanks would be. It would at any rate admit of an uniform treatment of the beds, besides rendering rearrangement easier. The drainage of the beds if this be defective, the removal of soured because over-manured soil, and its substitution by sound loam in a fresh state, would all be made easier of performance when all the plants are taken up.

GROUP OF SOUVENIR DE LA MALMAISON CARNATIONS.—Our Supplementary illustration represents a group of nineteen plants of Souvenir de la Malmaison Carnation, consisting of the pink and blush-white varieties growing in the gardens of ALFRED DE ROTHSCHILD, Esq., Halton, near Tring. The number of blooms was 319. These plants were three years old, dwarf and bushy, a point which Mr. SANDERS, the gardener at Halton, remarks, is always aimed at, and which is the result of cultivating the plants near the glass, and of admitting air freely at all times when the weather is not actually frosty, or damp and foggy, with but little shading afforded. Watering the plants is sparingly done during the autumn and winter, but during the spring and early summer water and manurial aids are freely afforded. Syringing is also very sparingly done. The soil employed consists of good loam, leaf-mould, and sand.

LINNEAN SOCIETY.—At the meeting held on Thursday, Mr. C. B. CLARKE, F.R.S., President, in the chair, Mr. ROBERT O'KELL was admitted a Fellow. Mr. GEORGE BUBNER exhibited some lantern-slides of Glocosiphonia capillaris and other Algæ, with accompanying descriptions, and gave an interesting account of his method of preparing slides in colours. On behalf of Mr. J. BOERLAGE, the President demonstrated the chief points in a paper communicated by him on the identification of Chionanthus Ghaeri, an obscure species figured by GAERTNER at the end of the last century in his famous work, *De Fructibus et Seminibus Plantarum*, but hitherto undetermined. From the researches of Mr. BOERLAGE, it now appeared that it was evidently referable to Scirpodendron costatum, Kurz. This was made clear by the excellent drawings which accompanied the paper, as well as by the specimens which were exhibited. The meeting adjourned to March 7.

—— On the occasion of the meeting to be held on March 7, 1895, at 8 o'Clock, the papers to be read are:—1, On the Genus Cupressus, by Dr. MAXWELL T. MASTERS, F.R.S., &c.; 2, On the Insects, Arachnida and Crustacea, collected during Mr. T. BENT's expedition to Hadramant, Arabia, by W. F. KIRBY, F.L.S., CHAS. GAHAN, and R. J. POCOCK.

LORD ABERDARE.—The death of this nobleman is announced. Lord ABERDARE was not only an accomplished scholar, but an excellent man of business, gifted with great tact and amiability. For these reasons, no doubt, Her MAJESTY expressed her desire that he should assume the presidency of the Royal Horticultural Society at the time when the Society was in sore straits, and when the relations between the Society and the "Commissioners" were by no means agreeable. Unfortunately, Lord ABERDARE, with all his varied accomplishments, had little or no knowledge of the requirements of horticulture or of the proper work of a scientific society, and was unable to effect much in the resuscitation of the Society, and after holding his office for a few years he resigned. To what happened thereafter it is not necessary to revert; suffice it to say, that Lord ABERDARE will always be remembered by horticulturists as one who endeavoured under very difficult circumstances to do his best for the Society, and personally will always be remembered with respect.

HAILSTORM INSURANCE.—Under the title of "The Nurserymen's, Market Gardeners', and General Hailstorm Insurance Corporation, Limited," a company is in process of formation, the object of which is to afford greater facilities than now exist in respect of the insurance of nursery and garden-glass against damage by hail. The rates at present charged are mostly prohibitive. The nursery and market gardeners' trade has attained such enormous extension of late years as to fully justify the formation of the Corporation. It is intended that the Society shall consist entirely—or, as far as possible—of those engaged in the trade, so that both shareholders and directors shall be men with personal knowledge of the subject, and personally interested in it. The very strong directorate will give confidence; so we anticipate that the scheme will prove very successful.

DIRECTORS.—Chairman, Harry J. Veitch (James Veitch & Sons), Royal Exotic Nursery, Chelsea; James Backhouse, The Nurseries, York; Thomas Hamilton, Providence and Trinity Nurseries, Waltham Cross, Herts; William Iceton, Granard Gardens, Putney Park Lane, Putney; Peter E. Kay, Claigmar Vineyards, Finchley, N.; George May, The Nurseries, Upper Teddington, Middlesex; Henry B. May, Dyson's Lane Nurseries, Upper Edmonton, Middlesex; George Monro, Covent Garden, W.C.; Edwin C. Mott, Albemarle Nurseries, Potter's Bar, Middlesex; Robert Piper, Ladydell Nurseries, Worthing, Sussex; Thomas Rochford, The Nurseries, Turnford Hall, Broxbourne, Herts; Joseph Rochford, Turnford Nurseries, Broxbourne, Herts; Edmund Rochford, Mill Lane Nurseries, Cheshunt, Herts; William Sams, The Vineries, West Worthing, Sussex; F. Sander (F. Sander & Co.), The Nurseries, St. Albans, Herts; N. Sherwood (Hurst & Son), 152, Houndsditch, E.C.; James Sweet, White Lodge Nurseries, Whetstone, Middlesex; Peter C. M. Veitch (R. Veitch & Son), The Royal Nurseries, Exeter, Devon; James Walker, The Nurseries, Ham Common, Surrey.

BANKERS. — The London and County Banking Company, Limited (Covent Garden Branch).

SOLICITOR. — H. Morgan Veitch, 1, Clement's Inn, W.C.

AUDITORS.—Messrs. Baker & Haward, Throgmorton House, Copthall Avenue, E.C., Chartered Accountants.

GENERAL MANAGER AND SECRETARY. — Alex. James Monro (*pro tem.*), to whom all enquiries should be addressed.

REGISTERED OFFICES.—1 and 2, King Street, Covent Garden, W.C.

A Group of Souvenir de la Malmaison Carnations in the Gardens of Alfred de Rothschild, Esq., Halton, Tring.

FLOWERS IN SEASON.—Some very large excellent blossoms of Cyclamen giganteum crosses reach us from Messrs. S. Fay & Sons, Southsea and Cosham, the colours vivid in the case of the coloured ones, and the white ones quite pure. From that treasury of novelties, Messrs. Cannell's nursery at Swanley, we have received a variety of beautiful blooms of Primula sinensis fimbriata, large of size, well defined and decided in colouring; and the segments overlapping each other to such a degree as to suggest at a cursory glance a sort of doubling. The largest bloom measured $2\frac{2}{10}$ inches in diameter.

BRIGHTON AND SUSSEX HORTICULTURAL SOCIETY.—"Worn-out Orchard Trees" was the subject of a paper read by Mr. A. S. Kemp before the monthly meeting of the above Society at the Imperial Hotel, Brighton, on the 21st ult.

M. J. E. BOMMER. — We regret to have to announce the decease, at Brussels, on the 19th ult., of this gentleman. M. Bommer was Professor of Botany in the University, and one of the conservators of the collections in the Botanic Garden. He paid great attention to Ferns, and published various monographs relating to them. M. Bommer was in his sixty-sixth year.

EXHIBITIONS AT THE CRYSTAL PALACE.—We have received from the Manager of the Crystal Palace the following list of shows for the present year, viz:—Exhibition of plants, flowers, &c., Saturday, March 16; the National Rose Society's exhibition of Roses, and the London Pansy and Violet Society's show, Saturday, July 6; the National Carnation and Picotee Society's show, Wednesday, July 24; the National Co-operative flower, fruit, and vegetable show, August 17 or 24; the National Dahlia Society's show, Friday and Saturday, September 6 and 7; the Royal Horticultural Society's exhibition of British-grown fruit, September 26, 27, and 28; and the Chrysanthemum exhibition, Friday and Saturday, November 1 and 2.

"A FISHERMAN'S FANCIES."—This volume, by F. B. Doveton (London: Elliot Stock, 62, Paternoster Row, E.C.), consists of a number of separate chapters, each one devoted to some whimsical tale, or to the enunciation of the writer's ideas on special subjects. The book is scarcely one to be read steadily through, but is rather intended to beguile occasional idle moments. A tendency to make jokes and puns is observable in the pages, together with a more serious vein of thought. There are also some sympathetic accounts of beautiful scenery, with which all Nature-lovers should concur; and of plants, some rare, some otherwise, which botanists will understand.

DEVON AND EXETER GARDENERS' ASSOCIATION.—At the last fortnightly meeting of this society, held at the Exeter Guildhall, a paper was read on "The Cultivation of Early Spring Vegetables," by Mr. E. Sparkes, gardener to the late Earl of Iddesleigh, at Pynes.

SCOTTISH HORTICULTURAL ASSOCIATION.—The following Syllabus for session 1895 has been issued:—Feb. 5, President's inaugural address; March 5, "Horticultural Buildings: Ancient and Modern," Mr. John Mackinnon, Ayton Castle, Berwickshire; April 2, "Eucharis and Pancratiums," Mr. D. L. McIntosh, Kingsmeadows, Peebles; May 7, "The Early Forcing of Vegetables," Mr. M. Temple, Carron House, Falkirk; June 4, "Apple Culture," Mr. J. H. Goodacre, Elvaston Castle, Derby; July 2, "Notes on Gardening from Old Writers," Mr. M. Chapman, Easter Duddingston, Portobello; Aug. 6, "The Cultivation of Orchard-house Fruit Trees in Pots," Mr. J. Graham, Coltness Gardens, Wishaw; Sept. 3, "Orchid Culture," Mr. Wm. Sharp, Freeland, Forgandenny; Oct. 1, "Herbaceous Plants as a Source of Cut-Flower Supply," Mr. Chas. Comfort, Broomfield, Davidson's Mains; Nov. 5, "The Pear," Mr. James Day, Galloway House, Garliestown; Dec. 3, "The Relationship between Gardener and Employer," Mr. Malcolm Dunn, Dalkeith Palace Gardens, Dalkeith. 1896: Jan. 14, annual general meeting. The meetings are held at No. 5, St. Andrew Square, Edinburgh, at 7.30 P.M. (prompt).

LECTURES:—Twelve lectures, under the direction of the association, will be delivered in the Royal Botanic Garden, beginning on Jan. 17, at 7.30 P.M., and continued every Thursday; eight lectures on "Plant Life," by W. G. Smith, B.Sc., Ph.D., University Lecturer on Plant Physiology; two lectures on "The Cultivation of Hardy Florist Flowers," by Mr. James Grieve, Pilrig Park Nursery; and two lectures on "American and other Peat-loving Plants," by Mr. Hugh Fraser, Leith Walk Nursery.

AUSTRALIAN ORCHIDS.—The Government of New South Wales has issued a part of the late Mr. Fitzgerald's extremely valuable work on Australian Orchids. It will be remembered that after publishing some eleven parts full of original observations, and enriched by numerous admirable plates illustrative of structure and function, Mr. Fitzgerald unfortunately died in August, 1892. A large number of drawings were left, and these, so far as they are sufficiently complete for the purpose, the Government has now decided to publish under the editorship of Mr. Henry Deane. The thanks of all interested in Orchids will be most cordially tendered to the Government and to Mr. Deane. We shall take an early opportunity of noticing more fully the contents of the present fasciculus which forms Part V. of the present volume.

ROSE SHOW FIXTURES FOR 1895.—We are indebted to the kindness of Mr. E. Mawley, Rosebank, Great Berkhamsted, for the following list of fixtures, which will be supplemented by others as the various societies decide upon the date on which their shows will be held:—June 27 (Thursday), Gloucester (N.R.S.), and Canterbury; 28th (Friday), Exeter; 29th (Saturday), Windsor; July 3 (Wednesday), Croydon, Ealing, and Sutton; 4th (Thursday), Eltham and Norwich; 6th (Saturday), Crystal Palace (N.R.S.); 9th (Tuesday), Wolverhampton *; 10th (Wednesday), Chelmsford and Hitchin; 11th (Thursday), Helensburgh and Worksop; 17th (Wednesday), Derby (N.R.S.); 18th (Thursday), Halifax; 23rd (Tuesday), Tibshelf; 24th (Wednesday), Chesterfield; 25th (Thursday), Trentham. Mr. Mawley will be glad to receive the dates of other Rose shows than those named above, for publication in future lists.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, March 4, when the adjourned discussion on the paper read by Mr. Arthur C. Pain, C.E., on "Light Railways," will be resumed. The chair will be taken at eight o'clock.

THE LEEDS PAXTON SOCIETY held their ninth annual dinner at the Nag's Head Hotel, Upperhead Row, Leeds, on Feb. 20. The report of the Secretary shows progress, an increase in membership of thirteen, and a balance of several pounds. The report of Mr. James Campbell, Secretary of the Society's Chrysanthemum Show, intimated a substantial balance of over £93, and an increased number of exhibits. Delegates from Sheffield and Bradford were present.

COLONIAL FRUITS.—Up to the close of last week three steamships had arrived here from the Cape, fruit-laden, and in a short time the first fruits of the colonial supply were dispersed, a large quantity finding its way to the stalls of the hucksters. This latter fact indicates either an oversupply, or inferior quality; unfortunately, both facts are required in explanation, and we regret to think that fruit-shippers at the Cape have again learnt the lesson that not anything, or everything, will find profitable customers in London at this time of year. True, the intense cold must have affected sales, but unripe fruit will only sell at a very low price, as now, for instance, 100 boxes of Sweetwater Grapes fetched only $1\frac{1}{2}d.$ per lb. all over; Tomatos were in many instances equally unripe, and equally low in price. We are informed that between them, the three steamers carried to London nearly 2000 boxes of Peaches, 450 boxes of Nectarines, 150 boxes of Apples, some of which were carried outside the cool fruit room, and arrived in fine order; 370 boxes of Pears, 758 boxes of Tomatos, 6 boxes of Greengages, 25 boxes of Chillies (which fetched 4*s.* per box of 300 fruits); four boxes of Plums were not sold the other day; 16 boxes of Grandillas, we were told, fetched 9*d.* per box; Grapes numbered 200 boxes; and of Melons there were 22 boxes. Peaches ranged in price from 3*s.* to 13*s.* per box of twenty. Apples varied much in size, so also in price. But it is idle to proceed seriatim with fruits and prices—nearly all are now things of the past; but sundry lessons remain for growers and shippers, which, we trust, will be taken to heart, and the determination formed to send, for the future, only the best—for this way lies the way to profit.

TASMANIA.—The following is a list of steamers carrying Tasmanian Apples, season 1895, giving date sailing, and approximate number of cases shipped:—

Feb. 25,	per Cuzco	11,245	cases
March 4,	,, Rome	12,447	,,
,, 11,	,, Austral	23,782	,,
,, 18,	,, Parramatta	22,979	,,
,, 25,	,, Ophir	23,396	,,
April 1,	,, Oceana	9,906	,,
,, 8,	,, Orizaba	11,025	,,
,, 15,	,, Australia	9,229	,,
,, 22,	,, Oroya	14,175	,,
,, 29,	,, Massilia...	22,390	,,
Total	... ...	160,574	,,

In addition to the above, there will probably be three outside steamers, carrying about 30,000 cases altogether, and making an approximate grand total of 190,574 cases.

VICTORIA, &c.—The Peninsular and Oriental officials state their opinion that they do not expect to bring over more than a few thousand boxes, in addition to the shipments from Tasmania.

THE ENGLISH ARBORICULTURAL SOCIETY.—The part of the *Transactions* just issued contains in addition to records of the business of the Society, a paper on the growth of trees, by Mr. John Maughan, which reads too much like a chapter from a textbook. Mr. W. Forbes deals with the best method of thinning mixed plantations; Mr. Clark enumerates the best 100 Conifers for ornamental purposes; and Dr. Somerville descants upon the distribution of trees in a wood—a valuable contribution to practical woodcraft. The same author reports on the disease of the Larch. The Society issued a circular of questions among the proprietors of woodlands, with the result that about forty sets of answers were received. Only five recognised the true cause of the disease, though that is now established beyond question. This leads Dr. Somerville to give a summary of what is known on the subject. Records of excursions to Studley Royal, Fountains Abbey, North Tynedale, and the Dukeries, show how much pleasure may be combined with the acquisition of knowledge. Happy foresters! We should be glad to see their numbers in the South much increased.

SCOTTISH PANSY AND VIOLA ASSOCIATION.—An Association with the above title has been formed in Glasgow, to meet monthly during summer, to consider new varieties of Pansies and Violas, and to award certificates to those which are deemed worthy of that distinction. The following seven gentlemen have been appointed judges:—Messrs. J. Baxter, Daldowie; W. Cuthbertson, Rothesay; M. Gray, Glasgow; M. Campbell, Blantyre; J. Stewart, Lennoxtown; W. Maxwell, Glasgow; H. Hamilton, Lochwinnoch. The judges are to give their verdict by ballot, varieties which receive three-fourths of the total number of points receiving a First-class Certificate, and those receiving one-half or more of the total number a Certificate of Merit. Another feature will be the granting of Special Certificates

* A show lasting three days.

for constancy, to varieties which obtain a First-class Certificate at three meetings. Such certificates and decisions, it is hoped, will prove valuable guides to the public in selecting varieties, and tend to set up a standard for new varieties. The membership of the new Association is open to all on the payment of a nominal subscription of 1s., and provision is made for the reception of flowers by post, which will be as carefully handled and adjudicated upon as if they were personally staged by the exhibitors. The following are the office-bearers, any of whom will be glad to send a copy of constitution and rules of the new Association to any persons applying for them:—The President, Mr. W. Cuthbertson, Springfield, Rothesay; Vice-President, Mr. Jno. Baxter, Daldowie; Treasurer, Mr. Jas. Robertson, Turnerfield, Crow Road, Partick; Secretary, Mr. Jno. Smellie, Pansy Gardens, Busby.

Primula Stuarti.—In his report on a botanical tour in Kashmir, Mr. Duthie mentions having found in the vicinity of the Dorikùn Pass, alt. 13,500 feet, a cream-coloured form of P. Stuarti, of which he obtained seeds.

Berlin Botanic Gardens.—Kew is to be congratulated. Not only are our French friends about to publish a series of Colonial Floras, but the authorities of the Berlin Botanic Garden have, in emulation of the *Kew Bulletin*, published a *Notizblatt des Königl. Botanischen Gartens und Museum zu Berlin*, the first number of which is before us. The *Notizblatt* begins with a list of rare plants introduced into the garden from the Pyrenees and elsewhere; notes on plants introduced from Abyssinia and the German colonies follow. The experimental culture of useful plants in the same dependencies forms the subject of a note, and several new plants are described.

Birmingham and District Amateur Gardeners' Association.—Mr. Groves presided at the usual bi-monthly meeting of the above association, held at 116, Colmore Row, on February 20, and there was a good attendance of members. Mr. W. Bliss gave a most interesting and practical paper on Vegetables. A discussion took place at the conclusion of the paper, and a vote of thanks was passed to Mr. Bliss. Messrs. Bliss, Daniell, Eglinton, England, Haslam, Kent, and Stockwell, exhibited plants and blooms. Mr. R. Sydenham exhibited pots of Freesias, which were beautiful specimens of good culture.

Althæa rosea, the Hollyhock which is wild in Kashmir, is much used, according to Mr. Duthie, for planting on graves.

Devon and Exeter Gardeners' Association.—On the occasion of the usual fortnightly meeting of the above on the evening of the 20th inst., Mr. E. Sparks, gardener to the Earl of Iddesleigh, Pynes, near Exeter, was the essayist, the subject being the Cultivation of Early Vegetables. The Exeter summer show being fixed this year for June 28—the usual date being the third week in August—a few of the local gardeners had doubts as to the possibility of a good collection of vegetables being staged at that date, and the object of Mr. Sparks' lecture was to show how that could be done. He maintained that no difficulty existed, and that vegetables staged before July were superior in quality to those shown after that date. For a collection of twelve varieties he named French Beans, Tomatos, Mushrooms, Globe Artichokes, Cauliflowers, Carrots, Turnips, Onions, Peas, Cucumbers, Broad Beans, and Potatos, with Cabbages, Vegetable Marrows, Asparagus, and Seakale as alternative dishes. He held that good judges preferred quality to size. In Potatos, he preferred Veitch's Ashleaf Kidney to Sharpe's Victor for a first crop, and Lily White to any other kind of Seakale. For Dwarf Beans he recommended Ne Plus Ultra and Canadian Wonder for forcing—three plants in a 10-inch pot. Early Erfurt and Autumn Giant Cauliflower sown in August, wintered in frames, and planted out in March, came in nicely about the end of June. As regards Cucumbers, when they got sickly it was better to raise a new batch to replace the weakly ones than to try and bring them back to health. He made a rule not to cut Asparagus up to the end of June from a bed that had yielded well and been freely cut from during the season. A useful discussion followed, Mr. J. Weeks, gardener to E. A. Sanders, Esq., of Stoke House, was chairman. Mr. Sparks being a well-known prizetaker in the vegetable classes years ago, there was a large attendance of members.

Metropolitan Public Gardens Association.—The twelfth annual report of this useful Association is before us, and contains a satisfactory account of the progress made in a good work. Parks and gardens available to the wealthy are not lacking, but open spaces in crowded districts are real boons to both adults and children of the working classes, and are still much too few and far between. The Association, therefore, endeavours to secure disused burial-grounds and all hitherto wasted spaces, and by planting and seating these, to turn them into recreation grounds, providing, in certain instances, gymnasia to further increase their usefulness. Judiciously managed, these open spaces are simply invaluable, and the enterprise which thus secures them is worthy of all support. The offices of the Association are at 83, Lancaster Gate, W.

Artemisia maritima.—This is described by Mr. Duthie as a characteristic plant of Baltistan and the Gilgit valleys. In spite of its powerful odour and taste, it forms the chief fodder for horses, cattle, and camels, in Western Affghanistan. According to Prof. Church's analysis it contains rather less albuminoides than average hay, but more than the straw of European cereals.

Publications Received.—Exchange Seed List, *Hort. Bot. Reg. Claudiopolitanæ*=(Klausenburg, Hungary: Dr. Kanitz, Director).—*Les Azalées.* Léon Duval (Paris: O. Doin.)—*Une Page d'Histoire de l'Enseignement de l'Horticulture en France.* Charles Baltet.

PLANT PORTRAITS.

Calceolaria Burbidgei, *Gardeners' Magazine*, February 9.

Calochortus Plummeræ, *Garden*, February 2. (See *Gard. Chron.*, p. 133, vol. xv., 3rd ser.)

Cattleya Bowringiana, Veitch, *Revue de l'Horticulture Belge*, February 1.

Cherry Nectarine (Nectarine cerise).—An old variety, the records of which go back two and a half centuries. M. Burvenich recommends it for pot culture.

Cypripedium Yvonnæ×.—One of the Leeanum type; standard broad, white-green at the base, purple-spotted in the centre; petals undulated, brownish-purple spotted; lip shining, staminode white; a hybrid raised at L'Horticulture Internationale. *Illustration Horticole*, t. 26, January, 1895.

Dendrobium Hildebrandi, Rolfe, *Orchid Review*, February. Shan States.

Deutzia discolor purpurascens, Hemsley.—Hardy shrub from Yunnan. *Revue Horticole*, Feb. 1.

Lilium Brownii var. leucanthum, *Garden*, February 9.

Magnolia parviflora, *Gardeners' Magazine*, February 2.

Nelumbium speciosum, *Illustration Horticole*, February 15.

Phœnix Rœbelini, *Gardeners' Magazine*, Feb. 9.

Protea cynaroides, *Garden and Forest*, Jan. 23.

Pseudo-tsuga (Douglasi) glaucescens, *Revue Horticole*, February 16.

Rosa moschata, *Garden*, January 26.

Sophro-Cattleya eximia, *Gardeners' Magazine*, February 9.

Sternbergia macrantha, Mountains of Smyrna, Palestine, &c. Introduced by Mr. Whittal, *Garden*, February 16.

Yucca Carrièrei, *Revue Horticole*, February 16.—A hybrid of Yucca lævigata, by Y. angustifolia, Y. lævigata × being itself a hybrid of Y. aloifolia by Y. albo spica. *Revue Horticole*, February 16.

NOTICES OF BOOKS.

Guide Elémentaire de Multiplication des Végétaux.

A little handbook on the propagation of plants, written by M. Mottet, and published by O. Doin, Paris. Its contents amply justify its title. Seed sowing, the treatment of cuttings, layering, grafting, budding, are successively treated in a very clear and excellent way. The book will be valuable to young gardeners and amateurs.

The Genus Masdevallia. Issued by the Marquess of Lothian, K.T.; Plates and Descriptions by Miss F. H. Woolward. Part VI. Price £1 10s. (Porter, London, 1894.)

This, the sixth Masdevallia decade, contains plates and descriptions of the following species:—Elephanticeps, fractiflexa, hieroglyphica, Mooreana, muscosa, ophioglossa, pachyantha, striatella, ventricularia, and Wendlandiana. All are Reichenbachian species except the second, described here for the first time, the name being a MS. one of Lehmann and Kränzlin. M. fractiflexa, which is a good representative of the Coriaceæ section, comes from the Eastern Andes of Loja, the most southern province of Ecuador, where it was found by Consul Lehmann, as long ago as November, 1876, but for many years he never saw the flower. In December, 1890, however, one flower was found, and two years later a goodly number. Its discoverer adds in a note:—"Of all Masdevallias which I have observed, this is the rarest; and although I have spent many months in exploring every accessible part of the Eastern Andes, I have hitherto found comparatively few specimens of it, and those only in one place. This locality is called 'El Dictamno,' and is situated on the descent from the Eastern Andes, about half-way between Loja and Zamosa, at an elevation of 5850 feet." It grows on trees from 8 to 16 feet from the ground, "in very damp thick woods, and in a region where during the whole year there are very few days without rain." As regards climate, Masdevallias run counter to the popular idea that Orchids require a fairly high temperature. The note, for instance, on the habitat of M. pachyantha reminds us that there are worse climates than even our own. The locality "is remarkable for its excessive and continual dampness, with a clouded, foggy atmosphere and extremely cold winds. There is only a short interval, from January until March, when little or no rain falls, and at this time instead of rain dense fogs prevail, rising just above the forests and enveloping them in constant mist and twilight. During the rest of the year there are heavy rains, with sharp east winds, the temperature often falling as low as 1° degree zero, Centrigrade." We have no record of the insects, which under these depressing atmospheric conditions, are the bidden guests of the often brilliantly-coloured flower, and effect its fertilisation. They must, at any rate, be partial to a deep crimson, for the presence of this colour is almost universal among the species of the genus, occurring especially as spots or lines evidently pathfinders, and when absent from the rest of the flower still to be found staining the thin lateral wings of the column, or faintly streaking the otherwise colourless petals. Miss Woolward is able to record a few observations on this point in her account of some of the species. Thus, under M. elephanticeps, she refers to the strong disagreeable smell of the fresh flowers, noticed also by Reichenbach. Tho odour is perceptible at some distance, "and so exactly resembles that of tainted meat, that it speedily attracts flies. It is most powerful when the flowers first open, and ceases gradually before they fade. I have myself observed that flies had even deposited their eggs upon the surface of the flower, but when the young grubs hatched, they failed to find sustenance in its tissues, and perished." As flies would not be strong enough to remove the rather strongly-attached anthers, it is suggested that a beetle may serve as the agent

of fertilisation in the native habitat of the plant. M. hieroglyphica, a species remarkable in several respects, bears at the base of the dorsal tail, a large dark purple wart, overlooked by Reichenbach in his description of the species in the *Gardeners' Chronicle*. Miss Woolward suggests that this curious excrescence acts as a counter attraction to unbidden guests, affording them a meal right at the entrance of the flower, and thus checking their further advance. "This surmise," says the author, "is founded on the fact that in almost all the numerous specimens which I have examined, this succulent morsel has been gnawed by insects, and in some cases entirely consumed." Perhaps the most interesting species of the decade is the pretty little M. muscosa, so called from the mossy hairs covering the flower-stalks, "probably intended to prevent crawling insects from making their way up the stem to reach the flower." The most remarkable feature is, however, the sensitive lip, which, closing upon the curved petals when touched in the central part, imprisons as in a trap any insect alighting upon it. The incurved margins of the lip are edged with stiff sharp hairs, effectually preventing any passage, so that a fly in its efforts to escape would have to force its way out from above, probably dislodging the anthers in its struggles. Then, if again imprisoned in a second flower, it would, of necessity bring the pollen masses in contact with the viscid-stigmatic surface. The lip closes of itself at dusk, and opens again in the morning, suggesting that the insect designed for effecting pollination is diurnal in habits. We notice "anthers" is somewhat loosely used in this description to indicate the pollen masses; and we would also draw attention to the way in which Consul Lehmann is described interchangeably, sometimes in the same paragraph as "Consul" and Mr., conveying the impression of two persons. These however, are the only faults to be found with this, the most recent issue of a beautiful and useful monograph. *A. B. Rendle.*

Fig. 37.—Mr. Stevens' new strawberry: colour pale pink.

ROYAL BOTANIC GARDEN, EDINBURGH.

Burchellia capensis.—This plant, as its specific name implies, is a native of the Cape, the generic name being in compliment to a botanical traveller, W. Burchell. It is of a compact bush-like habit, said to grow in its native habitat to a height of 6 or more feet. The foliage is evergreen, the leaves ovate and opposite, and set upon very short petioles. The inflorescences are in terminal heads, and usually consist of six or more flowers of a scarlet colour, and this intense colour imparts to the plant a handsome appearance. The corolla is most inflated towards the mouth, from which the club-shaped stigmas protrude. According to the *Index Kewensis*, five synonyms have at various times been to it. A stove temperature is required, with sufficient light in the growing season to ensure a thorough ripening of the wood.

Calathea rufibarba.—This Brazilian plant is now flowering freely, and these, which are of a light yellow colour, are very showy. They are produced upon short spikes rising about 2 inches above the soil, and protected by large bracts covered with dark brown hairs. The flowers open in succession for a period of fourteen days. A very interesting trait in this plant is its irritable elastic style, which, upon being touched, immediately, with a spring-like mechanism, bends over to form almost a half circle. The leaves are borne upon sheathing petioles, the blades of the leaves being bent to almost right angles to the petiole, and are deeply undulated, the brown hairs being present over its surfaces. It is a slow-growing species. Our specimen, received from St. Petersburg Botanic Garden in 1891, is now in a 6-inch pot.

Eupatorium ianthinum.—A batch of this free-flowering Composite is very attractive during the spring months. It is a native of Mexico, and although it may be grown in a warm greenhouse, the temperature of the stove seems to be most conducive to the full development of its flowers; these are in terminal corymbs, and of a light violet colour. The dark green foliage is deeply serrated at the margin. After flowering the plant should be pruned back, and started in a rich compost.

Dalechampia Roezliana.—Although this plant cannot be called one of horticultural importance, yet it is well worthy of a place in a collection of stove plants, on account of the remarkable inflorescences. It is erect in habit, hardly reaching a foot in height. The foliage is large and evergreen, and in the axil of the leaves arise the inflorescence, the flowers of which are enclosed between two large pink bracts, these making quite a pretty show if a large pan of it be grown. A variety, D. Roezliana alba, with white bracts, is occasionally met with. It is a native of Mexico.

Aërides Vandarum.—This slender, and as its specific name implies, resembles somewhat, with its terete stems, some members of the genus Vanda. In 1857 this plant was figured in the *Botanical Magazine*, t. 4982, under the name of A. cylindricum, when it flowered in the nursery of Mr. Parker, of Hornsey. A description is given under the above name by Rchb. f., in the *Gardeners' Chronicle* of 1867, p. 997. The flowers are white, generally in two-flowered racemes, the sepals and petals undulated, and with a rather long spur. The flowers are sweetly scented, and last a considerable time. Being a native of the Sikkim Himalayas and Khasia Hills at an altitude of about 5000 feet, it should not be subjected to too great heat. *R. L. H., Edinburgh.*

A NEW STRAWBERRY.

In our issue of February 16, we had occasion to refer in our "Answers to Correspondents" column to a new variety of Strawberry which had been sent for our inspection by Mr. J. R. Stevens. The fruits (see fig. 37) were of a pale-red colour, lobulated and depressed, with a shining appearance, and seeds deeply sunken. The flavour was excellent; pulp solid and highly-perfumed. Such large fruits as those sent proclaim the variety a good one for early forcing, and we know of no other which for the time of year could produce fruits equalling it in appearance or quality. From the firmness of texture of the pulp it should make a valuable Strawberry for market growers and others who are obliged to transmit their produce by road or rail. The foliage sent with the fruit was rather remarkable for its small size and short leaf-stalks.

OUR POULTRY.

By Harrison Weir.

(Copyright.)

(Continued from p. 202.)

Since my last, I have been informed that even in the far-away districts of Cornwall, a county once proverbial for its beautiful white-legged poultry, where a few years ago the "higglers" could buy their scores of dozens of the finest of fowls for the table, it is now difficult to find an eighth of this number. Why this is the case, my correspondent does not say. I am told also that high-class poultry when grown for the market, pays best. If this be so, then why are our poulterers' shops filled with such coarse fleshed, large-boned, thick-skinned fowls, as they are? The public will give full prices for French fatted

fowls, then why is it that the English fatters send such inferior breeds to market? The only reply is, that they fatten the best their higglers *can buy and bring in*. There are many reasons for the belief that our poultry supply for table purposes has suffered severely by the foolish endeavour to unite the producing of eggs with that of flesh and fat-making fowls; and again, the public are to blame for buying in preference the coarser brown eggs of the Asiatics to those of the more delicate European varieties. Thus it is these coarse breeds and their crosses must be kept, forgetting at the same time the flavour and quality of the egg depend much on what the fowl that lays it is fed. Again, for delicate, delicious quality and flavour there are no eggs that beat those of the game fowl; though not large, they are generally of good form, and of a tender buff colour in shell, which is also smooth and even. They lay a fair quantity of eggs, beginning mostly about February; also it is these old English game fowls that as table fowls are unsurpassed, while for their size, elegance of form, beauty of colours, "pride of going," vigour, strength of constitution, and general excellence, they may be deemed as rarely if ever equalled—and, never surpassed.

There is but little doubt, if any, but that they were introduced into this country by the Romans, though possibly, and it may be added, probably, not as birds for culinary uses, but for the motives of pastime, and it is also well known that by these people they were held in such estimation that certain birds of high repute were buried with sepulchral honours; although it was most decidedly not the case with all, as is clearly shown by the finding of the bones of this particular bird among those of animals in the *débris* that has been not infrequently discovered in the kitchen "middens" near the sites of the ancient Roman villas. This being so, it puts the antiquity of the bird as being beyond that of the Roman invasion, of which there are many reasons for believing, and though known, still it is not my intention to go further into their origin, but merely to show that these warriors of our poultry were cherished, kept, tended, and almost worshipped for many centuries on account of their prowess, and were not unfrequently referred to by orators and others as examples of tenacity, perseverance, high and invincible courage. And so it is that our forefathers from generation to generation have kept this bird in honour; and now, with all its supreme beauty, it is ours of to-day—a bird for all good qualities unmatched and unmatchable. But in these times it is to us not only for its high and lengthened pedigree and ancestry that it is valued, but also as one of the truest forms and in every way the type of what is requisite, and should be found in our table fowls of the *very first class*. Amongst our domestic poultry it is the pattern to which we should adhere in the breeding and selection of our other kinds of "home-stead" fowls, when we wish to realise both form and excellence, possibly to be combined with increased size.

There are several well-known kinds or variations of what is termed the game fowl, but these remarks refer only to the old breed, "the bird of history," the plain strong well-made sturdy yet stately "old English game." There is another sort now known as the "game," with very long stork-like legs, and an extremely small whip-like tail, a bird of inharmonious form, and almost "scaled" more than feathered; and if fashion still continues in the same direction that it has been moving, the probability is, that this peculiar example will, ere long, have to walk (if its longer legs will so permit), almost, if not quite, in a state of nudity; so far goes "the rage for reduction of feathers."

But to return to the "true old English" game, the bird "that has braved a thousand years, the battle and the breeze." In form, it should be short, strong, and compact; but as the beautiful variety known as the Lord Derby's black-breasted reds are considered, and justly so, as being those not only of the highest pedigree, but most suitable for table purposes, on account of their general robustness and pure white legs and feet, it would be well to give a full and fair description of what the true "Derby black-breasted red" should be like, both in form and colour. The natural weight is about 5 lb. or a little over, and it may be less with advantage. The head should be small, but long, and tapering in both sexes; eye large, bright, and full of expression, and though of colours to suit the "plume" in this instance, it is light, or what is generally known as "Daw-eyed." The beak, thick at the base and curved, comb of bright crimson, single, thin, serrated, and erect (a double or sprigged comb inadmissible), the wattles of fine texture and small; the throat, bare of feathers; ear-lobe small, ears covered with wiry hair of a whitish-red. Face clear of feathers and red. (In what are termed gipsy-faced, the face is dark.) Neck long, full and strong, neck-hackle rather long, but close, and wiry. Breast broad, prominent, and fully developed, indicative of great constitutional vigour; belly small, back short, strong, and close-feathered; saddle-hackle clear and bright, thighs rather short, but not too much so, thick and muscular; shank or beam of leg, fine, strong, and in good proportion to the thigh. Toes four on each foot, clean, long, even and flat on the ground, with long fine claws. Spurs clean and strong, and low on the leg. Wings carried rather low, very muscular, and strong, furnished with hard quills. Tail long, large, fan-shaped, and well sickled, with a lay-tuft of down at the base. General figure well put together, round full-bodied, tapering towards the tail, with great breadth of shoulders, carriage erect, haughty, and majestic; the gait stately, elastic, and yet firm; his voice clear, bright, and like a "trumpet call." In colour, the cocks of this breed should have the neck-hackle of a deep orange, uppermost hackle near throat a deeper red colour; saddle-hackle deep orange-red; back as dragon's-blood, breast and thighs clear bright glossy black; lesser wing-coverts maroon, greater wing coverts light dragon's-blood, barred with steely blue-black at the extremities; primary wing coverts, bay with black shafts; tail full, black, and glossed with green. The beak, legs, feet, and toe-nails of a pure ivory-white, with the very faintest tint of pink, with *not* a tinge of brown or any other colour; or dark toe-nails or spurs—which is much to be avoided.

(To be continued.)

FRUIT TREES AND MOISTURE.

The present is a very proper time to make an examination of fruit-borders, in reference to the condition of soil as regards the moisture contained therein. If found to be dry the surface should be broken up so as to allow rain and snow-water to enter it. The time having come last autumn for a large number of cordon Pear-trees growing on an east wall to be lifted—and they are treated in this manner at intervals of three or four years, according to the amount of growth they make—the work was begun early in the month of October. The leaves were still upon them, but to prevent any chance of a loss of fruit next season they were lifted with a ball, a good wide trench dug out around each facilitating the work of undermining. The soil was found to be dust-dry, although we had a dripping season. This showed how great the need of moisture was, despite the rainfall, and accounted to some extent for the small size of the fruit last season. This border had been regularly saturated with water by means of the hose during the summer, but owing to the mass of roots the water had not gone deep. The soil, although mulched, had not retained moisture. Seeing how dry the earth under the Pears was, I examined some of that in which some Cherries were growing on a warmer aspect, which I found to be equally dry, and that, too, quite near the surface, despite mulchings and copious applications of water during the period of growth. This dryness of the land may be accountable for the large plague of insects on the Cherry trees, and for the dropping of the fruit. The soil at Syon is of a light nature resting on gravel, and moisture soon passes away; but anyone would have thought that the trees would have suffered the most in the long drought of 1893, as in that year the trees exhausted the moisture in the soil, and it had never got into a thoroughly moist condition up to last October. I feel sure that in light soils many fruit trees have suffered from the dryness of the soil in the same manner that our trees had, and the present is a most suitable time to supply the needful moisture. In most gardens the contents of the water and manure tanks are running to waste, and it is a good time to make use of them in soaking the fruit-tree borders; but above all things loosen the soil with a fork before applying water. If the soil be thrown off the roots, and these are not made too bare, and the weather keeps mild, the rain will also penetrate the soil, which might otherwise not get moistened. Everyone interested in fruit-culture knows the value of surface roots, and how useful it is to the trees to encourage these by mulching heavily twice a year, with the result that the soil near the walls gets in time higher than it should be, and the water that falls on it drains away from the trees. Where this is the case, the surface-soil should be removed from the part near the wall, and be placed where it will render the surface of one uniform level. The removal being effected, a slight addition of soil and a mulch may be afforded, but not raising the land so that the moisture passes away on the surface instead of entering the borders. Those gardeners who must crop their fruit-tree borders close up to the walls, thus robbing the soil of its moisture, should always, when the ground is clear, as it is at this season, treat the border as I have advised above. *G. Wythes.*

AGAVES AS TEXTILE AND DEFENSIVE PLANTS.

Agaves, which many still confuse with Aloes, are plants from warm, temperate, or tropical America, and a great number are now found in hot-houses in Northern Europe, and in gardens in Southern Europe. Hitherto they have been thought but little of, save as ornamental and curious plants, but some among them seem destined to render more important services. The commonest species, known everywhere, is the gigantic Amaryllid, the American Agave (Agave americana), which is used to enclose fields, and is a sufficient guard against marauders and cattle, since its leaves, armed with stout spines, grow to 50 c. to 60 c. (18 to 20 inches) in length, and thus form a barrier which is increased yearly by numerous shoots sent up from the stock. This use is important, but it is too often forgotten that these leaves, which more than double their length when the plant is fully grown, contain a great quantity of strong fibres, suitable for making cordage, nets, carpets, and paper-pulp. The abundant sap which accompanies this fibre has cleansing qualities, owing, perhaps, to the presence of saponine, and also likely to afford a field for interesting researches.

I do not speak of the famous pulque, the favourite drink of the Mexicans, a sugary liquid extracted from the stems of various Agaves by cutting the base of the flower-stem, just where it is about to throw out a cluster of leaves. This drink is not liked by Europeans, but sugar and alcohol can be procured from it by fermentation. Large as is the inflorescence of the American Agave, it is exceeded in size by that of certain other species, especially that of A. Salmiana, which grows to almost the thickness of a man's body. This, as hardy as the former variety, is no doubt as useful; however, as regards textile industries, preference is given to the particular group of Agaves distinguished from the genus by the names of Fourcroya or Furcræa, plants with narrower longer leaves, not spiny or but little so, less succulent, and with finer fibres more suited for weaving. These are the Aloes pitte of commerce, and principally the Fourcroya gigantea, grown in many of the colonies of the old and new world. More than once planters have called the attention of Algerian colonists to the uses

of Aloes to add to the value of lands which, through their poorness or dryness, have been hitherto neglected as regards agriculture. One day, perhaps, they will consider it, but now I will only recall the defensive powers of some of these strong plants, not merely as a protection for private property, but to secure the villages of the Sahara, oases, and military stations, from the incursions of the Touareg and other marauders of the desert. These people are no contemptible enemies, as the recent fate of Colonel Bonnier and his comrades too plainly show. It is to the swiftness of their horses that the marauders owe their successes, and a means of checking them and restricting the field of their incursions is by closing in approaches to inhabited localities with plantations of Agaves, across which they dare not venture. The common Agave suffices for this, but there is another variety, the white Agave (A. applanata), better armed, which seems expressly formed to keep off invaders. Think of a plant the height of the American Agave, with erect leaves, hard as wood, garnished on each side with strong hooks, and terminating in a spine almost as sharp and hard as iron, capable of mortally wounding a man, horse, or camel. A belt of this Agave, two or three, or but one row deep, would withstand an army. To make a breach artillery would be necessary, and the desert wanderers have no guns to drag after them. The possession of Timbuctoo is so important as effecting our future relations with the interior of Africa that it must, ere long, be completely assured. Situated between the Sahara and the Soudan, similar to these in climate, it should become an important centre of colonisation, but it must be secured from all incursion and rendered tolerable to Europeans, by tree-planting (Eucalyptus in particular). The country needs shady and health-giving trees to counteract the unwholesome swamps formed by the overflow of the Niger. *Ch. Naudin in the "Revue des Sciences Naturelles Appliquées." April* 5, 1894.

PATSHULL, STAFFORDSHIRE.

The seat of the Earl of Dartmouth, on the north-west side of Wolverhampton, and about seven miles from the town itself, has been well known for many years among horticulturists; and although it has passed through many vicissitudes, and has not always been maintained in the same condition, it has, nevertheless, been thoroughly well kept up at different periods. The Earls of Dartmouth have been celebrated for their lavish hospitality; while Patshull is remarkable for its natural position, which is high and favourable, and for its gardens, well-planted pleasure-grounds, and its large park.

The hall is approached from the north by a long, straight and ascending drive through the park, and is distinctly seen from the lodge gates, but it is on the south side where most of the beauty lies, and where almost the whole of the pleasure-grounds are situated. The Hall is built of plain stone, is of good size, and has a commanding and imposing appearance. The pleasure-grounds are by no means limited in extent, there being something like 50 acres under keeping. On the western side is a lake of about 120 acres, and many other features of interest. The grounds have been planted at some time with great discrimination and care, and use was made of the rarer and best species of deciduous and evergreen species of trees and shrubs, including a large proportion of coniferous subjects. Many of these have thriven surprisingly well, and, when on a hurried visit last autumn, we thoroughly enjoyed a walk amidst isolated specimens of many of our finest trees for pleasure-ground adornment. Of Cedars, C. deodara, is most conspicuous, and has been largely planted, and almost all of the trees are looking well. Sequoia (Taxodium) sempervirens is well represented; and of Abies, A. Lowiana and A. nobilis form handsome specimens. Araucarias have thriven well, and there are well-furnished trees of 40 feet high or thereabouts, planted alternately with Abies nobilis on the side of a walk. Better specimens of Sequoia gigantea (Wellingtonia) than are to be seen here are seldom met with; one particularly healthy specimen noticed would be 75 feet high or upwards, with a splendid bole, and well-furnished with branches to the base.

Abies Douglasi, A. cephalonica, and Cupressus nootkaënsis, have all succeeded well. Robinia Pseudo-acacia, is plentiful round the front of the house, and Rhododendrons and Hollies abound in great numbers, especially the latter, which grow very freely, and some excellent varieties have been used when planting. Among the deciduous trees, the Beech may be mentioned as being most remarkable, there are fine, sturdy old trees in numbers, proving that soil and site have been favourable to its growth. The site in front of the hall claims especial attention from the visitor, it being—as is not always the case—the most attractive portion of the grounds. On the lower portion of the hall are trained flowering plants, most of them remarkable for their fragrance, such as Magnolia grandiflora, which flowers very freely, Roses, Chimonanthus fragrans, Pyrus japonica, &c.

A terrace wall 25 feet high, in the centre of the front, and the terrace itself, with well-filled borders of herbaceous plants under the wall, are all in good taste; and the view from the hall or the terrace, extending over the park, which is exceptionally well wooded, and thence to Pattingham, where the little church of the village can be seen apparently nestled in the midst of the trees, is quiet and refreshing. The grass immediately under the terrace is kept in first-rate order, and the flower beds and fountain in the centre are all in keeping with their surroundings. Large Orange trees in pots and tubs are placed here in suitable positions during the summer time, and are accommodated during the colder months in a large orangery or conservatory built a considerable time since. There are several very pretty and pleasing walks in various directions from the front; one of these, called the "Ladies Walk," leads down to the small church on the estate, and is margined with vigorous Rhododendrons and Laurels that form a kind of arch most of the extent.

The kitchen garden is fairly extensive, embracing between eight and nine acres, and its appearance and design clearly tell that it is not a garden of yesterday, but was formed very many years ago. A curious point about it is, that from each part it slopes rather steeply to the centre; indeed, it suggests that it might have been made on the site of a dried-up pond. It runs from east to west. Unfortunately, this part of the garden—and in this remark we include the outdoor fruit area—has been neglected at various times, and the fruit trees have not been renewed, but old, gnarled, and in some cases cankered Apple and other trees, have been allowed to remain round the borders long after they have ceased to be profitable.

The glasshouses are fairly important, and compared with the kitchen garden they have received considerable attention from the numerous gardeners that have had charge of the place during the last forty years. One of the oldest, and certainly the largest of these, is the Orangery, built like other large old-fashioned conservatories, and this contains Oranges, Camellias, large specimens of Chamærops, and many other excellent specimens of desirable plants. Of late, considerable efforts have been made to brighten this house by the introduction of flowering plants, and it has been made a kind of semi-show house, which has greatly improved its appearance.

The next house deserving mention is an excellent lean-to orchard-house, which together with a portion that has been divided for the cultivation of early Peaches, is about 120 yards long and 10 feet wide. Last season these houses yielded abundant crops of Peaches, Nectarines, and Figs, and a shelf along the entire length is useful for storing Strawberries, &c. There are about half a dozen vineries, all lean-to structures, and good crops of Grapes are obtained. The span-roofed stove and greenhouses are carefully looked after, and contain some fine decorative plants of medium size, suitable for the furnishing of the house, which, at Patshull, is a large business during the time the family are at home. Other houses of less consequence are useful for Cucumbers, Melons, Gardenias, Carnations, and such subjects for supplying flowers for cutting purposes.

Reference has already been made to the numerous gardeners who have had charge of these gardens, and to the vicissitudes through which they have passed. It remains to be said that the late earl, whose decease about three years ago was deeply lamented, took a very great interest in his trees and in the gardens generally, and he did very much to restore parts of the garden that needed attention. During the latter part of this time he was assisted by Mr. Farr, who was gardener for a comparatively short time previous to the earl's death, and who thoroughly entered into the task of restoration. After the earl's decease, changed circumstances resulted in Mr. Farr's severance from the gardens, but he was followed by another energetic and capable gardener, who still maintains charge of the place. Mr. Wm. Halliday has effected improvements in many ways during his three years of management, two instances of which may be seen in the young fruit trees that have followed the removal of some of the old ones above alluded to, and in the needed thinning that has taken place of the bushes and plantations about the pleasure-grounds. In regard to the general up-keep of the establishment, the present gardener has fewer opportunities than his predecessors, on account of certain retrenchment-measures that have been introduced, but of the means and labour at disposal the most is made.

THE SEED TRADE.

(*Continued from p.* 102.)

The Quality of Seeds and Methods of Testing Them.—Some twenty-five years have passed since the Adulteration of Seeds Act came into force (August 11, 1869), with subsequent amendments which were added in 1878. These forces of the law were the means of effecting a very great improvement in the quality of seeds, by crushing out a trade in old and worthless samples that was increasing to an alarming extent amongst dealers who had no reputation to lose. This was followed some years later by a stirring article which appeared in the *Journal of the Royal Agricultural Society*, and although the subject was handled more in its application to agricultural seeds, it had an important bearing upon the whole industry. The article bore the signature of a landed proprietor in Kent, who was conducting a series of experiments with various grasses, and the strictures he thought fit to bring upon the whole of the seed trade were considered by many at the time to be both unjust and unfair, and it was the opinion of others that whilst his arguments carried a good deal of truth, a great amount of imagination had been incorporated into them which led to various discussions and differences in all directions.

The writer of the article has now passed away, but there is no doubt his statements left their impression upon all concerned, and those houses who were at the time conducting their business upon honest principles were encouraged to better efforts, whilst those who were working under the old plan had either to fall away, or start upon a more modern basis.

From this beginning really came about all we now hear of proved and cleaned seeds, not only in our own country, but the system that is perhaps more closely followed abroad than here; we believe, indeed, it is to Germany we have to look for the formation of the first institution that made a feature of testing the quality of commercial seeds. Since 1870 similar stations have been established throughout Europe and America; that at Zurich in Switzerland seemingly being the most popular with seedsmen at the present day, for it is stated that in 1893 no fewer than 150 firms, including eight in Great Britain, held private contracts. Whilst the Swiss station may, as some say, be the most trustworthy and carefully conducted of all, we should be inclined to stand by

the different methods that are worked out at any of the seed-control institutions in Germany and France with equal confidence. Unless it is on the score of cheapness, we are at a loss to imagine why so many of our own seed-houses send their samples to a foreign source for testing when there are several clever experts who undertake the work at home. The Botanist to the Highland Society of Scotland, and the Botanist to the Royal Agricultural Society of England, are both men of wide experience and profound knowledge in all matters pertaining to the art that governs the quality of seeds; but as their services are to some extent restricted to the great institutions they represent, there seems an opening in this country for the establishment of a station or stations from which seedsmen and others could obtain analyses upon reasonable terms.

All the best seed-houses, however, now offer their goods under some kind of guarantee, and as many of them keep an efficient staff to carry out trials after the manner of the foreign stations; and this may account for the absence of a public office for the purpose.

Various Modes of Seed Testing.

The employment of artificial methods to induce the germination of seeds, whilst reliable to a certain extent, can never be considered mathematically correct, as some factor is certain to be at work that will cause an unequal percentage of growths at different times. It may be small, but there it is. The writer in his own experience has seen variations of 15 per cent. on the same set of ridges. A German expert, whose investigations must be respected, has come to the conclusion that not fewer than 400 seeds should be employed in each artificial test of small seeds, to ascertain the true quality of a sample, and these may be divided into four sets of 100 each.

The forces which set the dormant seed into motion are air, and moisture, that are absorbed by the living organs of which the seed is composed, and these being stimulated by the oxygen burst their covering, and push forth to the light. Professor Nobbe, a German seed specialist, has made many experiments with various solutions, with a view of ascertaining if anything could be found superior to distilled water for the purpose of hastening germination, and after trying various chemicals, he has come to the conclusion that there is nothing better for the purpose. Other European botanists have also confirmed his tests, and with respect to the quantity of water to be used to start the growth of the embryo, it has been found that the seed should be quite saturated.

An even degree of warmth plays an important part in the germination of seeds. Here, again, both the German and American experts have proved that small dormant seeds when exposed to 138° F. for ten minutes lost their vitality; larger seeds, such as Beans, lost it in about one-half their number in fifteen minutes; such seeds as those of the Canna may with safety be put into boiling water and remain there until it cools without harm. Many of the sotter seeds saved in temperate climes suffer terribly in their growth when sent into the tropics, simply because they are so full of moisture that directly they reach a temperature higher than that in which they were ripened, the germ is induced to move, and in the struggle to obtain nourishment sufficient to cause growth, it perishes without any outward difference to the appearance of the seeds, which when sown, never sprout. To meet this difficulty our leading seedsmen specially dry their seed intended for warm countries in a heated room. *Seedsman.*

(To be continued.)

Home Correspondence.

HYBRID CYPRIPEDIUMS.—I have been looking through the valuable list of hybrid Cypripediums in a recent issue of the *Gardeners' Chronicle*, and would like to state that the following seedlings were raised by Robert Warner, who then lived at Broomfield, Chelmsford, and were sent out by Williams of Holloway:—C. melanophthalmum ×, C. chloroneurum ×, C. politum ×, C. Meira ×, and C. Williamsii ×. *E. Hammond.*

CARNATION MR. LEOPOLD DE ROTHSCHILD.—Having read "R. D.'s" favourable remarks upon Mr. Leopold de Rothschild Carnation on p. 208, as an autumn-flowering variety, I beg to enclose you a few flowers such as we have been cutting ever since the beginning of October from a few plants which still promise a supply for some weeks to come. I can endorse the good qualities "R. D." has ascribed to it. For size and colour it would be difficult to beat at this season. *G. Inglefield, Tedworth Gardens, Marlborough.* [The blooms sent were of large size, very fragrant, and of pleasing form and colour. Ed.]

THE COLOURING OF APPLES.—I have had called to my notice the correspondence in the *Gardeners' Chronicle* on the colouring of Apples. I quite agree with "E. M." and "W. R.," that it is not the soil alone that produces the beautiful colours that we get on some sorts of our Apples, or why should we not get the under side of the fruit the same as the top, also on the north side of the tree same as well as on the south? I have grown Apples and Pears for market and exhibition for some years, and I always find the best coloured fruit on the south side, where it is fully exposed to the sun. I also believe that under careful cultivation there are many sorts of Apples that would put on more colour if the proper soil-constituents were within their reach. It is a well-known fact, that where there is no iron in the soil, you cannot get the bright colour that we like to see on the fruit for exhibition. I have grown some Wellington Pippin equal in colour to Worcester Pearmain. They are grown in an orchard, where there are over a hundred trees of the same sort, but there is only one that gives the red Apples, and that tree has had soot and iron given it. So that with these, and plenty of light and sun, I get the best colour I can wish for. If the colouring matter were in the soil alone, why do not the other trees give the red fruit? Soot is one of the best manures for fruit culture. I used it in the fruit grounds in Kent for Raspberries, red and black Currants, and Gooseberries with success. I now often have a few bushels put on the kitchen garden, and dug in before planting out any of the Brassica family. *J. M., Southampton.*

SEMI-DOUBLE AND SEMI-VIRESCENT HYACINTHS.—Will you kindly inform me what is the reason of the enclosed Hyacinth flowers coming green? I have several other pots of various colours coming the same way—also some Violets (Marie Louise) in an outside frame, the flowers of which are all coming of a greenish-white. *A. Hyacinth.* [The flowers are very curious, showing a tendency to become leafy shoots. Something happened at a very early stage of the plant's growth to derange the ordinary course of development, and to convert what should have been a flower to a shoot with numerous small leaves; some of these are wholly green, others pink at the base with green tips, and the innermost segments all rose. We have seen similar changes before, but we are unable to assign the precise cause, which in all probability was climatal, and was operative last summer or autumn, when the flower-buds were first forming within the bulb. Ed.]

OLD VERSUS NEW CALENDARS OF GARDEN OPERATIONS.—I am much interested in the correspondence which has appeared in your columns on the above topic. I said all that I thought worth saying in regard to gardeners' calendars in the *Gardeners' Magazine*, March 18, April 8, and May 13, 1893. The books mentioned by Mr. Allen in your issue of last week are not rare, but they are full of quaint and interesting information. There is a great need of a *Bibliography of Gardening*, on the same liberal scale in which Bigmore and Wyman drew up and carried through their *Bibliography of Printing*. Such a work would be of immense value as a permanent book of reference, but it seems impossible to meet with any publisher or private individual who would undertake the cost of printing such a work. I have collected a large quantity of material for such a book, but whether it will ever be used is another matter. *W. Roberts*, 86, *Grosvenor Road, S.W.*

OUR EDIBLE FUNGI.—An article of food, rich in nitrogenous substances, and possessing nearly all the qualities of meat, is every year allowed to grow and to waste in our country. I refer to the different species of edible fungi. The common Mushroom, Agaricus campestris, is known to nearly all of us, and has been recognised as a vegetable worth cultivating for many years. The Morel, Morchella esculenta, is also well known, and forms a wholesome article of food, especially on the continent. Besides these two, there are nearly a dozen other edible species common to Britain, of which I might mention the Charatarelle, Boletus edulis, Agaricus fusipes, Hydna, Orcella, Agaricus heterophyllus, Puff Balls, and the Fistulina hepatica. Of these there must be some deserving of consideration, but they are allowed to grow year after year, and never, or very seldom, appear at our tables. In Russia and other countries on the continent, many species of fungi are not only considered eatable, but are made the objects of cultivation. Our indifference, then, to this article of food must be in a great measure accounted for by our ignorance of their properties. It is true that persons are occasionally killed by eating the poisonous sorts, but this would be in a great measure prevented if they were taught to distinguish between the poisonous and non-poisonous species. This can be done by bringing the edible kinds into greater prominence as articles of food; and as the common Mushroom, Agaricus campestris, has succeeded in cultivation, so might other species, and we should have new and wholesome articles of diet. At present only a few fungologists know and appreciate the eatable species, and prejudice or fear has prevented these from becoming popular as articles of food. But if we could become more familiar with these species, we should soon overcome our prejudice, and welcome them as pleasant changes to our ordinary diet. I hope this short article will be favourably viewed, and be the means of bringing into our gardens and markets a wholesome article of food. *A. Kitley, Crystal Palace, Sydenham.*

THE METRICAL SYSTEM.—I cannot admit that Englishmen are such pig-headed Chinese, because they refuse to get rid of the duodecimal element in their means of calculation. The dozen and the gross, the division of feet into inches and of shillings into pence are by far the most valuable divisions for practical purposes, whatever they may be for scientific ones. The barbarous decimal notation (I call it barbarous as it is only used because savages can only count on their ten fingers) is so inconvenient, that the measures founded upon it have no right to be called "decimal," they are only 'centessimal." Your French correspondent can 'only talk of mètres and "centimètres." [Decimètres, kilomètres, millimètres, &c.] When people become really civilised, they will learn to count in dozens and grosses, and use a duodecimal notation. I have done so for many years, sufficiently so to know what an infinitely superior means of calculation it is than the barbarous decimals. *C. W. Strickland.*

ACTINIDIA POLYGAMA.—This, as its name implies, is a polygamous plant, one individual having only male, another only female, and a third one only hermaphrodite flowers. It may thus happen, that a nurseryman, offering the plant, has procured his stock from cuttings of a male, or of a female, or of a hermaphrodite-flowered plant, neither of which when planted singly can produce any fruit. To have fruiting plants it is necessary to plant a quantity of seedling plants in a clump, or to plant ascertained female-flowered specimens in company with male-flowered ones, or no fruit will be produced. The plant originally grows in large patches in the northern mining districts of Japan, and the fruits are collected by children and brought to market in the towns. They are sweet, and when over-ripe take to a certain aroma, but what the scanty fruit will become under a European sky remains to be seen. It appears that the plant is not worth cultivation, or otherwise it would have been cultivated long ago by such intelligent horticulturists as the Japanese are. *Max Leichtlin, Baden-Baden.*

EDUCATION OF GARDENERS.—As a reader of the horticultural papers during the past twenty years, I have noticed that the above question is constantly cropping up. There is the usual correspondence for and against. The numerous suggestions as to what is essential in the education of a gardener. Yet I do not remember having read a paper so full of suggestions as to what would be beneficial for our boys and young men to learn as that contributed by Mr. Boulger, pp. 165-6 and 198. It is very rich in ologies, and breathes a spirit of advanced education suggestive of a college training. I contend to get a fair smattering of the different subjects enumerated, it would take a lad up to the age of sixteen in a high-class school. The parents of the boys destined to become our future gardeners are seldom in a position to send their children to a higher class school than the national, village, or board-school. At the age of 12 to 14, when they have mastered the "three R's," their parents are glad to get them into work in a local garden, to bring grist to the mill to help support the house-

hold. This will be in his first place, at 5*s.* per week, to crock pots, and help in the houses. If the lad be intelligent, and becomes useful, we find him in two years' time drawing a better wage, and doing practically the work of an apprentice. As a rule, both the proprietor and head gardener take an interest in these village lads. We find them a little later filling journeymen's places, after which they expand their wings, and migrate to nursery establishments, and from thence to other private places, and so by degrees get to the top of the ladder, with a sound practical insight into all the different branches necessary to qualify them for a gentleman's gardener. It is from this source that about 80 per cent. of our gardeners come. We must also bear in mind that about 80 per cent. of our gardening places are single-handed, or where about two are employed, the wages varying from £1 to 24*s.* per week. I should say that only about 10 per cent. of the places are really large places, employing from twelve to forty men, requiring high-class practical gardeners. It is in such places as these that a knowledge of the different sciences suggested by Mr. Boulger would be extremely useful. Although I am bound to say that many such places are thoroughly well-managed by men who have only what is the real essential of gardening—the practical part combined with a knowledge of the three Rs, I should be sorry for any reader to imagine that I was opposed to education—but how is this high-class education to reach our young men? In the majority of cases private gardens are situated in lonely districts. The neighbouring town is perhaps 3 miles distant, which makes a young man hesitate about leaving the bothy to attend a class, if such a class exist. It is possible a game of cards, draughts, chess, &c., would be more attractive. Another obstacle in winter would be the night duty. The spring and summer months, with their increased work, would entail overtime, so I fail to see how advanced education is going to reach young men in private places, unless they are studiously inclined and go in for self-education. In large horticultural centres it is easier for young men to attain a better knowledge of the subjects suggested. I can remember when a young man, working in a large nursery in Ghent, I found the young men had a knowledge of three or four languages, also botany, chemistry, &c., and still attended government classes in pursuit of knowledge; and not only they, but also the foremen, men of 30 years of age and upwards. In this centre you will find the advanced education suggested by Mr. Boulger. I admit that we English gardeners, compared to them, relative to the above subject, take a secondary place. But do we, as regards the real essential, I mean the practical part, take a back seat? I should say emphatically, no. From what I have seen, and from what I read in foreign horticultural papers concerning the opinions of foreigners who have visited these shores, they do not stint their praise as to the capacity of English growers or the way in which our establishments, both private and public, are kept. This leads me to the conclusion, that although high-class education may be beneficial, yet the attainment of it will not make our gardeners better workmen. *W. G., Frythesden Gardens.*

FRUIT-TREES KILLED BY OIL-DRESSING.—A friend of mine saw an article in one of the weekly papers on dressing for Peach-trees indoors, and it there stated that the best thing was to procure some sweet oil and dress the trees over with a brush, and so he got a quart of best sweet oil, and applied with a brush, dressing them all over with it, and although the trees—which were 14 or 15 feet high, and as far across — were perfectly healthy, and had borne exceedingly well, the oil killed every one, for not a bud, flower, or leaf ever started, and the whole brood went brown, and then black, and the lot had to be removed. I had never heard of oil being used on trees, and so had never heard of its results, but should hardly have thought it would kill them in that way. *R. J. G.*

PROPAGATION OF FICUS ELASTICA.—I read with pleasure the able article on the propagation of Ficus elastica in your issue of February 10, and the subsequent cultural details, but I would go further and ask why the whole plant could not be utilised, as well as the growing point, for propagating purposes? The plan that I have seen adopted on the Continent, and practised myself with the best results is as follows: in the treatment recommended it is presumed that the plant is devoid of leaves, and leggy nearly to the top, as I should consider it a waste of good material and loss to take the growing top of a well-balanced plant to furnish cuttings. In the first place, it is a *sine quâ non* to have a good propagating bed that would have and retain a bottom-heat of 75° to 80°, either from hot-water or fermented materials, a foot or so above the heating medium. There should be a slate covering so as to form a hot or moist air-chamber, and on this a layer of Cocoa-nut fibre, 6 inches or more in depth. The plant can now be laid down on the bed, and a tongue half-an-inch or more, according to the girth of the stem, made under each eye and proceeding upwards and on both sides of the stem, the tongue reaching to the base of each eye only and not beyond it. The stem should be covered with the fibre, the leaves only being out. The tongue should be kept open with a little moss and kept moist. In a few weeks the base of each tongue will callus and emit roots and push an eye, each making an independent plant. The whole plant can then be broken up and potted, and kept in the same heat as before, and gradually hardened off, the treatment afterwards being simply of a routine character after the plant is broken up and potted. The crown can either be propagated in the usual way, or as Mr. Sharp suggests. *J. D. G., The Gardens, Collingwood, Burton-on-Trent.*

A CHESTNUT TREE SPLIT BY THE FROST.—During the recent severe weather, a Spanish Chestnut standing in the paddock was split in three distinct places, commencing from the ground. The longest split is 5 feet, and ¼ inch wide; the wood is divided to a depth of 3½ inches. The tree, at 2 feet from the ground, measures 7 feet in circumference, and it is to all appearance perfectly healthy. The thermometer registered 32° of frost here on February 8. *F. Fitzwater, Bushey Lodge, Teddington.*

CŒLOGYNE CRISTATA.—Letters were written in the *Gardeners' Chronicle* last year in reference to the number of blooms usually produced on a spike of Cœlogyne cristata. I had seven blooms each on several spikes last year, and this year I have two spikes with eight blooms on each. I enclose for your inspection two spikes, one having eight blooms, the other seven; the plant they were cut from is in a 10 inch pot, and had 104 blooms on it. *A. Holland, New Forest Lodge Gardens, Blackheath.* [The variety is a good one, and the plant has evidently been cultivated very successfully. Ed.]

DESTRUCTION OF ANTS AND CRICKETS.—The following recipes have proved of use in killing crickets and ants:—Take 1 pint of oatmeal and 2 oz. of arsenic (POISON) and Caraway seed mixed, with a little ground Aniseed. This should be laid on pieces of paper in convenient places for the crickets to partake of it. Also arsenic and honey may be mixed together and laid about for them in the same manner; but they will most readily eat the former. An effective means of ridding a place of ants is to mix arsenic and sugar in water, which ants will readily devour, but care must be taken no animal can get to it, by covering the saucer with a piece of slate, and a stone on the top of it, a few pegs being slipped in between the saucer and the slate to afford access. *C. E. Martin, The Hoo Gardens, Welwyn.*

THE POTATO DISEASE AND ITS REMEDIES.—In a note to hand from Warminster, a friend who saw the various breadths of Potatos lifted that had been grown there by the Wilts County Council, for the trial of Bordeaux Mixture dressings on the tops during the summer, informs me that there was a very great difference in the weight of produce of the sprayed and unsprayed breadths. The official report may therefore be looked for with much interest. There were tested there numerous varieties that have undoubted disease-resisting reputations. These sorts so seldom suffer under the effects of disease, so far as actual rot in the tuber is concerned, that the trial of the Bordeaux Mixture on them seems to be so far superfluous. But there is another side to the subject, and that is found in the effect of the spraying in maintaining the foliage green and vigorous some three or four weeks longer than is the case when the tops are left unsprayed, and in such case and at that time of the year the effect is that the tubers are much larger, so that the actual net produce is enhanced some 20 per cent. I anticipate that it will be rather in that direction than in the mere saving of tubers from disease, that the Warminster trials will prove to be at once interesting and valuable. We have to set against such increased root produce the cost of the spraying, probably in two applications, certainly not excessive, and then see on which side the balance will lie. Whilst these strong-growing disease-resisting sorts are so termed, it is, of course, improper to assume that they, more than others, have power to resist the fungus spores when they attack the leafage. The resistance is found in the tubers, and it would seem as if that power was in the skins, which may be more impervious to the attacks of the spores, or else to the entire formation of the tuber flesh, which has starch granules in less proportion than may be found in sorts of inferior table quality, whilst the flesh is somewhat harder. It seems impossible to find explanation of the undoubted disease-resisting force of these robust sorts in any other direction, unless we go back to the old theory regarding the internal growth of the fungus through the stems, and then suppose that the woody or harder fibre of which the stems of these sorts is composed, presents obstacles to the spores too great to overcome. But after all, to me the greatest interest attached to the trial of a Potato-disease remedy which Mr. Fenn conducted during the past season in his garden at Salhampstead, and on sorts all of his own raising. All of the very highest edible quality, and many of which for that reason probably are, as a rule, specially susceptible to fungoid attacks. Mr. Fenn does not use the Bordeaux Mixture, but solely the Anti-blight Powder, and he gives his plants, just about the disease time, dressings of this powder about once a week. The result seemed to be in his case just about what I saw at Warminster, in relation to the application to portions of breadths of Potatos of the Bordeaux Mixture, for Mr. Fenn had thus preserved his leafage green long after undressed leafage had died away. Then when the crops were lifted, the product was found to be a very heavy one in each case, and such comparative freedom from disease in all cases, that decay or spot in the tubers was comparatively nil. Now here we have two, and, of course, some others could be adduced examples of the benefits that have, during the past exceedingly ungenerous Potato-season, arisen from the application of Potato-disease remedies. Is it not possible to have somewhere during the ensuing season trials of these, and perhaps other remedies, on a wider, and, may I say, more national scale? We want a site within easy access of London, where such authorities as the Department of Agriculture may, in conjunction with the Royal Agricultural and Horticultural Societies, conduct a trial on the widest possible basis. Such a trial it is obvious would receive the fullest publicity, and attract the widest attention. A few acres of land planted with many sorts in sections of early, mid-season, and late disease-resisting, and well-known yet high-class non-resisters, and so on, could be treated both with the liquid-mixture and the powder compound, and portions in each case left untreated, the result being carefully tabulated. Already are we beginning to feel the effects of the disease-attacks of last summer, for Potatos are becoming less in bulk, quantities stored in heaps and pits found to have been much decayed, and price is going up. It is indeed expected to rule somewhat high later on. Now if application of the disease-remedies will enable us so far to counteract the effects of the disease on Potato-breadths, most certainly it is most neglectful, if not criminal, on our parts, not to employ them. Specially so is this the case with earlier and high-class table varieties, and especially such as we grow in gardens where, as a rule, the disease is, for obvious reasons, more destructive than it is in fields. If anything is to be done in the direction named, it is high time some arrangements to that end were made, as it is useless leaving the matter until it is too late. *A. D.* [Is further experiment really necessary? The evidence is ample already, it remains for people only to act upon it, but the great majority we may be sure will not do so. Ed.]

PRUNING FRUIT TREES.—I read with pleasure the article from the pen of Mr. G. Wythes, in the issue of February 2, on "Pruning Standard Fruit-trees," for which he gives some good advice and hints, which if followed by persons who may possess standard fruit trees would certainly put them on the right track, and most certainly Mr. Wythes, practical man as I know him to be, might have gone much further in his teaching in a plain, practical way, "how not to do it." In our district in Surrey, not wide from the metropolis, I saw several good trees much hacked and spoiled for years to come in shape and fruitfulness. The manner of Mr. Chopstick is to get the garden steps

or a ladder, and hack away without any judgment, and in most cases he cuts away shoots and branches which should not have been touched. It will be admitted by all who know anything of the average fruit garden and orchard, that some are scarcely ever touched by the pruner, and only bear fruit occasionally on that side of the tree which faces south, the interior of the crown being crowded with barren shoots and numerous intercrossing branches. The proper way is to begin at the centre and work from this point outwards all round, removing one of every pair of crossing branches, also seemingly-barren shoots. A large quantity of wood will be removed, but the tree will be in better shape, and in time enabled to bear a good crop of fruit. I would not advocate the severe pruning of trees which had been neglected for many years, but if the operator would make a beginning at the inside of the tree instead of outside, and carry it over several seasons, much better crops and finer fruit would be obtained. When a tree has been once put into shape, and all useless wood cleared out of it, it can be kept in shape by slight attention annually carried out. *G. A. Bromfield.*

HILL'S "EDEN."—I do not think it worth while to discuss Dr. Hill or his works further in the pages of the *Gardeners' Chronicle*, only Mr. Hemsley misquotes me on an important point. I stated that the twenty folio plates were well executed. Probably Hill was to some extent ashamed of the way in which the previous edition had been got up, and was anxious to do something original in the new one. I found the account of the novel way in which some of his plates were produced in an introduction to Krause's *Life of* [*Erasmus*] *Darwin*, written by the late Charles Darwin, and quoted it as much for the authority as anything else. I read somewhere in Boswell's *Life of Johnson*, of Hill's efforts to obtain some Swedish title or other, but I cannot find the passage. *J. Douglas.*

MIMULUSES.—Even in a comparatively cold house, in which only just enough of heat was furnished to keep out frost, I have had no difficulty in inducing that exceedingly tiny seed, Mimulus maculosus, to germinate, with great freedom, when sown in January. The chief trouble, indeed, which this seed gives is its tendency to produce plants in far too great abundance. The seeds are so minute that, unless mixed with very fine sand, and even then sown sparingly, a 10-inch pan will produce several hundreds, and whilst not one-half may be wanted, all are somewhat checked or harmed by such exceeding overcrowding. Self-denying, indeed, is the man who can sow so thinly that the seedlings shall not be crowded, and so as each one develop into a fairly sturdy plant ere being pricked-off into other pans, without being at all drawn. As a rule, seed of the Mimulus is sown in warmth. The seedlings, however, are so hardy relatively that from a January sowing, and in low temperature, it is surprising how fast and robust they grow. No sooner are they large enough to handle than they should be pricked out thinly, either into pans or shallow boxes, where the fine roots will run out freely, and quite flat spreading plants will be produced. From such receptacles the seedlings should be transferred either singly into small pots, or be dibbled out more widely apart into a frame, but be kept as near the glass as possible. By the end of April, being then well seasoned, they may be planted outdoors into beds or on borders, giving them deeply-worked and well-manured soil. If the centre stem runs up too strongly it should be pinched out. Plants so treated, if a full-spotted strain, will give early in the summer a glorious mass of wonderfully beautiful flowers, that nothing else hardly can equal. *A. D.*

SOCIETY.

NATIONAL CHRYSANTHEMUM.

February 25.—The annual general meeting of members took place at Anderton's Hotel, Fleet Street, on the above date, Mr. Charles E. Shea, one of the Vice Presidents, occupying the chair, there being a large attendance of members. The annual report, read by the Secretary, Mr. R. Dean, showed that the Society had experienced another year of increased prosperity; eleven fellows and 130 members had been elected, and nineteen societies received into affiliation. Four exhibitions had been held during the year. The autumn *fête* in November was on a much extended scale, five societies competed for the National Challenge Trophy, which was won for the first time by the Bromley Chrysanthemum Society. Attention was called to the large number of illustrations seen at the November show displaying the decorative value of the Chrysanthemum. At the December exhibition the Japanese blooms were remarkably fine. Allusion was made to the issue of the supplemental catalogue, and also to the Year-book, both of which have met with a brisk demand, and a well-merited tribute is paid to Mr. C. Harman Payne for his editorial services. Mention was made of the address presented to Mr. E. C. Jukes, on his retirement from the post of vice-chairman. Arrangements have been made for holding exhibitions at the Royal Aquarium during the months of October, November, and December; and in September the usual prizes will be offered for early Chrysanthemums, Dahlias, and Gladioli. Substantial additions have been made to the classes for specimen plants at the November Show.

The report refers to the retirement of Mr. Robert Ballantine from the position of chairman of the committee, which he has held for several years, and testimony is borne to the valuable services rendered to the Society in that capacity.

The financial statement shows an income of £241 14*s.* from annual subscriptions; £41 15*s.* had been received as donations. From the Royal Aquarium Society, £294 16*s.* 6*d.*; from affiliated societies, £143 3*s.*; entrance fees and rent of space brought £34 17*s.* 6*d.*; and another £60 from other sources; the gross income being just over £830. On the expenditure side, £359 6*s.* appears as prize money; £66 16*s.* as medals awarded, in addition to several pieces of plate and silver cups. There are the usual items of expenditure for medals, printing, stationery, show expenses, postage, judges' fees, &c., the balance to the good being £29 10*s.* In addition, there is the sum of £55 2*s.* as representing the reserve fund. The Chairman moved the adoption of the report and cash statement, which was duly carried.

Thanks were given to the auditors, Messrs. H. Williams and T. C. Ward; and Mr. Geo. J. Ingram was elected an auditor in the place of the former, who retires by rotation. Sir Edwin Saunders was elected President, Mr. B. Wynne Chairman of the Committee, and Mr. T. W. Sanders Vice-Chairman. A hearty vote of thanks was passed to Mr. R. Ballantine, also a resolution authorising the committee to take such steps as may appear desirable to mark in some appropriate manner the high esteem in which Mr. Ballantine is held by the members. Mr. Richard Dean was re-elected General Secretary, and Mr. C. Harman Payne Foreign Corresponding Secretary.

The election of one-third of the general committee, who retire by rotation, was then proceeded with. There were eighteen candidates, and the following were declared duly elected:—Messrs. G. Langdon, T. Bevan, A. Taylor, G. S. Addison, E. Rowbottom, J. T. Simpson, W. Daniels, C. F. Yeomans, T. L. Turk, J. P. Kendall, W. Higgs, and F. Gilks. Mr. H. Cannell was elected in the place of Mr. F. J. Long; and Mr. W. H. Fowler in the place of Mr. F. W. Sanders. The rules of the Society were amended in a few particulars, especially in the direction of giving greater privileges to subscribers of half-a-guinea and one guinea. Mr. Coles Child and Mr. R. Ballantine were added to the list of Vice-Presidents. Eight new members were elected, including one Fellow; and the Woolwich, Plumstead, and District Horticultural Society was admitted to affiliation. The proceedings closed with a hearty vote of thanks to Mr. C. E. Shea for presiding.

LAW NOTE.

Mr. C. S. Robinson, of Pinchbeck, near Spalding, was charged at the Southwark Police Court on the 20th ult., with defrauding Messrs. Cooper, Taber & Co., by obtaining from them the sum of £73 14*s.* by false representations. The prisoner had undertaken to grow for Messrs. Cooper, Taber & Co. 20 acres of Purple-top Swede, for the seed of which Messrs. Cooper, Taber & Co. were to pay at the rate of 14*s.* 6*d.* per bushel. By fraudulent misrepresentation the prisoner is alleged to have obtained £1 a bushel from the seedsmen, and hence the present prosecution. The prisoner pleaded guilty, and was committed for trial at the ensuing sessions. The prosecution was conducted by Mr. Grain, instructed by Mr. Charles Butcher, solicitor to the Nursery and Seed Trade. Mr. Stiles, solicitor, Spalding, appeared for the prosecutor.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Above (+) or below (—) the Mean for the week ending February 23.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1895.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1895.	Rainfall: More (+) or less (—) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1895.	Rainfall: Total Fall since Jan. 1, 1895.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 —	0	64	— 51	+ 323	7 —	32	4·7	34	26
1	8 —	0	85	— 67	+ 416	4 —	27	3·8	33	24
2	4 —	0	47	— 67	+ 322	3 —	36	5·1	28	26
3	5 —	0	54	— 68	+ 330	4 —	32	3·6	22	25
4	7 —	0	69	— 84	+ 408	5 —	23	3·5	11	26
5	8 —	0	61	— 90	+ 347	5 —	21	3·0	22	25
6	8 —	0	69	— 76	+ 385	9 —	24	2·8	19	26
7	8 —	0	65	— 69	+ 341	5 —	25	3·2	11	27
8	9 —	0	62	— 112	+ 348	8 —	25	4·6	36	31
9	7 —	0	57	— 112	+ 302	6 —	29	4·1	34	28
10	8 —	0	46	— 163	+ 224	8 —	29	5·8	43	28
*	8 —	0	35	— 123	+ 231	1 —	32	4·8	39	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending February 23, is furnished from the Meteorological Office:—

"The *weather* during this week was fair generally, and at first very cold, but during the latter part the conditions became less wintry than of late; in many parts of Great Britain the frost gave way rather decidedly, but in the west the change was less pronounced.

"The *temperature* as a whole was below the mean, the deficit ranging from 4° in 'England, N.E.,' and 5° in 'England, E.,' to 8° or 9° in most other districts. The highest of the maxima were recorded on the 23rd, when the thermometer rose to 49° in 'Scotland, E. and England, S. and S.W.,' and to between 44° and 48° elsewhere. The absolute minima, which were registered during the earlier days of the period, though very low, were less low than those recorded during the two weeks immediately preceding. In 'Scotland, E.' (at Braemar on the 17th), the sheltered thermometer fell to —9°, and at 'Nairn' (in the same district), to +2°; elsewhere the minimum readings ranged from 8° in 'Scotland, N.,' and 9° in 'Scotland, W.' to 18° in 'England, N.E.,' to 19° in 'England, N.W. and Ireland, S., and to 28° in the 'Channel Islands.' Towards the end of the week the nightly minima were above 32° in many parts of Great Britain, but were several degrees below over central Ireland.

"The *rainfall* (partly rain and partly melted snow) was very slight, and much less than the mean in all districts.

"The *bright sunshine* exceeded the mean in

'Ireland, England, S.W., and the Channel Islands,' as well as in 'Scotland, N. and England, N.E.,' but showed a deficit in all other districts. The percentage of the possible duration ranged from 44 in 'Ireland, N.,' and 43 in 'Ireland, S.,' to 34 in 'Scotland, N.,' and to 11 in the 'Midland Counties and England, N.W.'"

PLANT NOTES.

CLEMATIS INDIVISA LOBATA.

This is a greenhouse creeper of free growth and of great beauty; the flowers small, white, and produced in great profusion—in fact, when firmly established, it is an immense bloomer. Good loamy soil with a little rotten manure and good drainage suit it, and either in large pots or planted out, it is a most desirable plant as a climber trained up the rafters and about the roof. It blooms early in the spring, and the flowers are very desirable material for the florist in forming wreaths, bouquets, &c., and for filling vases. It is not by any means a rampant grower, so that it is the more valuable; moreover, it requires but little pruning. *D.*

FLORISTS' FLOWERS.

TREE CARNATIONS.

In addition to the varieties given on p. 208, by Mr. Douglas and "R. D.," I should like to add Reginald Godfrey and Miss Mary Godfrey. The former is, in my opinion, a decided improvement upon Mrs. Leopold de Rothschild, from the fact that it is freer of flowering, and the flowers are fuller during the winter months, and possess more fragrance.

Miss Mary Godfrey would be difficult to beat as a white winter-flowered Carnation; for not only have the blooms great substance, but they are large and borne in great numbers throughout the winter. I observed both of these varieties in quantity early in November at Mr. Godfrey's nursery, Exmouth; and the strength of the growth and the number of blooms produced quite astonished me. The same plants, I have been told, have given a succession of blooms ever since. *E. M.*

MARKETS.

COVENT GARDEN, February 28.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	4 0	6 0
Azaleas, doz. sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	3 0
Chrysanthemums, per 12 blooms	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays	1 0	2 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays	0 6	0 9
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	4 0	5 0
— Czar (French), per bunch	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches	1 6	2 0

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Cinerarias, per doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica hyemalis, dz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ficus elastica, each	1 0	7 6
Ferns, small, doz.	4 0	12 0
— various, doz.	5 0	12 0
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	10 0	18 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cobs, per 100 lb.	25 0	27 6
Grapes, 1st quality, black, English, lb.	2 0	3 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, per lb.	8 0	12 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, per lb.	1 0	1 6
Cauliflowers, p. doz.	2 0	6 0
Cucumbers, per doz.	3 0	4 0
Mushrooms, per lb.	1 0	1 3
Potatos, Channel Islands, per lb.	0 5	0 6
Onions, per bushel	2 0	2 6
Rhubarb, per dozen bundles	1 3	1 6
Seakale, p. punnet	1 9	2 0
Tomatos, Canary Islands, per lb.	0 3	0 6

Old Potatos.

Farmers have taken advantage of the open weather during the last few days, and are now sending forward a good supply. Prices still rule high. Best kinds, 110*s.* to 130*s.*; ordinary, 90*s.* to 100*s.*

New Potatos (Canary).

Demand continued brisk as per last prices quoted. A few small parcels are also arriving from the Channel Islands, indoor grown. *J. B. Thomas.*

SEEDS.

London: *February* 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there were not many buyers at to-day's market. Cable-advices from both America and Germany quote Red Clover seed dearer. Trefoil continues dull. Spring Tares meet an improving inquiry. Haricot Beans are scarce and strong. Blue Peas, being still most reasonable in price, are now being largely used as substitutes for green vegetables; these latter, owing to the long frost, are naturally in very short supply, and exceedingly dear. There is no change in Canary seed. Hemp seed is firm. Scarlet Runners continue very cheap. In Rape seed the tendency is upwards. Mustard is without alteration.

FRUITS AND VEGETABLES.

Borough: *February* 26.—Quotations:—Savoys, 3*s.* to 5*s.* per tally; Cauliflowers, 2*s.* 6*d.* to 3*s.* per dozen; Sprouts, 1*s.* 6*d.* per half-sieve; Carrots, 2*s.*; Turnips, 3*s.* 6*d.*; Parsnips, 3*s.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* to 2*s.*; Celery, 8*s.* to 14*s.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 5*s.* to 7*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 13*s.* to 18*s.* per barrel.

Stratford: *February* 26.—The supply to this market during the past week has been good; and, with plenty of buyers, a brisk trade was done at the undermentioned prices:—Savoys, 2*s.* to 5*s.* per tally; Sprouting Broccoli, 4*s.* to 5*s.* per sieve; Cauliflowers, 5*s.* to 6*s.* per dozen; Turnips, 30*s.* to 60*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; ditto, Cattle-feeding, 13*s.* to 22*s.* 6*d.* do.; Parsnips, 90*s.* to 100*s.* do.; Mangolds, 8*s.* to 15*s.* do.; Swedes, 10*s.* to 17*s.* do.; Onions, English, 60*s.* to 100*s.* do.; Dutch, 3*s.* to 3*s.* 3*d.* per bag; Bordeaux, 4*s.* to 4*s.* 9*d.* per case; Apples, American, 15*s.* to 18*s.* per barrel; Watercress, 6*d.* per dozen.

Farringdon: *February* 28.—Quotations:—Savoys, 6*s.* per tally, 2*s.* 3*d.* per dozen; Curly Kale, 5*s.* per bushel; Seakale, 2*s.* 3*d.* to 2*s.* 6*d.* per punnet; Cauliflowers, 6*s.* per dozen; Turnips, 4*s.* per bag; Carrots, 1*s.* 6*d.* do.; Onions, English, 5*s.* per cwt.; Leeks, 1*s.* 6*d.* per dozen; Rhubarb, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen; Mushrooms, 1*s.* per pound; Grapes, 3*s.* per pound; Cucumbers, 5*s.* per dozen; Apples, Baldwins, 12*s.* to 16*s.* per barrel; do, Golden Russet, 18*s.* to 22*s.* per barrel.

POTATOS.

Borough: *February* 26.—Quotations ranged from 90*s.* to 130*s.* per ton.

Stratford: *February* 26.—Quotations:—Dark-land Magnums, 90*s.* to 95*s.*; light-soil do., 90*s.* to 105*s.*; Bruces, 95*s.* to 110*s.*; Imperators, 100*s.* to 105*s.*; Scotch Magnums, 100*s.* to 110*s.*; Scotch Bruces, 100*s.* to 110*s.*; Main Crop Kidneys, 110*s.* to 120*s.* per ton.

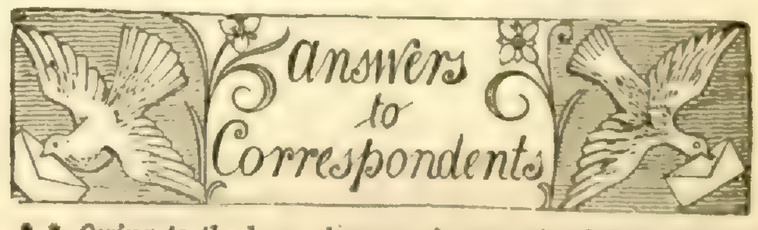
Farringdon: *February* 28.—Quotations:—Scotch, 110*s.* to 130*s.*; Snowdrops, 100*s.* to 120*s.*; Main Crop Kidneys, 90*s.* to 110*s.*; Hebrons, 90*s.* to 110*s.*; Magnums, 80*s.* to 100*s.*; Black-lands, 80*s.* to 90*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 115*s.*; do., inferior, 45*s.* to 90*s.*; hay, best, 60*s.* to 93*s.*; inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 34*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending February 23, and for the corresponding period last year:—1895: Wheat, 19*s.* 10*d.*; Barley, 22*s.* 2*d.*; Oats, 13*s.* 9*d.* 1894: Wheat, 24*s.* 5*d.*; Barley, 28*s.*; Oats, 18*s.* 4*d.*



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Address: *H. L. B.* 37, Paternoster Row, London, E.C.

Bangalay Tree: *W. G.* A species of Eucalyptus.

Books: *T. J. K. A Dictionary of English Plant Names*, by James Britten and Robert Holland, Trübner & Co., Ludgate Hill, London, E.C. *The Cultivation of all Plants and Shrubs.* The book which is most recent, and contains the kind of information you desire, is the *Illustrated Dictionary of Gardening*, published by Upcott Gill, 170, Strand.

Collins' Fund.—Received from Sir E. Saunders, £2 2*s.*, with thanks, and transmitted to Treasurer.

Dendrobium nobile: *H. B.* A fine delicately-coloured variety, well grown.

Drain Tiles and Earliness in Strawberries: *Horseman.* The semi-tubular draining tile would impart heat and retain it, they would also form a retreat for the slugs, and would make excellent traps for them. An old fashion with gardeners was to cover the land, or at least that just surrounding the plants, with roofing tiles, the idea being that warmth was imparted to the soil by this means, and they served to keep the fruit clean. It has gone out of vogue, but there may be something in it. If fruit of an early variety is required at an early date, the beds should find a place on a sloping south border, and plenty of space should be allowed between the plants; in such situation cold frames may be used over the plants.

Gardeners' Orphan Fund.—Received with thanks (W. J. P.), 2*s.* 6*d.*

Lysol: *Enquirer.* Lysol is mainly an alkaline soap, containing about 44 to 47 per cent. of carbolic acid and about 3 per cent. neutral tar oils, which, in the presence of soap and carbolic acid in combination with alkali, are soluble in water, but the antiseptic action of this compound is probably only due to the phenol (carbolic acid). *Hugo Müller.*

Manure for Strawberries: *Horseman.* Peruvian guano, 1 oz. to the square yard, is a good autumn application to encourage root-growth during the winter; and in early spring, farmyard liquid manure may be applied several times; sheeps'-droppings and soot make a very suitable liquid-manure with water. A spring-dressing of wood-ashes and lime is also beneficial. If much nitrogenous matter be applied, it encourages too much leaf-growth, except in very dry summers; and in the United States of North America they find nitrate of soda a good manure.

Names of Plants: *W. W., Harefield.* Actinotus Helianthi.—*G. H. S.* Myoporum sps. Please send a specimen next year.—*H. H.* Argemone hispida. — *A. G.* Oncidium unguiculatum; also known as O. tigrinum var. unguiculatum.—*R. B. M., Lancaster.* A form of Dendrobium Wardianum, of average quality. — *W. J. P.* 1, Abies grandis; 2, Thuya gigantea var., probably; 3, Thuya plicata of gardens; 4, Thuyopsis dolabrata; 5, Thuya gigantea, probably; 6, Cupressus Lawsoniana. — *Constant Reader.* Without flowers we are unable to name your plant.—*C. D.* Lygodium scandens.—*L. V. de B.* The finely pinnated-leafed Acacia is A. dealbata.

The other is A. sp. Send a specimen in flower to Kew.—*Henderson & Son.* 1, Acacia lineata; 2, A. armata angustifolia.

Plants for South Border: *X. Y. Z., North.* Without knowing the extent of the border, it is difficult to advise. Tall-growing deciduous flowering shrubs would hide the views from the windows. If evergreen shrubs are desirable, banks of common Laurels might be used; they would look fresh and green, and would stand the frost well if near the coast. They could be kept at the desired height by pruning in the spring and late summer. These might be edged with the dark-leaved Berberis aquifolium, or B. Darwini, with specimen plants of Berberis japonica at intervals. These plantswould give light and dark foliage, and yellow flowers and purple berries in season. O herbaceous plants, the dwarfer varieties of Delphiniums, Pæonies, Iris, Papavers, Inulas, Pyrethrums, dwarf Roses, and Crocus, Hyacinths, Tulips, Narcissus, Gladioli would be suitable. On the south front of a house there is nothing more neat than a border of spring and summer bedding plants, with a good broad strip of well-kept grass in front of it. The eaves of the house, if supplied with spouting, would not affect the plants. A satisfactory plan would be to make a border round the house 3 feet wide, plant Peaches, Apricots, or Roses against the wall, then make a grass or gravel path 4 feet wide next to it, for after heavy snowfalls tender plants within 7 feet of the wall might be injured by snowslips from the roof. *B. W.*

Plumbago capensis: *Humming.* The plant must have been negligently cultivated, and at some time infested by insects—aphides, probably; the waxy secretions visible on the back of the leaves being due to punctures made by them.

Root Tubercles of Leguminosæ: *W. C.* The literature is now very extensive. Hellriegel's papers are in German. In England, Lawes and Gilbert, Marshall Ward and Warington have written on the subject, and some notice is given in most of the modern text-books on botany and agriculture.

Rooting of the Crown of Cyathea medularis: *Jacobus.* We do not suppose that you will succeed in obtaining sufficient roots from the stem to support life for any length of time, if the root-stock be cut off.

Spotting of the Flowers of Rhododendrons: *W. R. C.* The effect of damp and a low temperature, inducing condensation.

Strawberries: *M. A. B.* Most of the early-formed fruits have turned black, which may be due to the neglect of the young men to afford the plants water, as you yourself suppose; or to their being exposed to draughts of frosty air. We are more inclined to the latter supposition.

Sulphate of Iron: *Horseman.* This substance (white vitriol) is but of little manurial value, but it may have the effect of killing moss and lichens on the trunks and branches of fruit trees. We should hesitate to advise its use on the trees when in fruit, or on Strawberries.

Communications Received.—P. B.—W. L. L.—W. G. S.—H. Cannell.—W. Stanbury.—S. & Co.—A. J. M.—J. J. W.—D.—Seedsman.—E. C.—A. P.—J. Looney.—A. C. F.—W. O.—T. F.—T. H. S.—H. W. W.—J. O'B.—A. D.—G. B.—J. Douglas.—J.—J S.—W. Miller.—Q. Read.—G. W.—J. W.—C. N.—Rev. W. C.—O. L., Trèves.—S. A. G., Tamboff, Russia.—W. C.—W. R.—E. T. C.—R. A. R.—D. H.—Prof. Hahault, Montpellier.—H. H., Darmstadt.—J. E. H.—H. T. W.

DIED.—On Feb. 22, suddenly, George Dyson Owen, of Selwood, Rotherham, aged 52.

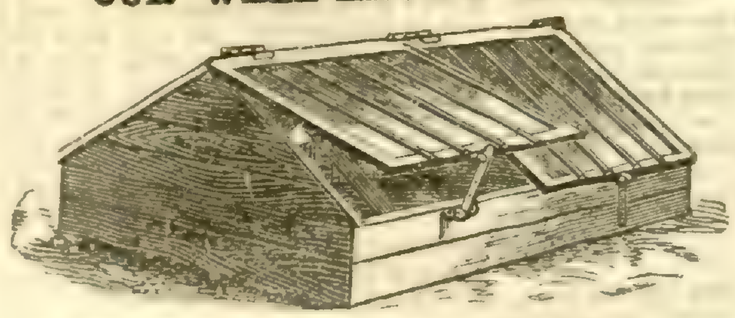
CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among country gentlemen, and all classes of gardeners and garden-lovers *at home, that it has a specially large* foreign and colonial circulation, *and that it is preserved for reference in all the principal Libraries.*

GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „	PRICES,	2	5	0
12 feet „ 4 feet „		4	0	0
6 feet „ 5 feet „	CARRIAGE	2	15	0
12 feet „ 5 feet „		4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

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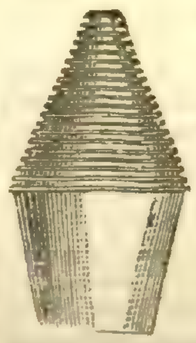
London Agent, Mr. H. Skelton, Seedsman, &c., 2, Holloway Rd., N.



FLOWER POTS
and HORTICULTURAL POTTERY.
CONWAY G. WARNE (Ltd.),
Royal Potteries,
WESTON-SUPER-MARE.
The Largest Manufacturers of Garden Pottery in the World.
Millions in Stock. Contractors to H.M. Government.
30 Gold and Silver Medals Awarded
Price Lists free on Application.

RUSSIA MATS.

		Per Bundle of 10.
BEST NEW ARCHANGEL MATS ...	(9 ft. by 4 ft. 6)	10s.
TAGANROG MATS	(7 ft. by 4 ft.)	8s.
„ HEAVY PETERSBURG MATS	(7 ft. by 3 ft. 10)	7s.
NEW LIGHT PETERSBURG MATS	(7 ft. by 3 ft. 6)	5s.

SECOND-HAND PACKING MATS, 20/-, 25/- & 35/- p. 100.
BEST PLAITED RAFFIA and COCOA FIBRE REFUSE.
„ CUBA BAST ... ... 1s. per lb.

Horticultural Sundries of Every Kind.
CATALOGUE Post Free on application.
JAMES T. ANDERSON,
135 & 137, COMMERCIAL ST., LONDON, E.

H. GLANVILLE,
GARDEN WALL WIRING.

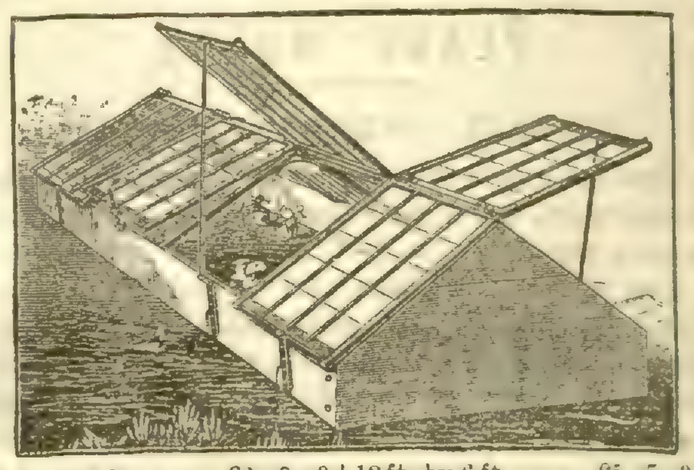
Neat, Very Strong, and Durable.
HORTICULTURAL IRON AND WIRE WORKS,
6, PEEL PLACE, KENSINGTON, W.

ORCHID BASKETS, made of the Best Teak, and with Copper-wire Suspenders; also Cylinders, Rafts, &c., at Lowest Prices.—JOHN COWAN and CO., Ltd., The Vineyard and Nurseries, Garston, near Liverpool.

CARSON'S PAINT
Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.
1 Cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paint for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.
Grove Works, Lombard Road, Battersea, London, S.W.
and Bachelor's Walk, Dublin.

BOULTON & PAUL,
HORTICULTURAL BUILDERS, NORWICH.

No. 73. SPAN-ROOF GARDEN FRAME.

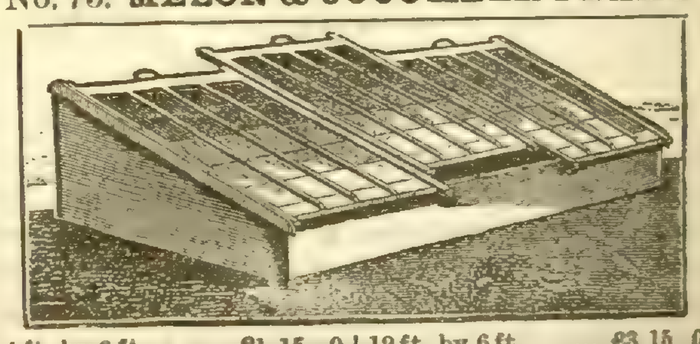


4 ft. by 6 ft.	... £2 9 0	12 ft. by 6 ft.	... £5 7 0
8 ft. by 6 ft.	... 3 18 0	16 ft. by 6 ft.	... 6 18 0

PIT LIGHTS { 6 ft. by 4 ft., painted and glazed ... 13/3 each. / 6 ft. by 4 ft., unpainted & unglazed 5/- „

WALL FRUIT-TREE PROTECTORS.
No. 65.—With Removable Lights, 24 ft. by 2 ft. ... £2 14s.
No. 65A.—A Cheaper Form, 24 ft. by 2 ft. ... ... £2 0s.

No. 75. MELON & CUCUMBER FRAME



4 ft. by 6 ft.	... £1 15 0	12 ft. by 6 ft.	... £3 15 0
8 ft. by 6 ft.	... 2 15 0	16 ft. by 6 ft.	... 4 15 0

No. 77.—VIOLET FRAME, 6 feet by 4 feet. Similar to No. 75, with two lights. { 30s.

CARRIAGE PAID on Orders of 40s. value to any goods station in England and Wales; also to Dublin, Cork, Edinburgh, and Glasgow.

THE
XL ALL PREPARATIONS.

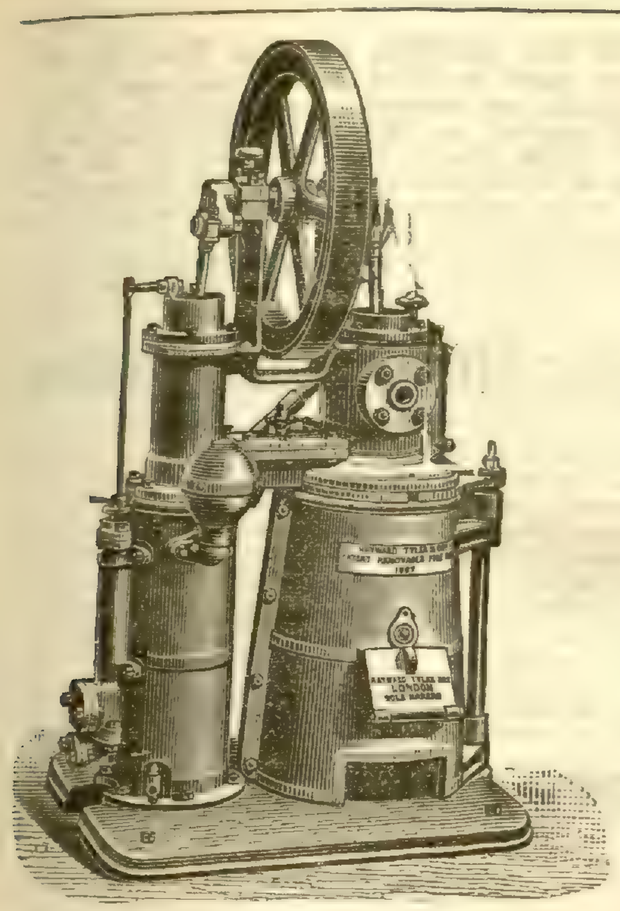
GARDENERS have no need to worry any more about insect pests. Even the dreaded Mealy Bug, Scale, American Blight, Thrip, &c., can be speedily cleared out of every Glass-house and Garden by the use of the above Preparations.

☞ Don't rest until you have tried them, and, as thousands of others have already done, proved the fact!

☞ The first three are prepared in Bond from Duty-free Tobacco.

XL ALL VAPORISING FUMIGATOR.—The surprise and delight of all who use it.
XL ALL LIQUID INSECTICIDE (WASH).—The most genuine and effectual Wash in the Market.
XL ALL TOBACCO POWDER.—The finest grade and strongest powder yet produced. Send for a Sample Tin for test and comparison.
XL ALL LAWN SAND.—A Destroyer of Daisies, Plantains, &c., and a Fertilizer for the Grass.
XL ALL LIQUID MANURE.—A concentrated clear liquid, and a cheap and splendid Fertilizer. No smell.

To be had from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or direct from the Sole Proprietor.
Price List Post-free.
G. H. RICHARDS,
Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.



WATER SUPPLY

FOR

Gardens and Greenhouses.

NO SKILLED SUPERINTENDENCE, OR DANGER.

THE "RIDER" HOT-AIR ENGINE

Raises 1000 gallons 80 feet high for an expenditure of ONE PENNYWORTH of Fuel.

CRANSTON'S NURSERIES say:—"We should be very sorry to be without it now."

SOLE MAKERS:—

HAYWARD TYLER & CO.,

Address: 39, QUEEN VICTORIA STREET, E.C.

CLAY'S LONDON FERTILIZER

TRADE MARK.

They are used by Leading Growers, Royal Botanic Society, Royal Horticultural Society, Royal Parks, London County Council, throughout the United Kingdom, and in every quarter of the globe.

UNSURPASSED

FOR

CHRYSANTHEMUMS, VINES, ROSES,

AND

All HORTICULTURAL PURPOSES.

CLAY'S MANURES

PRODUCTIVE. SAFE. LASTING. ECONOMICAL.

The respective Trade Mark is Printed on every Packet and Bag, and impressed on the Lead Seal attached to the mouth of each Bag, which is THE ONLY GUARANTEE OF GENUINENESS.

Sold by the trade in **6d.** and **1s.** Packets, and SEALED BAGS:—

7 lb. 2*s.* 6*d.* 14 lb. 4*s.* 6*d.*
28 lb. 7*s.* 6*d.* 56 lb. 12*s.* 6*d.*
112 lb. 20*s.* Or direct from the Works, Carriage paid in the United Kingdom for Cash with order (except 6*d.* Packets).

Crushed Bones, Peruvian Guano, Sulphate of Ammonia, Nitrate of Soda, and other Manures. Tobacco Cloth and Paper. *Best Qualities only. Prices on Application.*

CLAY & SON,

Manure Manufacturers, Bone Crushers, &c.,

Temple Mill Lane, STRATFORD, LONDON, E.

S. C. CLAY'S INVIGORATOR

TRADE MARK.

THOUSANDS of GARDENERS

IN ALL PARTS OF THE WORLD ARE USING

BENSON'S "LUDGATE" WATCH

In Silver Cases. In Silver Cases.

The Cheapest, Best Value, Strongest, and most Durable London made THREE-QUARTER PLATE ever sold.

An English Lever, Jewelled with 13 Rubies, Chronometer Balance, Patent Large Barrel, and Damp and Dust Proof Ring Band.

Keeps better time than, and is double the Strength and Value of any £5 5*s.* Watch yet made. In Handsome Sterling Silver Cases, with Extra Strong Crystal Glass, £5 5*s.*

Extra strong (as illustrated), specially made for Gardeners and Working Men, can also be had, either larger or smaller.

In massive 18-ct. Gold Cases, with Crystal Glass, Gentlemen's size, £12 12*s.*

A very pretty size for Ladies, Sterling Silver, £5 5*s.*; or 18-ct. Gold, £10 10*s.* Sent free, and at my risk, to all parts of the world, for P.O.O. or Cash.

OLD WATCHES and JEWELLERY taken in exchange.

BENSON'S PAMPHLET, the largest and best of its kind, containing 200 pages of Prices and Illustrations of every class of WATCH from £2 2*s.* to £500, CLOCKS, CHAINS, JEWELLERY, and PLATE. Sent post-free on application to—

J. W. BENSON, THE STEAM FACTORY,

62 & 64, LUDGATE HILL, E.C.,

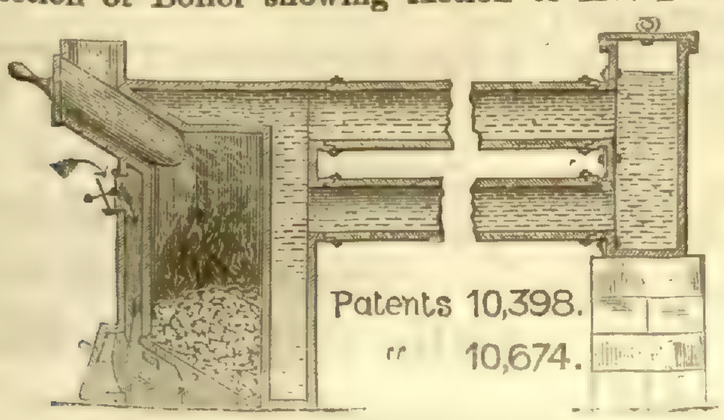
And at 28, ROYAL EXCHANGE, E.C.; and 25, OLD BOND STREET, LONDON, W.

BENSON'S CLUBS.—Applications for AGENCIES invited. An Easy Way of Increasing Your Income. Particulars Post Free.

SILVER MEDAL HORSE-SHOE BOILER

(KINNELL'S PATENT).

Section of Boiler showing Action of Hot Blast.



FIX IN END OF HOUSE. NO BRICKWORK REQUIRED.

Awarded First Prize in Open Competition by the R.H. Society.

WILL BURN LONGER WITHOUT ATTENTION THAN ANY OTHER BOILER OF THIS TYPE, as well as being the most POWERFUL and ECONOMICAL MANUFACTURED.

NO WASTE HEAT through front plate of Boiler. Compare sizes and shape with others, and AVOID DISAPPOINTMENT and LOSS.

DON'T BUY CHEAP SMALL BOILERS WHICH WILL NOT BURN THROUGH NIGHT WITHOUT ATTENTION.

Catalogues and Estimates for Complete Apparatus FREE.

Largest Show Rooms solely devoted to Heating Appliances in the Kingdom.

CHAS. P. KINNELL & CO.

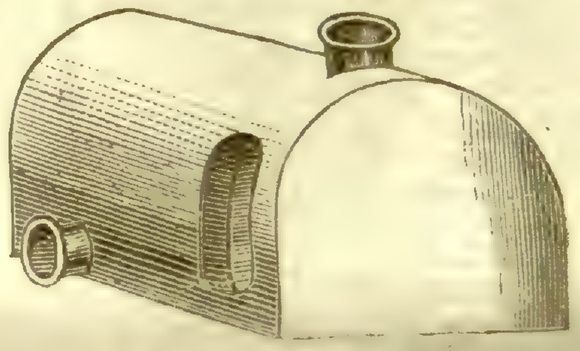
65 & 65a, SOUTHWARK STREET, LONDON, S.E.

CHAS. P. KINNELL & CO.,

IRONFOUNDERS and BOILER MAKERS.

CAST IRON SADDLE with WATERWAY END and SIDE FLUE OPENINGS.

HIGHLY RECOMMENDED.



SOLE MANUFACTURERS OF—

THE ROCHFORD HORIZONTAL TUBULAR BOILER, WITH CAULKED or INDIA-RUBBER JOINTS.

KINNELL'S PATENT VENTILATING GEAR.

MOVABLE GLAND THROTTLE VALVES.

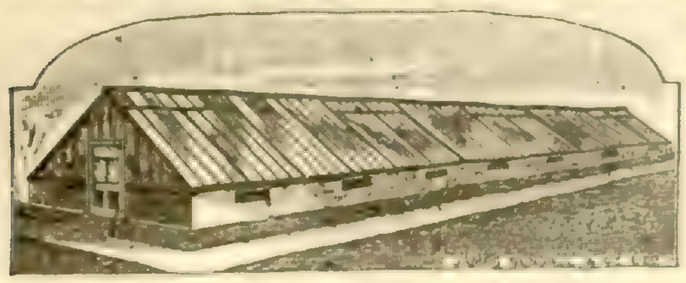
DIAPHRAGM VALVES WITH RUBBER FACE.

LARGEST STOCK OF HOT-WATER PIPES AND FITTINGS IN LONDON.

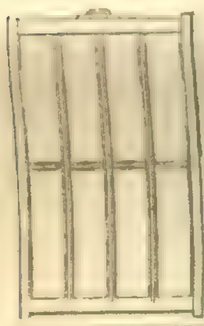
☞ *COMPARE QUALITY OF GOODS and PRICES.*

ADDRESSES: 65 & 65A, SOUTHWARK STREET; 31, BANKSIDE; 4, 5, & 6, THE GROVE, SOUTHWARK, S.E.; and TRUCHOT STORES, GUERNSEY.

JAMES SENDALL & Co LTD
CAMBRIDGE.



NEW SPAN-ROOF HOUSES,
Suitable for Plants, Vines, Tomator, Chrysanthemums,
50 ft. by 12 ft., £35; 50 ft. by 15 ft., £32 10s.

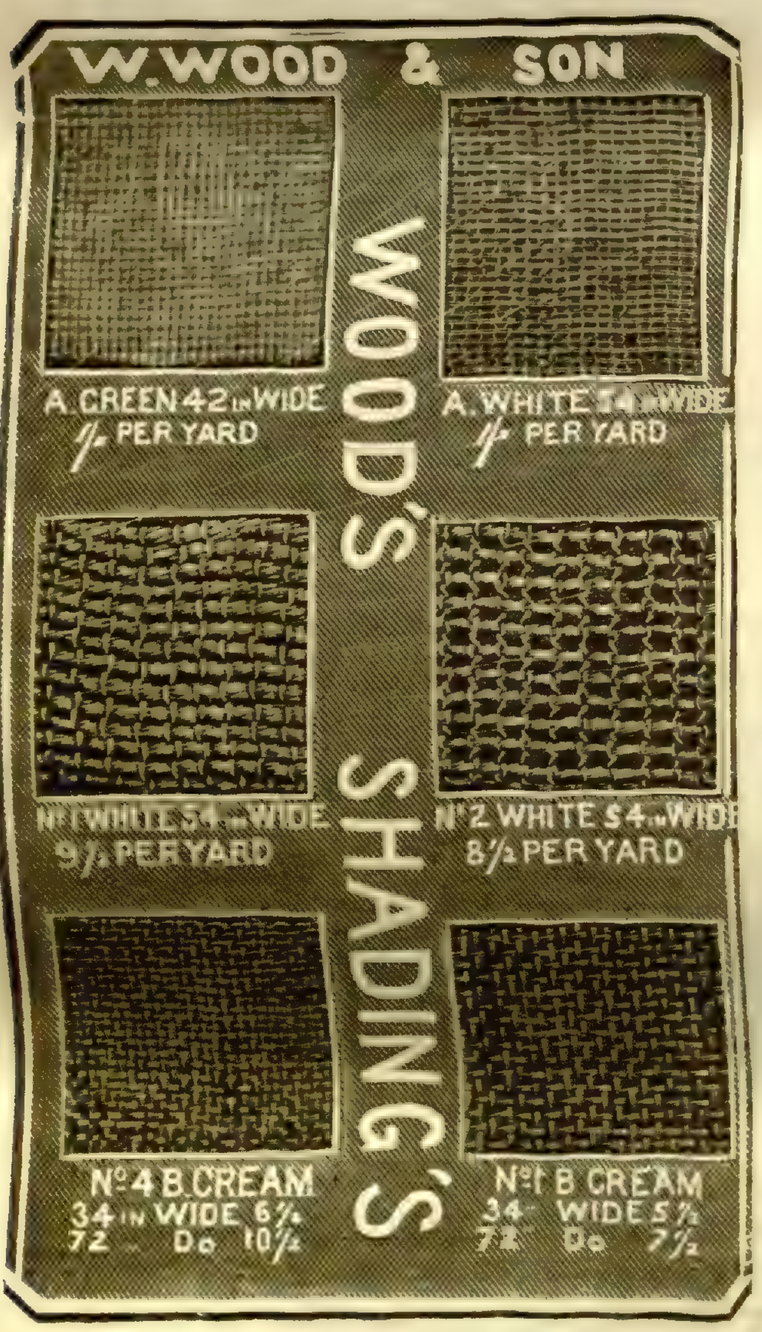


Made of the best materials, Woodwork and Ironwork complete, 21 oz. English Glass, painted twice. Carriage Paid. Illustrated Sheet, with full particulars, post free.

PIT LIGHTS.
THE BEST STOCK IN THE KINGDOM.
Strong, well-made Lights, 2-in. flat iron cross-bar, screwed on, glazed or unglazed, in useful sizes, to suit hard work.

Length.	Width.	Unglazed.	Glazed.	
5 ft. 6	3 ft. 6	4/6 ea.	10/6 ea.	Carriage
6 ft.	4 ft.	5/- ea.	13/- ea.	Paid.

WARE & SONS' Telegrams: Pottery, Uckfield.
FLOWER POTS
SUSSEX POTTERY WORKS, UCKFIELD.
ARE THE BEST.
Estab. 1770
For Private Gardens.
Hundreds of Testimonials,
Lists on application.
The Trade Supplied.



SHADINGS
CUT, SEWN, and TAPED,
Ready to fix upon Rollers, to any size, upon receipt of measurement.
W. WOOD & SON, F.R.H.S., (Estab. 1850),
WOOD GREEN, LONDON, N.

THE GARDENERS' CHRONICLE

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GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

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SCALE OF CHARGES FOR ADVERTISING
HEAD LINE CHARGED AS TWO.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
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AND SIXPENCE FOR EVERY ADDITIONAL LINE.

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Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

Births, Deaths, and Marriages, 5*s. each insertion.*

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Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

BOOKS ON ROSES, by Wm. Paul, F.L.S.—THE ROSE GARDEN, 9th edition, royal 4to, 20 coloured plates, and numerous wood engravings, 17s. 6d.; the same, imperial 8vo, without coloured plates, 8s. 9d. ROSES IN POTS, 7th edition, illustrated, 2s., post free. ROSES, AND ROSE CULTURE, 7th edition, illustrated, 1s., post free. "The best works on Roses are those by Mr. Wm. Paul."—*Journal of Horticulture.*
WM. PAUL & SON, Waltham Cross, Herts.

Agricultural Economist.
An ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilcakes, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.
3, Agar Street, Strand, London, W.C.

FARMS, ESTATES, RESIDENCES.
Any one desirous of
Renting a Farm or Residence, or Purchasing an Estate, can have copies of the
MIDLAND COUNTIES HERALD
SUPPLIED FREE FOR SIX WEEKS,
on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

100 GARDEN LIGHTS, new, 6 feet by 4 feet, painted, 3s. 11d. each; if glazed with 21 oz. glass, 8s. Also Forcing House, span-roof, 50 feet by 10 feet, including 21 oz. glass, and staging complete, £19.
D. HORROCKS, Tyldesley, near Manchester.

GARDEN REQUISITES.
COCOA-NUT FIBRE REFUSE,
6d. per bushel; 100 for 30s.; truck, loose (about 2 tons), 50s. Bags, 4d. each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPHAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

HORTICULTURAL GLASS.
A Large Stock always on Hand.
Special quotations for quantities.
WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.
NICHOLLS & CLARKE,
6, HIGH STREET, SHOREDITCH,
LONDON, E.

BREAKFAST—SUPPER.
EPPS'S
GRATEFUL—COMFORTING.
COCOA
BOILING WATER OR MILK.

Established 1861.

BIRKBECK BANK,

Southampton Buildings, Chancery Lane, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.

SAVINGS DEPARTMENT.

For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.
The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

GARDENING APPOINTMENTS.

Mr. Stephen Castle, F.R.H.S. (late of the Ashford Vineries, Fordingbridge), as Manager, The Nurseries, Bottesford, Notts.

Mr. Frank Surman, for the last three years Head Gardener at Cleremont Gardens, Swansea, as Head Gardener to Lady Swansea, Singleton Abbey, Swansea.

Mr. J. W. Miskin, for the last four and a half years Foreman at Upper Gatton Park, Redhill, Surrey, has been appointed Gardener to T. Eyre, Esq., Runnymede, Old Windsor, Berks.

Mr. Alfred Child, late Gardener to Robert Warton, Esq. Deacon's Hill House, Elstree, as Gardener to H. A. Attenborough, Esq., Catesby House, Daventry, Northamptonshire.

Mr. James Mullens, late Gardener to the Rev. Prebendary Ashley, Stretton Rectory, Hereford, as Gardener to Colonel G. Arbuthnot, Norton Court, Gloucester.

CATALOGUES RECEIVED.

W. Lovell & Son, Driffield—Strawberry Runners.

R. Greenfield, Ranelagh Nursery, Leamington Spa—Seeds, &c.

Johnson Dowson, Thornfield Gardens, Old Linthorpe, Middlesboro—Seeds, &c.

Wm. Clibran & Son, Royal Exchange, 10 and 12, Market Street, Manchester—Agricultural Seeds.

S. F. Richmond, Hagga Hill, Ossett, Yorkshire—Seeds, Plants, &c.

Pick & Fountain, Garden Tool Manufacturers, Stamford—Double-action Excelsior Hoe.

Thos. S. Ware, Hale Farm Nurseries, near Tottenham—(1) Hardy Florists' Flowers, (2) Hardy Perennials, (3) Roses, Clematis, Fruit Trees, Shrubs, Azalias, &c.

Laing & Mather, Kelso-on-Tweed—(1) Trees, Shrubs, Roses, &c.; (2) Seeds.

Dicksons, Limited, Chester—Farm Seeds.

Francis G. E. Bennett, Heathfield, Sussex—Seeds.

A. Frindlay, Markinch, Scotland—Potatos.

Kent & Brydon, Darlington—Farm Seeds.

A. de Lairesse, 63, Quai Fragrée, Liège—Orchids.

J. Jinkins & Co., 2, Eversholt Street, London, N.W.—Imported Lilies, &c.

G. F. GLEN begs to THANK the MANY APPLICANTS, and to say the situation is NOW FILLED.—Brambletye Gardens, East Grinstead.

WANTED, as HEAD GARDENER, a steady working Man. Wages 25s. per week. Good house, coal and vegetables. Foreman also wanted (18s. a week), to lodge with Head Gardener. No bothy. Three Indoor men kept.—Write S. G. G., Willing's Advertising Offices, 162, Piccadilly, W.

WANTED, a HEAD WORKING GARDENER.—A thoroughly experienced Man required immediately to take Charge of Kitchen Gardens; two men under him. Applicant must understand Pigs, and wife required to look after Poultry and Rearing of Chickens. Wages, 25s. per week, inclusive, with nice cottage. No children. Ages not over 40. Only a thoroughly respectable couple need apply to Mr. LORD, Proprietor, West Cliff Hotel, Folkestone.

WANTED, as GARDENER, a competent handy man, willing to make himself generally useful; unmarried (at first); chiefly Outdoor Work. Wages rising from £1.—Write full particulars of previous experience, &c., and copies only of testimonials, to RECTOR, Tendring, Essex.

WANTED, young man GARDENER, for jobbing, and to fill up time in two small greenhouses. An abstainer preferred, and good references.—Apply by letter, to S. BATTERHAM, Cobham, Surrey.

WANTED, a GARDENER, to make himself generally useful.—Apply by letter, stating wages and full particulars, to GARDEN, Deacon's, Leadenhall St., E.C.

WANTED, GROWER for the North.—Must be experienced in Cucumbers, and well up in General Market Work. Permanency. Good bothy. State wages, &c.—REWORG, 41, Wellington Street, London, W.C.

WANTED, an Experienced GROWER (married), to work up a Fruit-Growing Business for Market. Five-roomed Cottage free. State wages expected, experience, and references.—M. BRUMWELL, Homelands, Ryde.

WANTED, a useful, active GARDENER.—Under 40, married, no children; caretakers for several months of the year. Holmbury St. Mary, near Dorking. Large Lawn, Kitchen Garden, no Glass. £1 a week. Cottage, some coals. Personal characters.—Apply by letter to H. J. W., Thorpe Lodge, Campden Hill, London, W.

WANTED, at my Station Road Nursery, a FOREMAN PROPAGATOR, for General Home Trade, chiefly Bedding Stuff (specialties grown elsewhere). Must be of strictly sober and reliable character, energetic, of trade experience. Good Salesman. Age not under 30. Wages 28s. to 30s.—Apply by letter, stating antecedents, JOHN R. BOX, Croydon.

WANTED, a MARKET GROWER of Palms, Ferns, &c.—State age, wages required, with references, to TURNER BROS., Nurserymen and Florists, Garston, Liverpool.

WANTED, a GROWER of Lily of Valley, who understands thoroughly the forcing in all its stages. None but the most competent men with good references as to experience, &c., need apply.—WALTER T. WARE, Inglescombe Nurseries, Bath.

WANTED.—A GROWER of Carnations and Ferns for Market. One out of a Market Nursery preferred.—Apply to S. CHILDS, Woodside Nursery, New Eltham, Kent.

WANTED, AT ONCE, an OUTDOOR FOREMAN, with good general knowledge of Cropping and Pruning. Good knowledge of Kitchen Garden Work indispensable. Wages 18s. per week, bothy, milk, and vegetables.—Apply to D. KEMP, Stoke Park Gardens, Slough

WANTED.—Several quick, active Men, used to Cucumber and Tomato Growing. State age, experience, &c., to JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne.

WANTED, a strong, active young MAN, for Kitchen Garden; used to Machine. Wages, 15s. per week, and Bothy. State age.—H. NAYLOR, Grimsthorpe, Bourne, Lincolnshire.

WANTED, young MAN, age 17 to 19, with knowledge of Nursery work; able to stand market twice a week; good salesman. Wages, &c., to H. D., Mr. Starkie Baldwin, Woodbine Nursery, Burnley.

WANTED, a young MAN, for Lawn and Kitchen Garden. One used to Mowing Machine and Scythe preferred. Bothy and vegetables. State age and wage.—CHAS. BARNETT, Hilton Park Gardens, Wolverhampton.

WANTED, an energetic young Man, well up in Plant-growing; quick at potting and watering. None but good workmen need apply, stating wages required, to JOHN HENDERSON & SONS, Nurserymen, Templeogue, Dublin.

WANTED, a young MAN, 18 or 20, for the Houses (under the Foreman).—A good Market Trade in Plants and Cut Flowers. Give full particulars, including ability, and wages expected.—PARAGON, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

WANTED, TWO young MEN, for Market Nursery, where Tomatos, Cut Flowers, and Soft-wooded Plants are grown.—State particulars and wages required to JAMES SHORT, The Law Nursery, Apperley Bridge, Leeds.

WANTED, a Young MAN, Indoor Fruit, London Market Nursery. 18s. per week. State age, and previous experience.—HAMPTON, 41, Wellington Street, Strand, W.C.

WANTED, a strong, active young MAN, experienced in Greenhouse and General Nursery work, Bedding Plants, &c., under Foreman.—State age, wages expected, and references, to F. WEBBER, the Nurseries, Tonbridge.

WANTED, a strong active young MAN for the Kitchen Garden.—Not under 20; must be well up to his work. Wages 17s. per week.—State particulars to E. BENNETT, The Gardens, Chilham Castle, Canterbury.

THOMAS ROCHFORD, Turnford Hall Nurseries, Broxbourne, Herts, has a few VACANCIES for MEN used to Fruit and Flower-growing under Glass.—Apply, stating experience, to FOREMAN.

WANTED, SEVERAL active young MEN, used to Nursery Work—Quick at Potting and Tying. State wages required, and where previously employed.—Apply by letter (or personally between 12 o'clock and 6) to the FOREMAN, Mill Lane Nursery, Cheshunt.

WANTED, a Respectable Middle-aged MARRIED COUPLE, without family, to live in Lodge. Man must have experience in Flower and Kitchen Garden, preference given to a handy man who can do glazing, &c., if required. Woman to attend to entrance-gates. None with family need apply. Wages, 16s. per week, with Lodge.—Apply, with copies of testimonials, to F. CLIPSTONE, Gardener, Dingley Park, Market Harborough.

MESSRS. JNO. JEFFERIES AND SON, Cirencester, beg to say that their VACANCY for FOREMAN is NOW FILLED; they wish also to thank the numerous applicants who offered their services.

WANTED, ONE or TWO PUPILS to learn practical Fruit and Flower Growing for Market, on an estate of 8 acres, on the South Coast, in the heart of the Fruit Growing industry.—X., 20, Lennox Road, Worthing, Sussex.

WANT PLACES.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, Chester."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

JOHN R. BOX, Croydon, has now upon his Register several able and well-qualified HEAD GARDENERS, FOREMEN, JOURNEYMEN, and SINGLE-HANDED GARDENERS, men of highest character; and will be pleased to give employers particulars.

GARDENER (Head).—Advertiser, who has been Farming on his own account for the last five years, desires to treat with any Nobleman or Gentleman requiring the services of a thorough competent and industrious man. Is well versed in the Early Forcing of Fruits, Flowers, and Vegetables, and is a good Orchid Grower. Eight and seven and a half years in two last places, the latter with Sir A. B. Walker, Bart., Osmaston Manor, Ashbourne. Testimonials of the highest order.—WM. SHIRWIN, Woodhead, Kniveton, Ashbourne, Derbyshire.

GARDENER (Head), age 37, no family.—Gentleman with confidence recommends his Head Gardener for seven years; life experience in large places. Excels in Orchids, Roses, Fruit, Chrysanthemums; a capable manager.—B., 3, Schuckburgh Road, Catford.

GARDENER (Head).—Age 30, married, no family, wishes to engage with any Lady or Gentleman requiring a good practical all-round man.—GARDENER, Bescot Grange, Walsall, Staffs.

GARDENER (Head).—Wm. Kendall, Head Gardener to Lord Henley, is open to treat with any Lady or Gentleman requiring a thorough practical all-round man.—The Gardens, Watford Court, Rugby.

GARDENER (Head), age 23.—Sir Thomas Bazley, Bart., will recommend W. Burley, who has been here for five years as Foreman, to any Lady or Gentleman requiring the services of a gardener. First-class experience in all branches, including Orchids.—W. BURLEY, Hatherop Castle, Fairford, Gloucester.

GARDENER (Head), age 30.—Situation where several men are employed. Life experience. Can be well recommended.—A. OWENS, St. Clere Gardens, Kemsing, Sevenoaks.

GARDENER (Head).—Age 40, married; thoroughly practical Orchid Grower; also well up in Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Garden, &c. Excellent testimonials.—W. MAY, 31, Southwold Road, Upper Clapton, London, N.E.

GARDENER (Head); age 31.—A Gentleman wishes to recommend a Gardener. Nearly two years' good character. Good Plantsman.—W. H. G., 3, Herne Hill, S.E.

GARDENER (Head).—Age 39, married; thoroughly experienced with Grapes, Peaches, Tomatos, Cucumbers, Melons, Orchids, Stove and Greenhouse Plants, Hardy Fruit and Vegetables, etc. Excellent character. F. SOMERFORD, Vine Cottage, Gews Corner, Turner's Hill, Waltham Cross.

GARDENER (Head); age 32, married.—A Lady giving up her establishment, wishes to recommend her Gardener to any Lady or Gentleman in want of a trustworthy and practical man; experienced in all branches, including Orchids. Excellent character.—J. SMITH, Heathfield, Saltwell Park, Gateshead-upon-Tyne.

GARDENER (Head), and ORCHID-GROWER.—Age 35; married. Successful grower of Orchids, Grapes, Stove, Greenhouse, and Hardy Plants. Fruits, Flowers, and Vegetables. Reliable manager. Excellent character.—GARDENER, Lett's Library, Crouch Hill, N.

GARDENER (Head Working).—Age 40; married; life experience in all branches of gardening in good Establishments; twelve years Head Gardener in last situation. Good references.—J., Mr. Spencer, The Gardens, Goodrich Court, Ross, Herefordshire.

GARDENER (Head Working).—Age 30, married; thoroughly experienced in the cultivation of Plants, Flowers, Fruits, Vegetables, and Orchids. References to Mr. Wadds, Birdsall Gardens, York, and Mr. Hope, Middleton Park, Bicester.—FREDERIC TUGWOOD, Chesterton, Bicester.

GARDENER (Head Working), with assistance.—Has grown garden produce many years for pleasure and profit. Excellent testimonials.—P. H. TOOGOOD & SONS, The Queen's Seedsmen, Southampton.

GARDENER (Head Working, or Single-Handed).—Well up in Stove, Greenhouses, and Vinery, Flower and Kitchen Gardens. Can be well recommended. Four years' excellent character. State wages.—M., 15, Campden Street, Campden Hill, Kensington, W.

GARDENER (Head Working).—Age 32, married, no family; life experience in large establishments. Excellent references from Noblemen's places. Last situation as Head.—X. Y. Z., 41, Wellington Street, Strand, W.C.

GARDENER (Head Working).—Age 29; thoroughly experienced in the General Routine of a good Garden, including Fruit, Plant, and Orchid Houses, and Chrysanthemum Growing for exhibition. Can be well recommended.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (Head Working), where two or more are kept.—Age 29. Abstainer. Fourteen years' practical experience in all branches; over two and a-half in present place.—GARDENER, 6, Grove Terrace, Board School Road, Woking.

GARDENER (Head Working), age 29.—Mr. Tegg, Bearwood Gardens, Wolsingham, wishes to recommend W. Hammond to any Lady or Gentleman requiring a steady and trustworthy man as above, thoroughly experienced, six years General Foreman in present situation.

GARDENER (Head Working); age 30.—C. Thompson can with confidence recommend his Foreman (E. Post) as an energetic, trustworthy, all-round man.—Broxmead Gardens, Cuckfield, Sussex.

GARDENER (Head Working).—Age 41; wife thorough Laundress. Thoroughly experienced in all branches of Gardening, Early and Late Forcing. State wages.—H. L., Farnborough Cottage, Farnborough Green, Hants.

GARDENER (Head Working).—Age 30; thoroughly experienced in general routine of a good Garden, Plants, Flowers, Fruits, and Vegetables. Excellent characters.—F. NASH, Woodend Gardens, Chichester.

GARDENER (Head Working).—Age 30; married, no family; experience in Herbaceous Plants, Vinery, Melons, Cucumbers, Tomatos, and all branches; good reference.—FENNELL, Great Barford, St. Neot's.

GARDENER (Head Working).—Age 30; married; no family. Life abstainer. Four years' excellent character. Life experience in large establishments.—T. GITSHAM, Broad Clyst, near Exeter.

GARDENER (Head Working).—Age 35, married, no family; life-experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (Head, or good Single-handed).—Age 45, married; life experience; good in all departments. Wife Poultry.—B., 2, Rosalin Villas, Durant's Road, Ponder's End, Middlesex.

GARDENER (Head, or Single-handed).—Age 30, single; life experience in all branches.—H. ELLIOTT, The Lodge, Mandon, near Plymouth.

GARDENER (Head, or good Single-handed).—Middle-aged; no objection to stock. Two in family; youngest age 11. Five years in present situation.—GARDENER, Avenue House, Belsize Park Gardens, Hampstead, N.W.

GARDENER (Head, or good Single-handed).—Age 29, married.—F. R., 19, Garden Cottages, East Street, Epsom, Surrey.

GARDENER (good Single-handed, or good Second), in large establishment.—Fifteen years' experience; age 32; married, no family. Reliable testimonials.—P., 41, Wellington Street, Strand, W.C.

GARDENER (Single-handed, or Second). Age 28, single; life experience. Good all-round Gardener and Manager. References reliable. Two years present situation.—W. BREWSTER, 5, Gloucester Place, Cheltenham.

GARDENER (Kitchen, or good Single-handed).—Age 27; fourteen years' experience in the general routine of Gardening, Inside and Out. Good references.—W. E., Kingston Road, Ewell, Surrey.

GARDENER (Single-handed), or otherwise.—Age 23; well up in Vines, Tomatos, Cucumbers, Flowers, &c. Seven years in present situation.—C. COOK, Vine Cottage, High Road, Whetstone.

GARDENER (Single-handed, or good Second).—Age 33; sixteen years' experience, Inside and Out. Thoroughly understands Early and late Forcing. Good character from present and previous places. Please state wages.—ODD, Tendring Rectory, Colchester.

GARDENER (Single-handed, or otherwise).—Age 34, married; thorough in all branches. Eight years last situation. Excellent character.—T. STRAND, 95, Kilburn Park Road, Paddington.

GARDENER (Single-handed, or with help).—Age 27; well-up in Flowers, Fruit, and Vegetables. Early and late forcing; good references.—E. L., Hainault Road, Chigwell.

GARDENER (Second, or Single-handed).—Age 25; all-round experience of ten years. Three years' good character from last situation.—H. HOWICK, Crockham Hill, Edenbridge, Kent.

GARDENER (Second, or Single-handed), in Nursery or Gentleman's Garden.—Fifteen years' experience Indoors and Out. Good references.—W. S., 7, Bond Street, Vauxhall, London.

GARDENER (Second, or Single-handed).—Twelve years' experience, both Inside and Out. Good references. Disengaged.—H. RUMGAY, Wootton Lodge, Ulceby, Lincs.

GARDENER (Second, or otherwise).—Age 24; abstainer. Well experienced Inside and Out. Good character.—A. SPEAKMAN, 8, Shaftesbury Avenue, New Barnet, Herts.

GARDENER (Second, or otherwise).—Age 23; abstainer. Nine years' experience Inside and Out. Highly recommended from present and previous places.—J. WIGGINS, Norwood Hall Gardens, Sheffield.

GARDENER (Second).—Age 25, single; well up in Stove and Greenhouse work. Two and a half years in last situation. Abstainer.—J. D., 92, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (Second, or good Single-handed).—Age 23; good all-round experience. Abstainer.—A. KIRBY, Lord Street, Hoddesdon, Herts.

GARDENER (Under).—Age 18.—A Gentleman strongly recommends the above. Over three years' experience Inside and Out.—Apply to Colonel ALEXANDER, Wymarks, Henfield, Sussex.

GARDENER (Under).—Age 20; practical experience Inside and Out. Well recommended.—F. PACKHAM, West Street, West Malling, Kent.

GARDENER (Under).—A Lady highly recommends a Young Man who has lived with her three years as above, and leaves, wishing to go where there are Houses. For all particulars apply to Mrs. COBB, Boynleigh, Maidenhead.

GARDENER (Under), in a good establishment.—Age 20; strong and active. Six years' experience. Good character.—H. BISH, The Gardens, Hartswood, Reigate.

GARDENER (Under), age 25, seeks a situation Inside and Out. State wages, &c.—W. BOURNE, Tiltwood Lodge, Crawley Down, Sussex.

TO FLORISTS.—MANAGER or FIRST HAND. Young Man desires re-engagement as above. Wreaths, Crosses, Bouquets, Decorations, &c. Best of reference.—FLORIST, 84, Gladstone Road, Sparkbrook, Birmingham.

FOREMAN, Inside.—Age 26; twelve years' experience, two as Foreman; first-class references from present and previous employers.—A. BYE, Lythe Hill Gardens, Haslemere, Surrey.

FOREMAN, or JOURNEYMAN (First), in a good Establishment.—Age 26; experienced in Stove and Greenhouse Plants, Grapes, Peaches, Melons, Cucumbers, &c. Good references.—H. WATKINSON, 49, Cams Hill, Fareham, Hants.

FOREMAN (Inside).—Age 27; ten years' experience in Fruit and Plant-growing, including Carnations. Mr. Cleare, Toddington, Winchcombe, R.S.O., wishes to recommend his Foreman, W. French, who has been with him four years.

FOREMAN, Inside or General, in good establishment.—Age 28; twelve years' experience in first-class places. Two years in present place as Foreman; four years previously. Can be well recommended.—E. R., The Gardens, Farnham Castle, Surrey.

FOREMAN; age 26.—The Head Gardener, Kirkstall Grange, Headingly, Leeds, can with confidence recommend his Foreman to any Gardener. Has had good practical experiences in Orchids, Fruit, Plants, Carnations, Decorating, and Table Work.

FOREMAN, Inside, in a large establishment; age 27.—A. Smith, Foreman at Wroxton Abbey Gardens, Banbury, desires re-engagement as above. Highly recommended.

TO NURSERYMEN.—Outside General FOREMAN (Working).—Age 35, married; twenty-one years' experience, last eleven as Foreman. No objection to some Inside, if wanted.—MOORE, 39, Great Northern Road, Derby.

FOREMAN, in the Houses.—Age 24; good experience. Five years in present place, including two years as Foreman.—W. WESTON, The Gardens, Blankney Hall, Lincoln.

FOREMAN, Inside, in good Establishment.—Age 25; abstainer; life experience, well up in all departments, also good hand at House and Table Decorations.—J. COX, Drew's Lodge, Streatham, Surrey.

FOREMAN, in a Market, or good General Nursery.—Age 26; twelve years' experience in good establishments. Excellent references.—A. LEA, Keddington Road Nursery, Louth, Lincolnshire.

FOREMAN, in a good establishment.—Age 25; ten years' good experience in all kinds of Plant and Fruit Growing. Well up in House and Table Decorating. Three years in present situation. Can be most highly recommended.—For particulars apply to Mr. E. BENNETT, Gardener to Colonel Hardy, Chilham Castle, Canterbury.

FOREMAN.—Age 25; eleven years' practical experience in the Houses. Excellent character from present and previous places.—J. W. CHEESE, Middleton, near Ludlow, Salop.

FOREMAN, Inside; Age 25.—Geo. Abbey, Avery Hill, Eltham, Kent, can with confidence highly recommend W. Blake, as above; eleven years' first-class experience in all branches, including Orchids.

FOREMAN (Age 26).—Mr. Ward, Longford Castle, Salisbury, can with confidence recommend J. Powley as above. First-class experience in all branches, including Orchids. Has served in the above Gardens for the past two years, also at Woolton Wood, and with Backhouse & Son, York.

FOREMAN in the Glass department.—Age 25; ten years' experience in First-class establishments. Good characters.—W. TITCHMARSH, 3, London Road, Hackbridge, Surrey.

FOREMAN.—Age 26; eleven years' experience in good Gardens. Good references. The past year and eleven months at Clumber Gardens.—G. LEWIS, Little Faringdon, Lechlade, Gloucestershire.

FOREMAN.—Eleven years' experience with Fruits, Inside and Out, Plants, Chrysanthemums, House and Table Decoration, &c.—STACEY, Mrs. Tilbury, Gate Hill Cottage, Northwood, Middlesex.

FOREMAN.—Age 24; ten years' experience. Thoroughly well up in Plants, Fruits, and Chrysanthemums, House and Table Decorations. Two years in previous situation as Foreman. Excellent references.—PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

FOREMAN, aged 24, inside, private place.—W. Welch, Hartham Park, Corsham, Wilts, would be pleased to recommend F. Marshall, as above, experienced in Plant and Fruit culture, House and Table Decoration.

FOREMAN (General), or Inside in Large Establishment.—Age 28. Mr. George, Gardener to Earl Sondes, Lees Court, Faversham, can thoroughly recommend his late Foreman and Decorator. Three years as Foreman previously.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, age 25.—J. Sheddick, Gardener to the Hon. A. E. Fellowes, M.P., Honingham Hall, Norwich wishes to recommend Chas. Ettridge, who has been with him 2½ years in above capacity, and is highly recommended by Mr. Russell, Wood Green Park, Cheshunt, where he previously served for over three years. Eleven years' experience.

FOREMAN (Working), Indoors.—Age 35; where constant supply of well-grown Pot Plants and Choice Cut Flowers are required in quantity. Trade references.—FOREMAN, 3, Nursery Cottages, Liddington, Cirencester.

FOREMAN; age 25; twelve years' experience.—Mr. H. Coster, Froyle Park Gardens, Alton, will be pleased to recommend his Foreman, J. Chase, who has been with him two years.

JOURNEYMAN, Inside, or Inside and Out, in private establishment, age 23. Four years' good character from previous employer; disengaged. Bothy preferred.—N. GREENFIELD, West Chiltington, Pulborough.

JOURNEYMAN, in a Private Establishment.—Age 20; five years' practical experience. Fruit and Plants generally. Good testimonials. Bothy preferred.—A. E., Mr. Woodward, 226, High Road, Chiswick, London.

JOURNEYMAN.—Situation wanted, under a good Foreman. Age 22, single; two years' good references.—G. J., Lignum Cottage, Bushey Heath.

JOURNEYMAN, Inside, in a good establishment.—Age 22; five and a half years' experience. Can be well recommended. Abstainer. Bothy preferred.—S. NOYCE, Ridgeway, Overton, Hants.

JOURNEYMAN.—F. Gerson, Gardener to Earl Egmont, Cowdray Park, Midhurst, would be pleased to recommend a Youth of 20 as above, four and a half years at Cowdray.

JOURNEYMAN (First).—Age 24; ten years' experience. Three years last place. Mr. Sedman, Wyreside, Lancaster, recommends Advertiser, W. BOOTH, 31, Cross Lane, Marsh, Huddersfield.

JOURNEYMAN in the Houses.—Age 19; nearly two years' present situation. Well recommended. Bothy preferred.—W. MEWES, Alma Cottages, Edgell Road, Staines.

JOURNEYMAN, Inside.—Age 22; strong. Seven years' experience. Well recommended. Bothy preferred.—GEO. GARWOOD, The Gardens, Pomfret House, Sunbury.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; three and a half years in present situation. Can be well recommended. Bothy preferred.—A. NORTHROP, Heather Bank Gardens, Bingley, Yorks.

JOURNEYMAN, Inside and Out.—Age 22; six years' experience. Highly recommended.—PIKE, Whitestaunton Manor, Chard, Somerset.

JOURNEYMAN, Inside.—Age 22; eighteen months' character from present situation, three years' previous. Leaving through breaking up of establishment. Bothy preferred.—ALFRED TYRRELL, Woodend Gardens, Chichester.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Leaving through breaking up of establishment. Excellent references. Bothy preferred.—GEO. HEMLEY, Woodend Gardens, Chichester, Sussex.

JOURNEYMAN.—Age 23; Inside and Out in a good establishment. Eighteen months last place, five years previous. Well recommended; used to Table and Vase decorations.—F. ALLEN, Houghton Regis, Dunstable, Beds.

JOURNEYMAN, age 19.—C. BROWN, gardener to R. Henty, Esq., will be pleased to recommend a young man as above, who has lived under him the last five and a-half years. Active and willing.—W. WATERTON, The Gardens, Langley House, Abbots Langley, Herts.

JOURNEYMAN (FIRST).—MR. WARD, Longford Castle, Salisbury, will be pleased to recommend J. Faulkner as above. Eight years' experience in good places, including Wentworth Castle and Croome Court.

JOURNEYMAN (FIRST), in Private Establishment.—Age 24; eight years' experience in private places and Nursery. Highest references from all employers.—G. SEDGLEY, Daylesford, Chipping Norton, Oxon.

JOURNEYMAN, Inside.—Age 21; four years' good character, can be well recommended.—C. RUSSELL, East Ashling, Chichester, Sussex.

JOURNEYMAN, Inside, under a Foreman.—Age 19; five and a half years' good character and experience.—W. PURKISS, Manor Gardens, Lyndhurst, Hants.

JOURNEYMAN.—£2 will be given to anyone procuring Advertiser a situation.—Age 20; strong, and good references. Six years' experience, Inside and Out.—C. J., 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Inside.—Age 24; well up in the general routine. Highest references.—Address in the first instance to A. E., 2, Langham Terrace, Hampton Hill, Middlesex.

JOURNEYMAN (Inside).—Age 20; three years' experience Inside and Out. Two years' good character from Belvoir Castle.—G. T. BRACKENBURY, Cemetery, Horncastle Road, Boston, Lincs.

JOURNEYMAN, in a good Private Establishment.—A young Man, age 24, desires a situation as above. Eight years' experience in general routine; four years in present situation. Has had charge of Fruit-houses for two years. Good references from present and previous employers.—F. W., Stapleton House, Fletcher's Road, Acton Green.

JOURNEYMAN.—I can very highly recommend a good man.—Mr. LEACH, Albury Park Gardens Guildford.

JOURNEYMAN.—Age 23; Inside, or Inside and Out. Good general experience. Total abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, in a good Establishment.—Age 21; bothy preferred; five years' good character. Abstainer.—JAMES REYNOLDS, Westwood, near Guildford, Surrey.

JOURNEYMAN, Inside, in a good establishment.—Age 21; good references.—A. L., 27, Albert Street, Bedford.

JOURNEYMAN (FIRST), in a good Establishment.—Age 24; ten years' experience, two and a half years in present situation. Good references.—W. BOULCH, Castle Hill Gardens, Englefield Green, Egham, Surrey.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; six years' experience.—F. HARRIS, The Gardens, Witley Court, Stourport.

JOURNEYMAN (FIRST), in a good establishment.—Age 23. Good references.—J. RICHARDSON, Slate Cottage, Boreham, Essex.

JOURNEYMAN (Inside, in good establishment).—Age 20; five years' experience. Excellent references; state wages; south preferred.—J. COPE, The Gardens, Eshwood Hall, Durham.

JOURNEYMAN, Inside; age 20; abstainer.—Mr. CLATWORTHY, The Gardens, Lifton Park, Lifton, Devon, would be pleased to recommend W. Brown as above. Five years' experience.

JOURNEYMAN (FIRST), in Houses in good establishment.—Age 22; seven years' experience. Well recommended.—R. HAMBROOK, The Gardens, Hartwell, Hartfield, Tunbridge Wells.

JOURNEYMAN, Inside and Out, age 20, seeks a situation in a private place. Two and a half years in last place. Good character.—E. SANDISON, Fourth Cross Road, Twickenham.

JOURNEYMAN; age 21, Inside.—A young man desires situation as above. Four years in present place. Good references.—W. KNIGHT, The Gardens, Denbies, Dorking, Surrey.

JOURNEYMAN (THIRD), or IMPROVER Inside.—Age 19; two years' experience. Good character. Bothy preferred.—JOHN HOWARD, Cherwell Street, St. Clement's, Oxford.

JOURNEYMAN, in a good establishment, under Foreman; age 21.—Mr. COLBURN, The Gardens, Selsdon Park, Croydon, will be pleased to recommend H. TODD as above. Present situation two and a-half years.

JOURNEYMAN (FIRST), in a good Establishment.—Age 23; eight years' experience; can be well recommended. Bothy preferred.—R. HARDING, The Gardens, Bicton, near B. Salterton, Devon.

JOURNEYMAN (INSIDE).—Age 23; good experience, and well recommended. The last two years in Park Place Gardens.—J. SLATTER, Park Place Gardens, Henley-on-Thames.

JOURNEYMAN, in the Houses.—Can be highly recommended by present and previous employers. Has lived in good places.—H. C., The Gardens, Goldwynds, Dorking.

JOURNEYMAN.—Age 24; practical experience in Stove and Greenhouse Plants, Chrysanthemums, &c., general routine of Glass Department.—GARDENER, The Gardens, Butleigh Court, Glastonbury, Somerset.

JOURNEYMAN, or GARDENER (UNDER). Age 20; six years' experience.—R. S., Ivy Cottage, Osbastone, Nuneaton.

JOURNEYMAN (FIRST), Inside.—Age 22; has had six years experience. Can be well recommended. Excellent character. Bothy preferred.—C. TROTT, Yew Tree Cottage, Crawley, Sussex.

JOURNEYMAN, under a Foreman; age 20.—A. T. COLE can with confidence recommend Ernest Thomas. Two years' excellent character.—The Gardens, Stanton House, Nightingale Lane, Wandsworth Common.

JOURNEYMAN; age 20.—Mr. PRINSEP, The Gardens, Buxted Park, Uckfield, will have much pleasure in recommending a young man as above. Three and a-half years' character.

JOURNEYMAN.—Age 24: nine' years good character for experience in Vines, Peaches, Cucumbers, Melons, Chrysanthemums, &c. Well recommended.—A. B., Mr. Bloomfield, The Gardens, Barra Hall, Hayes, Middlesex.

JOURNEYMAN (FIRST), Inside.—Age 24. eight years' experience Inside and Out. Good references.—GEORGE GIBSON, Kirkby Mallory, Hinckley, Leicestershire.

TO GARDENERS.—A young man (age 19) seeks situation in private establishment. Inside preferred. Four years' present situation.—W. SCRUBEY, 39, Hill Street, Emscote, Warwick.

TWO young DUTCHMEN, holding First-class Certificates of one of the largest Horticultural Schools in Holland, and being fully conversant with Nursery, Garden, and Agricultural Work, seek employment either in England or Scotland; in Nursery preferred or private estate. Any further information required will be given. Please state terms offered, &c., to W. L., 41, Wellington St., Strand, W.C.

IMPROVER (Inside), in a good establ ishment. Age 18. Abstainer. Four years' experience Inside and Out. Premium if required. Good reference.—A. HOBBS, Langford House Gardens, Lechlade, Gloucester.

IMPROVER, seeks situation, age 19; Inside, or Inside and Out. Four years' experience. Good character; bothy preferred.—O. WALTER, Stinsford Gardens, near Dorchester.

IMPROVER, Inside and Out.—Age 18; four years' experience. Good character.—W. DUNNING, Highfield, Southampton.

IMPROVER in Garden, Inside or out.—A Young Man (age 20), experienced in both.—MASON, Nurseries, Windlesham, Surrey.

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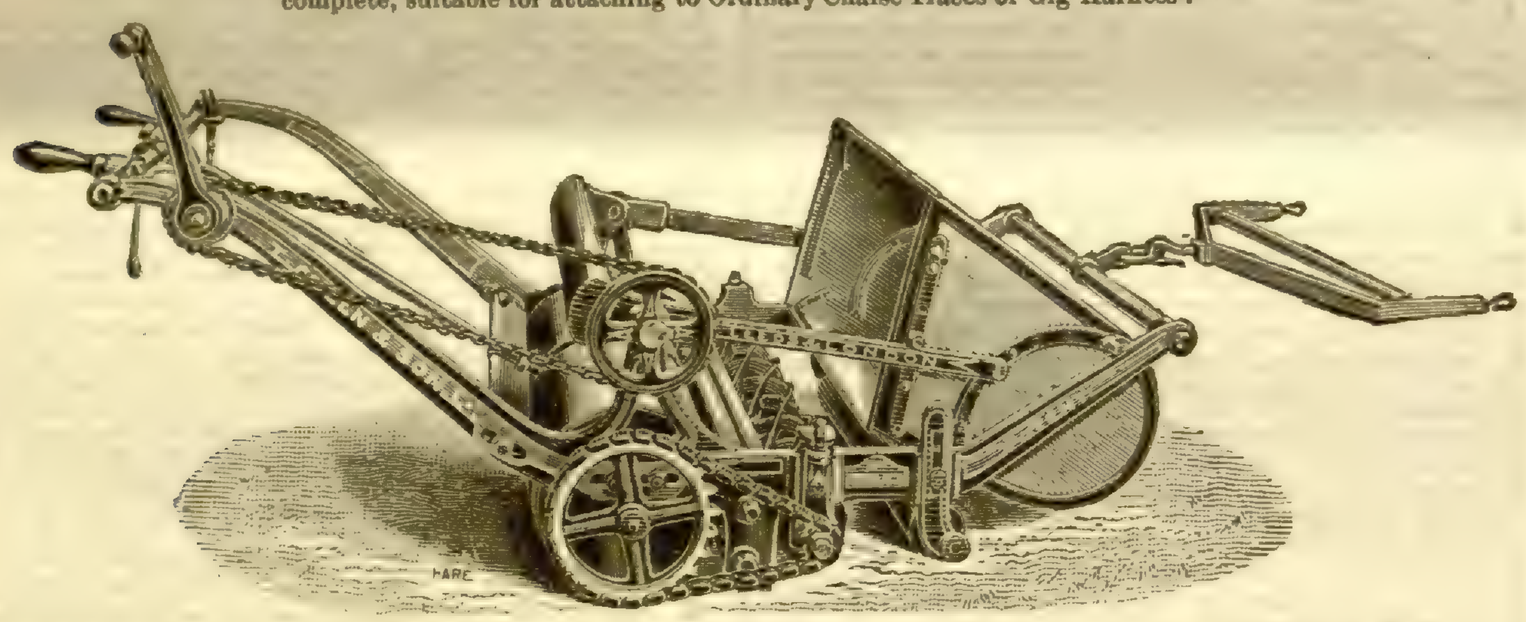

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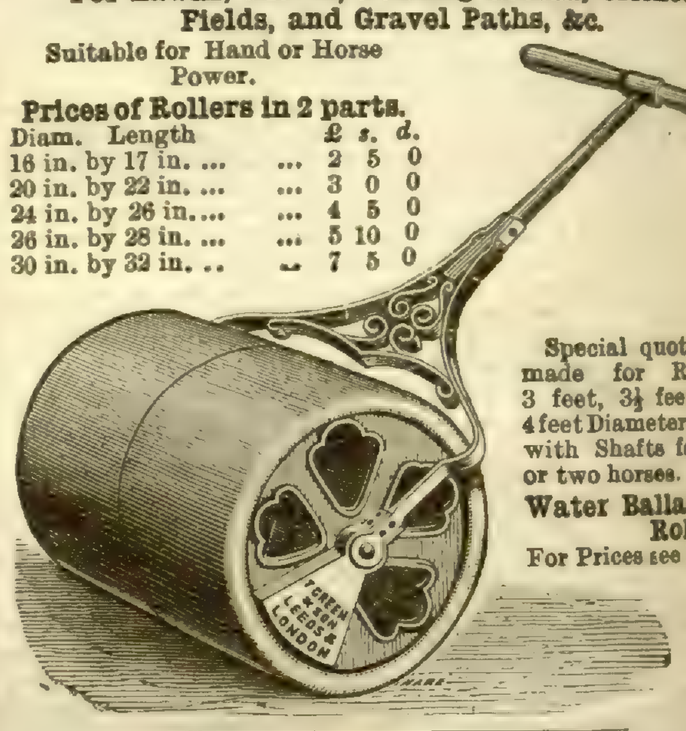

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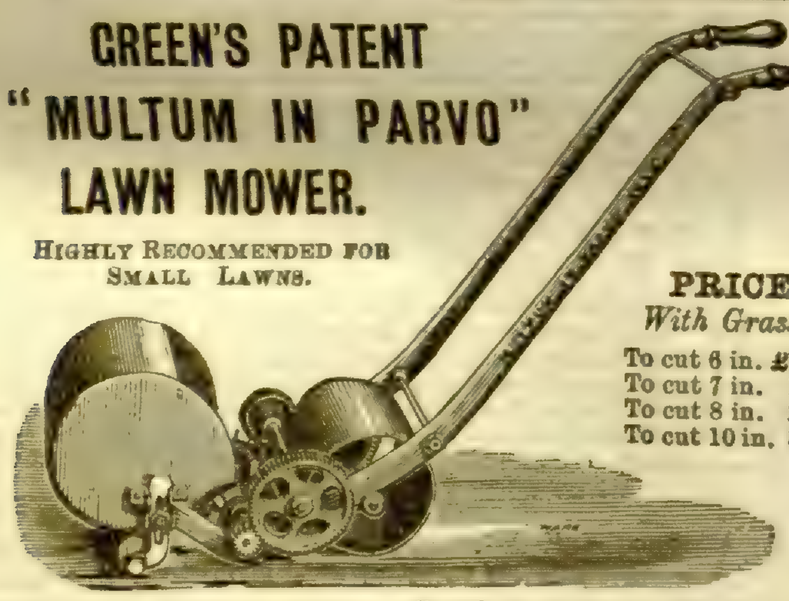

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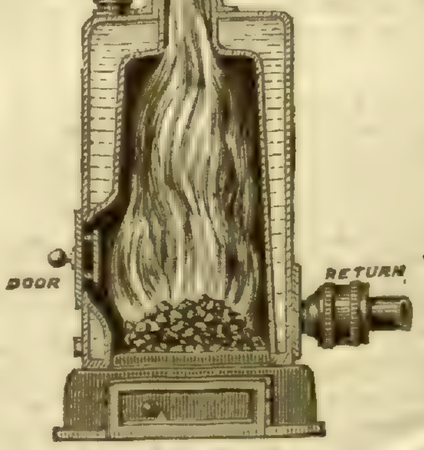

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Also, by order of Messrs. W. L. Lewis & Co., Southgate,

A fine Importation of LÆLIA PURPURATA, with sound dormant eyes; also extra fine tubers of DISA GRANDIFLORA, the choice CYPRIPEDIUM EXUL, ODONTOGLOSSUM CITROSMUM, CATTLEYA CITRINA, and others.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 12, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

ENORMOUS CONSIGNMENT of JAPANESE LILIES.

Received direct for unreserved Sale, comprising

25 000 LILIUM AURATUM
2,983 ,, ,, MACRANTHUM
270 ,, ,, RUBRO-VITTATUM
270 ,, ,, FOLIIS ALBO-MARGINATA
100 ,, ,, WITTEI
720 ,, ,, PICTUM
1,560 ,, SPECIOSUM MELPOMENE
3,900 ,, ,, ALBUM
2,460 ,, ,, RUBRUM
100 ,, ,, ALBUM NOVUM
100 ,, BROWNII
200 ,, CORDIFOLIUM
1,800 ,, ELEGANS DAVURICUM
300 ,, KRAMERI
150 ,, HENRYII
700 ,, THUNBERGIANUM ATRO-SANGUINEUM
225 ,, VIRGINALE ALBUM
120 ,, ODORUM JAPONICUM, and
1500 IRIS KÆMPFERI

Also a grand Importation of Burmese LILIES, 100 Lilium Neilgherrense, L. Washingtonianum, L. Humboldtii, 20 lots of APPLE TREES, 300 Standard and Half-standard ROSES, Home-grown LILIES, TIGRIDIAS, Hardy Border BULBS and PLANTS, AMARYLLIS species, PANCRATIUM FRAGRANS, Pearl TUBEROSES, Single and Double BEGONIAS, GLADIOLI GANDAVENSIS HYBRIDS, Kelway's & Lemoine's GLADIOLI HYBRIDS, PÆONIES, HOLLYHOCKS, SPIRÆA JAPONICA and PALMATA, DAHLIAS, and 30 lots of STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 13, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

THURSDAY, NEXT, MARCH 14.

SPECIAL UNRESERVED SALE of the GREAT WHITE LÆLIA-LIKE DENDROBE

DENDROBIUM JOHNSONIÆ.

THE QUEEN OF THE GENUS.

Re-introduction by F. SANDER AND CO. of nearly One Thousand Plants, in superb condition.

Also a magnificent Importation of

LÆLIA (BRASSAVOLA) GLAUCA,

in fine masses.

Also CATTLEYA LUTEOLA ROEZLII, CŒLOGYNE CORYMBOSA, DENDROBIUM HOOKERIANUM, D. JAMESIANUM, CYPRIPEDIUM PARISHII, CATTLEYA SUPERBA SPLENDENS, PAPHINIA GRANDIS, &c., and many others.

A GRAND SELECTION of Rare and Choice ESTABLISHED ORCHIDS will also be offered, including

NEW HYBRID PHAJUS.
NEW DENDROBIUMS.
NEW CYPRIPEDIUMS.
NEW CATTLEYAS, &c.

Many in Flower and Bud.

Full particulars will appear in the Catalogue, in which all the plants are carefully described. We shall be glad to forward Catalogues on application.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 14, at half-past 12 o'Clock, by order of Messrs. F. Sander and Co., St. Albans.

On view Morning of Sale, and Catalogues had.

Friday Next.

A SLENDER BILLED or NASECUS COCKATOO.

Native of South Australia.

Four years old, beginning to talk well, laughs, coughs, and whistles like a human being. Highly amusing in its walking and dancing actions. It shakes hands, nods, and answers in response. Fond of Ladies.

In a large size indestructible cage.

MESSRS. PROTHEROE AND MORRIS will include the above BIRD in their ORCHID SALE, on FRIDAY NEXT, March 15, at half-past 12 o'Clock.

On view morning of Sale.

Friday, March 15.

CATTLEYA MOSSIÆ,

LOW'S FAMOUS STRAIN.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, March 15, at half-past Twelve o'Clock, precisely, by order of Messrs. Hugh Low & Co., Upper Clapton, N.E., a magnificent importation of CATTLEYA MOSSIÆ. Our type of this species (the finest of all the Cattleya Labiata section), has been fully recognised as the best ever imported, and the plants now received are sent home by the same collector, and are from the same mountains as our last importations, whence originated, (besides many of the pure white C. Wagneri), Claptonense, Cynthia, Princess May, Prince George, Reineckiana superbissima, Schroderæ, splendens, splendidissima, Venus—in short, all the grandest forms.

On view morning of Sale, and Catalogues had.

Friday Next.

AERIDES CYLINDRICUM, TRUE,

Offered for the first time. This charming large wax-like and delightfully-fragrant Aërides has generally been supposed to be identical with A. Vandarum, to which, however, it bears little resemblance, except in growth. The flowers of A. cylindricum are totally different to any other species, and white and firm in substance. The lip has the side lobes streaked with rich purple, the front fleshy, bright yellow with crimson tip. Gathered at a high elevation in India, and imported last Autumn, and therefore quite safe. The whole of the surviving plants are offered.

Also from the same district: Vanda Gowerii, V. species, Aërides rubrum, Calanthe Massica grandiflora, Dendrobium cœlogyne, Bulbophyllums, &c. Also a small but fine importation of ONCIDIUM MACRANTHUM HASTIFERUM, Odontoglossum Edwardii, and various other species of Odontoglossums, Lycastes, &c., Satyriums, Disas, and other terrestrial Orchids.

Also 100 LOTS of ESTABLISHED ORCHIDS, the property of a private Gentleman who is leaving his residence; clean and healthy, and in good condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 15, at half-past Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Long Ditton, Surrey.

(One mile from Surbiton Station.)

CLEARANCE SALE of ORCHIDS, STOVE and GREENHOUSE PLANTS, HOUSEHOLD FURNITURE, full-sized BILLIARD TABLE, and EFFECTS, by order of W. Whitley, Esq., who is leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Cock Crow Hill, Long Ditton, Surrey, on WEDNESDAY, March 20, at 1 o'Clock, a small Collection of well-grown ORCHIDS, in variety, AZALEAS, CAMELLIAS, PELARGONIUMS, CYCLAMENS, LAPAGERIAS, ERICAS, several GARDEN FRAMES and LIGHTS, GARDEN TOOLS, WHEELBARROWS, STEPS, 3 GARDEN ROLLERS, 4 MOWING MACHINES, a few lots of useful HOUSEHOLD FURNITURE, including Bedsteads, Tables, Lamps, Mirrors, several Brussels and other Carpets, and a full-sized Pollard Oak BILLIARD TABLE, by Bennett, with 2 sets of Balls, Pool Balls, Rests, and Cues.

May be viewed two days prior and morning of Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Chingford. Ten Minutes' Walk from Chingford Station.

CLEARANCE SALE of PLANTS, ROSES, HORSES, VAN, STACK of HAY, and Effects, by order of Messrs. Kelman & Page, in consequence of Dissolution of Partnership, and Letting of the Nursery.

MESSRS. PROTHEROE AND MORRIS (having let the Nursery) will SELL by AUCTION, on the Premises, The Queen Elizabeth Nursery, Forest Side, Chingford, on THURSDAY, March 21, at 1 o'Clock, thousands of GERANIUMS, FERNS, FUCHSIAS, and other Greenhouse Plants; AZALEAS, DAHLIA ROOTS, MARGUERITES, HERBACEOUS PLANTS, &c.; 3000 Dwarf ROSES on Manetti Stock, 150 ROSES in pots, and named FRUIT TREES.

Also, 4 good HORSES, Tumbril Cart, Van, 2 Sets of HARNESS, STACK of HAY, about 25 loads; large quantity of MANURE and LEAF-MOULD, about 300 Cast of POTS, Clamps of POTATOS and CARROTS, BEETROOT and PARSNIPS.

On view day prior and morning of Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Woking, Surrey.

UNRESERVED SALE of the whole of the well-grown NURSERY STOCK, by order of the Trustees under the will of W. Jackman, deceased.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Hook Hill Nurseries, Woking, Surrey, about 2½ miles from Woking Railway Station, and 20 minutes' walk from Worplesdon Station, on THURSDAY and FRIDAY, March 21 and 22, at 12 o'Clock punctually each day, without reserve, 2000 PORTUGAL LAURELS, 3 to 6 feet; 10,000 Common, Caucasian, and Oval-leafed LAURELS, 3 to 4 feet; 2500 English YEWS, 1 to 5 feet; 1000 LIMES, ARBOR-VITÆ, CUPRESSUS LAWSONIANA, 2000 Variegated HOLLIES, 1 to 6 feet; 8000 Green HOLLIES, 1 to 6 feet; 12,000 FRUIT TREES, comprising clean-grown Standard Apples, Pears, Plums, Cherries, Damsons, Dwarf-trained Peaches, Nectarines, &c.; 60,000 FRUIT STOCKS, 2000 Purple and White LILACS, 3000 AUCUBAS, 1 to 3 feet; 1000 RHODODENDRONS, 2 to 3½ feet, 4000 SPRUCE FIRS, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

N.B.—The valuable FREEHOLD ESTATE, comprising several parcels of choice Nursery and Fruit Land, many having Building Frontages to existing roads, will be offered by Auction by Messrs. PROTHEROE AND MORRIS in "B" Room, 67 and 68, Cheapside, London, E.C., on MAY 10.

The Live and Dead FARMING STOCK, Cows, Horses, &c., will be Sold on the Premises on THURSDAY, March 28.

Wednesday Next.

GREAT SALE of ENGLISH and GERMAN ROSES.

A splendid Collection of Choice-named, Beautifully-grown, Standard, Half-standard, Dwarf, and Climbing ROSES, from a celebrated and trustworthy German Grower, including a fine assortment of most of the newest and best sorts, just received direct; also another Collection from an English Nursery.

A Consignment from Ghent, comprising some extra fine AZALEA INDICA, PALMS, DRACÆNAS, BEGONIAS, &c. A Choice Selection of Pyramid and Dwarf-trained FRUIT TREES, comprising APPLES, PEARS, PLUMS, PEACHES, CHERRIES, NECTARINES, &c. Also RASPBERRIES, GOOSEBERRIES, CURRANTS, &c.

A Large and Varied Collection of Border Plants, including a Collection of CARNATIONS and PINKS, HOLLYHOCKS, DAHLIAS, IRIS to name, &c.

A Surplus Stock of Small Ornamental Shrubs, EVERGREENS, FLOWERING TREES, &c., consisting of HYDRANGEAS, DEUTZIAS, LAURELS, THUYA, BOX TREES, CUPRESSUS, LILACS, AZALEAS, KALMIAS, PRIVET, &c.

An Importation of Liliums from Japan, in fine order; Home-grown LILIUMS, a Collection of GLADIOLI to name, S. African and Pearl TUBEROSES, SPIRÆA JAPONICA and PALMATA, AMARYLLIS, PANCRATIUMS, CYPRIPEDIUM SPECTABILE, NARCISSUS, DIELYTRA SPECTABILE, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 13, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

SALE, BY AUCTION, on MONDAY, March 11, at 12 o'Clock, 500 Cases LILIUM AURATUM. Lily Bulbs just arrived from Japan. Cases on show, and Catalogues to be had of

EDWARD DAVIS AND CO., Brokers, 2, Fen Court, Fenchurch Street, E.C.

ORCHIDS! ORCHIDS!

The West India and Pacific SS. Company's Steamer *FLORIDIAN* has just arrived at *LIVERPOOL*, having on board, for

JOHN COWAN & CO.,

A large consignment of the FINEST TYPE of

WHITE LÆLIA ANCEPS

IN IMMENSE MASSES;

LÆLIA ANCEPS MORADA

IN LARGE MASSES.

AND OTHER ORCHIDS.

Inspection invited. Priced and Descriptive Circular post-free on application to the Company—

THE VINEYARD AND NURSERIES,

GARSTON, near LIVERPOOL.

WANTED TO PURCHASE, a SEED and FLORIST'S BUSINESS, doing a good sound Cash Trade. One where Nursery Stock is sold, but not grown, or only to a very small extent, preferred.

WEBSTER, Messrs. Hurst & Son, 152, Houndsditch, E.C.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses and Propagation-house, &c.; heated by hot water. Stable and Shed, &c. Price £85, or offer.

Apply to W. H., Park Row Nursery, Greenwich.

GENUINE FLORIST and SEED BUSINESS for DISPOSAL, fine Shop, with Stable and Greenhouse, in excellent position, established ten years.

P. T., 41, Wellington Street, Strand, W.C.

Swanley, Kent.

TO BE SOLD, a capital FREEHOLD NURSERY, comprising 9 Houses, Cottage, and Stabling. Capital water supply. Also a well-built House, comprising 8 rooms, kitchen, and offices. The whole area comprises 5 acres. Price, Freehold, £2600. Apply to—

Messrs. PRALL, Estate Agents, Dartford, Kent.

MIDDLESEX.—TO LET, in the best part of Market Garden District, 15 miles from London, 1¼ mile main line station, 160 acres (50 of which are old pasture), with 10-room well-built House and commodious buildings. Suitable for Market Garden and Dairy Farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

FRIDAY, MARCH 15.

CATTLEYA MOSSIÆ,

LOW'S FAMOUS STRAIN.

MESSRS.

PROTHEROE & MORRIS

WILL SELL BY AUCTION,

AT THEIR

CENTRAL SALE ROOMS,

67 & 68, CHEAPSIDE, E.C.,

ON

FRIDAY, MARCH 15,

AT

HALF-PAST 12 o'CLOCK PRECISELY,

A MAGNIFICENT IMPORTATION OF

CATTLEYA MOSSIÆ

Our type of this species (the finest of all the Labiata section) has been fully recognized as the best ever imported, and the plants now received are sent home by the same Collector, and are from the same mountains as our last importations, whence originated (besides many of the pure white C. WAGNERII) CLAPTONENSE, CYNTHIA, PRINCESS MAY, PRINCE GEORGE, REINECKIANA "SUPERBISSIMA," SCHRODERÆ, SPLENDENS, SPLENDIDISSIMA, VENUS — in short, all the grandest forms.

BY ORDER OF

HUGH LOW & CO.,

Upper Clapton, N.E.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.

Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

WANTED, CUTTINGS, or established plants of CROTONS in variety. Must be perfectly clean. GARDENIAS to dispose of.

ARABIN, Belmont Nurseries, Portswood, Southampton.

PINE PLANTS for SALE.—Fruiting, Succession, and Suckers, Queens and Smooth Cayennes.

C. SLADE, Clumber Gardens, Worksop, Notts.

LARGE FOREST TREES.—Cheap for Cash.—Birch, Scotch Fir, True Native, Mountain Ash, and Limes, 4 to 12 feet in height; 3000 Mollis Azaleas.

F. GODWIN, Nurseries, Market Drayton, Shropshire.

FOR SALE.—Large PALMS and ARAUCARIAS, PINES, SUCKERS, and SUCCESSION; TOMATO and CUCUMBER PLANTS. Full particulars on application.

WANTED, TROPÆOLUM VESUVIUS. Address—HENRY PITT, Nurseryman, Abergavenny.

YELLOW MARGUERITE, FEU D'OR.—Autumn-struck Cuttings, 5*s.* per 100; White Marguerites, 8*s.* per 100; Geraniums, Autumn-struck, Vesuvius, 8*s.* per 100; Henri Jacoby, John Gibbons, Raspail, and Flower of Spring, 2*s.* per doz., 12*s.* per 100; Ivy-leaf Geraniums, out of small 60's, 2*s.* p. doz., 12*s.* p. 100. Cash with order.—CHARLES W. LAW, Manor Park Nursery, East Finchley, London.

DAHLIAS, Pot-roots, good named sorts; Double, Pompon, and Cactus, 12*s.* per 100; 50, 6*s.* 6*d.* Post free, cash with order.

S. HOWARD'S Nurseries, Walthamstow.

NEW OUTDOOR TOMATO.—LAXTON'S "EARLY PROLIFIC;" this variety, raised by crossing our "Open Air" × "Challenger," is a better-shaped, earlier, and most prolific "open-air Tomato." The earliest to ripen out-of-doors, of good shape, very prolific, and undoubtedly THE VARIETY for out-door growth; sealed packets, 1*s.* 6*d.* Full Catalogue of the best Vegetable and Flower Seeds, gratis; free carriage.—LAXTON BROTHERS, Bedford.

LIVE SPHAGNUM-MOSS, 5*s.* per Bag; Large-rooted FERNS, for Rockeries, Carriage Drives. OSMUNDA POLYSTICHNUM, RIGIDA SPINULOSA, &c., 50 for 5*s.* 6*d.*, 100 for 10*s.* Ferns carriage paid. When out, 2 to 3 feet high.

JOHN BYRNE, Fellside, Kendall.

LILIUM CHALCEDONICUM (Scarlet Turk's-cap), 9 to 11 inches, 6*s.* per dozen, 48*s.* per 100.
LILIUM AURATUM, 8 to 10 inches, 3*s.* per doz., 20*s.* per 100.
" " 10 to 11 inches, 4*s.* per dozen, 30*s.* per 100.
" SPECIOSUM KRÆTZERI, 9 to 10 inches, 6*s.* per dozen, 45*s.* per 100.
CALADIUMS, choice varieties, to name, 12*s.* per dozen.
TUBEROUS BEGONIAS, choice, mixed, 3*s.* per dozen.
Genuine GARDEN and FLOWER SEEDS, Selected Stocks.
HARDY TREES, SHRUBS, ROSES, and CLIMBERS.
GREENHOUSE, STOVE, DECORATIVE, and BEDDING-PLANTS.
GARDEN TOOLS, SUNDRIES, and REQUISITES.
Descriptive Price List Free.

WM. FROMOW AND SONS, Sutton Court Nursery, Chiswick, London, W.
Branch Nurseries—Hounslow, Acton Green, and Bagshot.
Established 1829.

BIRMINGHAM PRIMULAS. — Everyone who has seen the Birmingham Shows admits they are the finest strain, and that the Birmingham Show is the finest Primula Show anywhere. Primula strains are as much puffed as quack medicine. Small packets, to include The Queen, Lady Churchill, &c., 2*s.* 6*d.*, about 40 seeds; 90 do., 5*s.* Webb's Purity, a few ounces very cheap.

POPE AND SONS, King's Norton, Birmingham.

TRADE. — CHRYSANTHEMUM LADY CANNING CUTTINGS, 3*s.* 6*d.*, per 100, 30*s.* per 1000, free on rail. Dwarf Box Edging, 30*s.* per 100 nursery yards.

FOREMAN, Nightingale Nurseries, Bath.

Lobelias, Calceolarias, Marguerites, Musk, &c.

JOHN SOLOMON offers, as in former years, in thorough good stuff:—LOBELIA, Emperor William and Pumila magnifica, best blues, at 2*s.* 6*d.* per 100, 20*s.* per 1000; Snowball, pure white, 3*s.* 6*d.* per 100, 25*s.* per 1000, warranted true from cuttings. CALCEOLARIAS, Golden Gem, 5*s.* per 100, 40*s.* per 1000. MARGUERITES, best white and Feu d'Or, yellow, 5*s.* per 100. Harrison's MUSK, 5*s.* per 100. Package included for cash with order.

Oak Nursery, Forest Side, Chingford, E.

Catalogue of Cuttings, Plants, and Bulbs.

JOHN RICHARDS & CO. (late John Morse & Son).—Our Catalogue of the above will be forwarded free by post to any address. It contains all the new and choice varieties, Dahlias, Chrysanthemums, Verbenas, Fuchsias, Pelargoniums, Phlox, Geraniums (Zonal, Tricolor, Bronze, Silver, and Ivy), Petunias, Heliotropes, Calceolarias, Tropæolums, Pansies, Pentstemons, Bouvardias, Latanas, Pinks, Veronicas, and all kinds of Bedding Plants. Achimenes, Begonias (Double and Single), Gloxinias, Bulbs.

The Nurseries, Dursley, Gloucestershire.

DIELYTRA SPECTABILIS.—Strong roots, imported direct, cheap to clear, 1*s.* 3*d.* per doz.; 50, 4*s.* 6*d.*; 100, 8*s.* Seedling TOMATO Plants, Ruby, E. Feltham, Chemin Rouge, 25, 1*s.*; 50, 1*s.* 6*d.*; 100, 2*s.* 6*d.*, free, to clear.

BONNETT, Seedsman, Heathfield, Sussex.

EXHIBITIONS.

CRYSTAL PALACE.—SPRING EXHIBITION of FLOWERS and PLANTS.
SATURDAY, March 16.
Schedules and Entry-forms, free by post, on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E. Entries close on Saturday, March 9.

BRIGHTON and SUSSEX HORTICULTURAL SOCIETY.
SPRING SHOW, March 26, 27.
For Schedules and full particulars apply to the SECRETARY, 56, Queen's Road, Brighton.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
FLORAL EXHIBITION in the Town Hall, Manchester, on FRIDAY and SATURDAY the 15th and 16th inst.
For particulars, apply to the undersigned.
BRUCE FINDLAY.
Old Trafford, Manchester.

READING HORTICULTURAL SOCIETY
SPRING SHOW.
March 19, 1895. Entries close 15th inst.
WM. L. WALKER, Secretary.

SHREWSBURY GREAT FLORAL FÊTE,

AUGUST 21 and 22, 1895.
The Society Offers this year nearly **£800 in Prizes.**
SPECIAL CLASS FOR DECORATIVE ARRANGEMENT OF FRUIT. **£51 in Prizes.**
SCHEDULES are Now Ready, and may be obtained from the Hon. Secs., Messrs. ADNITT AND NAUNTON, Shrewsbury.

SEAKALE. — Selected for Forcing.—
First size, 10*s.* per 100.
Second size, 5*s.* per 100.
JAMES GOLD, Southfields Nursery, Wandsworth, S.W.

50,000 RASPBERRY CANES, Carter's, Fastolf, and Norwich Wonder, remarkably cheap. 2-years' Rivers' Prolific, Gisborne, and Victorias, 1000 of each, very cheap. Fine Standard Napoleon CHERRIES, APPLES, and PEARS, all kinds and all ages. Paxton STRAWBERRIES, Noble and John Ruskin plants, in any quantity. 3-year bearing COB NUTS, &c.—Please ask for special quotation for anything you require.

W. HORNE, Fruit Farm, Cliffe, Rochester, Kent.

CHOICE GARDEN PEAS.

FINEST QUALITY.	Per qt.	Peck.
Taber's Duke of York, very choice	1*s.* 6*d.*	10*s.*
Duke of Albany	1*s.* 0*d.*	7*s.*
Sangsters' No. 1	8*d.*	4*s.*
William the First	9*d.*	5*s.*

Write for my List of Seeds, at exceptional prices.
THOMAS COLEMAN, Saffron Walden.

SMILAX.—Seed of this lovely Decorative Twining Plant, 6*d.* and 1*s.* per packet. MARGUERITE CARNATION, Clove-scented, large double flowers of brilliant colours, blooms this summer from seed sown now, 6*d.* and 1*s.* per packet. MILLER'S GIANT PANSY, enormous flowers of stout substance, perfect form, and rich colours, 1*s.* per packet. All post-free. SEED CATALOGUE free.

F. MILLER AND CO., 267, Fulham Road, London, S.W.

WINTER-FLOWERING CARNATIONS for Market Growers and others.—La Neige, pure white, remarkably free, 3*s.* per dozen, 12*s.* 6*d.* per 100, £5 10*s.* per 1000. William Scott, fine cerise-pink, very profitable and free-flowering, 5*s.* per dozen, 30*s.* per 100. Duke of York (May), largest crimson, grand for winter work, 6*s.* per dozen. Uriah Pike, fine deep crimson, 5*s.* per dozen, 32*s.* 6*d.* per 100. Miss Joliffe Improved, fine flesh-pink, 12*s.* 6*d.* per 100, £5 10*s.* per 1000. All well-rooted stuff, fit for 3-inch pots. Cash with order.—CRANE AND CLARKE, The Nurseries, March, Cambs.

Dobbie's Dahlias
PER 5/- DOZEN
FLORISTS TO THE QUEEN
ROTHESAY.

DAHLIA CUTTINGS.—We can now supply grand healthy Cuttings from our unrivalled collection. Show, Fancy, Double Cactus, New Single Cactus, Pompone, Single and Tom Thumb Varieties, assorted, or all of one class, 1*s.* 10*d.* per doz., 5*s.* 10*d.* for 50, 10*s.* 6*d.* per 100, all post free. Every cutting separately and correctly named. Packed carefully in damp moss in strong boxes.

DOBBIE AND CO., Florists to the Queen, Rothesay.

LILIUM AURATUM.

GRAND PLUMP BULBS, fresh from the Japanese Coast.

	Per doz.	Per 100.
FINE BULBS, up to 9 inches	3 0	18 0
GRAND BULBS, 9 to 10 inches	5 0	30 0
LARGER BULBS, 10 to 11 inches	7 0	50 0
EXHIBITION BULBS...	10 6	...
AURATUM PLATYPHYLLUM	12 0	...
" PICTUM	24 0	...
ALBUM KRÆTZERI, large	10 0	...
RUBRUM CRUENTUM	7 0	...
BATEMANNIÆ (apricot)	9 0	...
KRAMERI (pink)	9 0	...

Smaller quantities at same prices.
ALL CARRIAGE PAID. PACKED IN FIBRE.

W. H. HUDSON, F.R.H.S., Japanese Lily Importer
KILBURN, LONDON, N.W.

SMALL SHRUBS and CONIFERÆ. — Aralia Sieboldii, from pots, 6 to 8 in., 12s. per 100; Box Tree, Grees, 6 in., 60s.; Cup. macrocarpa, 1 yr. trans., fine, 10 to 15 in., 80s. per 1000; Cup. Allionii, 6 in., 6s. per 100; gracilis, 6 in., 7s.; erecta viridis, 6 to 7 in., 40s.; Cotoneaster microphylla, 1 ft., 35s. per 1000; A. Douglasii, 1-yr. tr., fine, 7 to 12 in., 80s. per 1000; Escallonia macrantha, 9 in., 10s.; Eulalia japonica, 9 in., 4s. per 100; Gueldre Rose, 1-yr., 6s.; Honeysuckle, Common, strong, 6s.; H. japonica, strong, 12s. per 100; Ivy, Irish, 15 in., 6s.; Laurustinus, 7s.; Olearia Haastii, 6 in., 10s.; Pinus excelsa, 2-yr., 6s.; Rhododendron ponticum, 3-yr., 25s. per 1000; 4 to 5 in., 40s.; Thuia Lobbii, 1½ to 15 in., 25s.; 15 to 18 in., 30s.; Ellwangeriana, 8 in., 4s.; Virginian Creeper, 1-yr., 6s. per 100.
GARLIES MITCHELL, Nurseryman, Stranraer.

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SEPARATE CATALOGUES of the following were issued in January (Copies may still be had post-free):—
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The *Gardeners' Chronicle*, December 25, 1886 (Mr. James O'Brien) says of Dendrobium Johnsoniæ:—"Flowers snow-white, surpassing D. Phalænopsis Schroderianum."

The *Gardeners' Chronicle*, December 25, 1886 (Professor Reichenbach) says:—"A chaste and glowing beauty."

The *Gardeners' Chronicle*, January 24th, 1891 (Mr. R. A. Rolfe) says:—"A distinct, beautiful, and splendid species."

Messrs. J. Veitch & Sons, in their manual of Orchidaceous plants, say of this charming Dendrobe:—"Flowers among the largest of the genus; 4 to 5 inches across."

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THE

Gardeners' Chronicle.

SATURDAY, MARCH 9, 1895.

HERBACEOUS GRAFTING.

In his book on the *Art of Grafting*, which is one of the horticultural classics, Baltet summarises the objects of grafting to be as follows:—(1) to change the nature of a plant by modifying the woody tissue, the foliage, the blossom, or the fructification which would be produced naturally; (2) to promote the development of branches, leaves, flowers, or fruit in certain parts where they are deficient; (3) to restore vital activity to a plant which is weak or exhausted, by the transmission of new sap from another plant which is strong and healthy; (4) to unite the two sexes in plants which by nature are dicœcious, thereby to facilitate fertilisation, or to transform completely the sex of a plant; (5) to preserve and to propagate a large number of varieties of useful or ornamental plants which cannot be reproduced by any other means.

The early history of the art will probably never be written. If the gradual development of grafting seem easy to trace inductively, it is more difficult to conjecture the circumstances which were the cause of its origin, even though it were by chance. It would be most interesting to know what plants were among the first to be grafted, and what were the results. Whether the primitive horticulturist became convinced of the advantages of grafting by continuous success from the first, or whether the art had to struggle for existence through ages of suspicion.

It seems natural to suppose that grafting was at first practised in connection with woody plants. Employed as a means to an end, the operation would presumably be found more attractive with plants of this nature bearing conspicuous flowers or agreeable fruit. It would also be found more easy of application, and the results more evident as well as more useful.

Although authoritative documents exist to show that grafting was known to the Phœnicians and Carthagenians, it has often been erroneously held that the herbaceous graft is of comparatively recent origin. It must, however, have also been practised from a very remote period, for Aristotle has recorded that he himself grafted a cultivated Artemisia upon a wild one. But the greater care required to graft herbaceous plants, and the apparently less important results to be obtained, would tend to the supposition that the herbaceous graft was not the earliest in point of time.

This assumption being made, it is, however, not easy to conjecture how much later in time was the art of grafting first applied to the herbaceous or to the more succulent stem. Suffice it to say that, perhaps because of the apparently smaller results to be obtained—the graft has hitherto been used to a very limited extent in connection with herbs and vegetables.

During recent years, however, the subject has been investigated, particularly in France, by many workers, with considerable vigour. Results have been reported from the Cornell University Experiment Station, New York State, where zonale Pelargoniums bloomed upon the common rose Geranium; and Coleuses of many kinds were used with uniform success, the scions of some of which were vigorous a year after being set. "Tomatos upon Potatos, and Potatos upon Tomatos also grew well, and were transplanted to the open ground where some of them grew, flowered, and fruited, until killed by the frost. The Tomato on Potato plants bore good Tomatos above and good Potatos beneath, even though no sprouts from the Potato stock were allowed to grow."

Chrysanthemums are commonly grafted in Japan, as was stated by Hayato Foukouba, the director of the Mikado's gardens, during his visit to the Paris Exhibition of 1889. The yellow and delicate Étoile de Lyon can, for instance, be grafted on the white-flowered and more vigorous Comtesse de Chambord. The practice is moreover not unknown in this country where several varieties of Chrysanthemums, which present certain kindred characters, are sometimes united on the same plant.

The researches made by M. Lucien Daniel, which have been fully reported in the *Revue Générale de Botanique*, have enabled him to state, not only that the graft is practicable to a considerable degree of success in connection with herbaceous stems, but that its effects, so far as is now known, tend to the inference of very important, if not definite, results.

M. Daniel grafted forty-six plants, which he succeeded in growing till fruit was produced, and which—without here enumerating the list at greater length—included such combinations as Peas on Beans, Cabbage on Kohl Rabi and on Turnips, Fennel on wild Carrot, winter Lettuce on wild Prickly Lettuce, Toad-flax on Snapdragon, Celery on Parsnip, Carrot on Parsnip, and *vice versâ*.

His observations led him to certain conclusions regarding the herbaceous graft, among which may be named its lesser resistance to cold; its modification in size by the stock in most cases; and the depreciation, as a rule, of the quality of a cultivated plant grafted on to a wild one. M. Daniel also found root-grafting of herbaceous plants to be the most successful.

It was already well known that, under the influence of transpiration, herbaceous scions wither very quickly after the operation of grafting. But M. Daniel has observed that whilst certain plants of this nature wither only to die, others gradually revive, and that these conditions are dependent, to a great extent, on the thickness of the leaves of the plants.

He investigated this particular subject by making experiments on the Bean, which was selected as a type of thin-leaved plants, and on the Cabbage, which was taken as a type of plants with thick leaves. He grafted two Bean plants, and placed one of them under a bell-jar, and the other in the open, and compared both with a third, which was also kept in the open air, but which was not grafted. The unprotected Bean died after three days, through the effect of transpiration. The graft protected by the bell-jar began to show signs of union after seven days, and although complete re-union eventually obtained between the stock and the scion, this Bean-plant died after fifteen days. The Cabbages, on the contrary, which were placed under similar conditions, overcame the effects of transpiration for a considerable period, and when, on account of the cold weather, the experiment was discontinued, their eventual successful growth seemed to be beyond doubt.

It would, therefore, appear, says M. Daniel, as regards thin-leaved herbaceous plants, such as the Bean, that if the equilibrium between the amount of water absorbed and that which is transpired be once destroyed, these plants die; but, as regards thick-leaved herbaceous plants, that they are better able to withstand the effect of abnormal transpiration, and that the grafting of such plants is not nearly so often followed by fatal consequences. *B.*

New or Noteworthy Plants.

DENDROBIUM × APOLLO (NOBILE PULCHERRIMUM ♀, AINSWORTHII SPLENDIDISSIMUM ♂).

This is one of the largest and most beautiful of the garden hybrid Dendrobiums, and very distinct from any other raised from varieties of D. nobile and D. Ainsworthii, its general appearance, both as regards the texture and arrangement of the flowers, more closely resembling a large form of D. × Owenianum. The three-flowered inflorescence has flowers over 4 inches across, borne on a footstalk about 2 inches in length, which allows of each being well displayed. The sepals are white, tinged with rose-purple, the reverse side being the darker one. The petals are also white, veined and tinged with pale rose-purple, the tips being the darker in colour, and the lower halves nearly white. The large labellum has a maroon disc, surrounded by a broad band of sulphur-yellow, and is tipped with rose-purple. It was raised and flowered by Mr. J. Cypher, Queen's Road Nursery, Cheltenham. *James O'Brien.*

THE VITALITY OF SEEDS.

The subject of the duration of the vitality of seeds under various conditions has been so exhaustively discussed in these columns and elsewhere, that little remains to be discussed, or is worth while discussing, except new facts revealed by careful experiments. Nevertheless, it would be an advantage to have a thorough sifting of the evidence put forward to substantiate the assumed germination of seeds of exceedingly great age, together with a collection of the records of a more trustworthy character. There is no doubt that some seeds do preserve their vitality for a very long period, but what the limit is under the most favourable conditions is unknown, and, it may be added, from the nature of the factors, practically indeterminable. Yet there is much room for exact experiment in this direction, and Dr. Peter, the Director of the Botanic Garden at Gottingen, who has devoted considerable time to the subject, has published* the results of a second series of experiments on the germination of seeds, taken from different depths in the soil of woods and pastures, known to have been undisturbed for a long period. The first series of experiments dealt with seeds from the soil of woodland which had been under the plough less than fifty years ago. The second series, partly with seeds from the soil of a dense wood of older growth—100 to 150 years, also known to have formerly been arable land. Dr. Peter gives historical details, and other particulars establishing the age of the woods in question, on which it is unnecessary here to say more.

The principal object was to ascertain how long the seeds of weeds of tilled land would retain their germinating power after being buried in the soil to a depth at which they could not germinate. For this purpose samples of the soil, with all it contained, were taken at depths of 0 to 8, 8 to 16, 16 to 24, and 24 to 32 centimètres, every care being taken to prevent the intrusion of foreign matter. These samples were then subjected to conditions favourable to the germination of any living seeds they might contain. It should be mentioned that although the forest was only from 100 to 150 years old, there is evidence that the land it covers ceased to be arable between 300 and 400 years ago. The plants thus raised were, so far as possible, cultivated on to the flowering stage. As might have been expected, pasture and woodland plants predominated in those raised, yet weeds of cultivation were abundantly represented. From woods of 18 to 35 years, on the other hand, weeds of cultivation strongly predominated over essentially woodland plants. The proportions of individual plants raised from the superficial to the lowest layer in the whole series, were as follows:—1617, 968, 498, and 205. Dr. Peter lays special stress on the fact that the samples were taken from spots where there had been no vegetation under the trees for a long period. And what he claims to have proved is, that the seeds of many field and pasture plants retain their vitality considerably more than half a century. This being established, and supposing the conditions to continue exactly the same, it is difficult to find a reason why such seeds should not continue to retain their vitality for an indefinite period. Of course, there must be a limit to the continuation of a certain combination of conditions; but for an indefinite period apart from alteration of condition. *W. B. Hemsley.*

* *Nachrichten von d r Koniglichen Gesellschaft der Wissenschaftn zu Gottingen*, 1894, pp. 373–393.

Orchid Notes and Gleanings.

DENDROBIUM RUBENS GRANDIFLORUM.

The original Dendrobium Rubens was first flowered by Mr. James Cypher, of Cheltenham, and described in the *Gardeners' Chronicle* in 1893. It was the result of a cross between D. × Ainsworthii Leechianum and D. nobile nobilius, which latter, in point of beauty, and richness of colour, it more nearly approaches than did any other hybrid Dendrobium. This year a still further improvement has been made by Mr. Cypher in the same direction, by crossing D. splendidissimum grandiflorum and D. nobile pendulum. Practically the result in both cases is the same, with the exception that the latter cross has still larger flowers, a more intensely bright violet-crimson colour in the petals, and some very slight differences in the whitish zone which surrounds the dark maroon-crimson disc of the lip. D. Rubens grandiflorum is a very appropriate name, and its qualities may be indicated by stating that it is equal in beauty to the true D. nobile nobilius, although its form more nearly resembles that of D. splendidissimum grandiflorum. *J. O'B.*

Orchids at Bocking Place, Braintree.

The collection of Sydney Courtauld, Esq, is chiefly noted for its complete set of Masdevallias. The time of flowering of the showier species of the M. coccinea class is approaching, and the many and dissimilar varieties of it were giving promise of a rich display of brightly-coloured flowers throughout the spring and early summer. Among those at present in bloom, the prettiest were M. × Courtauldiana, a showy rose-coloured hybrid, obtained by intercrossing M. rosea and caudata var. Shuttleworthii; M. × falcata (Veitchiana × Lindenii), a very handsome orange-coloured variety, closely following M. Veitchiana, except that it has longer and somewhat falcate lower sepals; M. × Hinckeiana (tovarensis × ignea); M. Schroderiana, M. Shuttleworthii, M. hieroglyphica, and the singular, large, and fleshy, white and purple M. Mooreana were also present. Among the charming little insect-like species, for which the genus Masdevallia is remarkable, there were in flower, M. gibberosa, its sepals extended like wings; M. pulvinaris, with a remarkable scale-like thickening in the upper part of the flower; M. striatella, and M. Wendlandii, the latter with a profusion of small white and purple flowers; and with them, and among a number of interesting species of Pleurothallis, the singular-looking P. ornata, with its velvety-black flowers and silvery-pendent fringe.

The Chimæra section of Masdevallia, in common with many of the very small species, has suffered from the severe and protracted winter, and the consequent necessity for keeping the heating apparatus

at high pressure, but the actual losses have been few, and the enfeebled already begin to show improvement with the return of bright sunshine.

In the first division of the intermediate range there was a fine show of flowers on the large specimens of Cœlogyne cristata, the pale lemon-centred C. c. Lemoiniana, and on one large plant of the white C. c. alba, which bears about a score of flower-spikes. Arranged with them was an example of Cymbidium grandiflorum (Hookerianum) with a spike of thirteen flowers; several varieties of the beautiful C. eburneum, one being pure white with lemon-yellow lip, another blush-white, and a third having purple spots on the lip. Lycaste gigantea has three flowers, L. Skinnerii appears in several varieties, and occasional plants of Lælia anceps, Dendrobium Wardianum, Lælia harpophylla, L. cinnabarina, Epidendrum polybulbon, Pilumna fragrans, Cœlogyne gramifolia, Dendrobium primulinum, Odontoglossum pulchellum, &c., assist in making a very good and effective display.

The next division is devoted chiefly to Cypripediums, and at the entrance was a noble example of C. (Selenipedium) caudatum Wallisii, with two magnificent spikes, each nearly 3 feet in height, and bearing, the one four, and the other three flowers. The plant was purchased in 1886, and it has flowered strongly every other year, but never so well as now. In the same house were varieties in bloom of C. villosum and C. v. Boxallii; a grandly-coloured form of C. Chamberlainianum; C. callosum, C. × selligerum, C. × Leeanum, C. barbatum Warnerii, C. Haynaldianum, and Platyclinis glumacea. Sending up a strong spike, was a fine plant of Schomburgkia Lyonsii, whose white and purple flowers, borne on long pedicels, and arranged in bouquet-like heads, constitute it the handsomest of the genus.

The Cattleya-house had a fine show of forms of Cattleya Trianæi, of which C.T. Courtauldiana, with its bright violet-crimson lip and perfectly-shaped flowers, is far the best. Among the rest are several remarkably distinct forms, one named C. T. virginalis having white flowers with pale pink front to the lip; and two varieties in which the richly-coloured labellums are broadly banded with white, are very attractive. In the same house is a finely-flowered Lælia superbiens, an old but very elegant and showy species.

In the Dendrobium-house was a capital show of flowers from the large masses of D. Devonianum suspended against the back wall, together with D. nobile, D. lituiflorum, and other species. Here, too, was the finest example of D. atro-violaceum which we have seen, and which bore three spikes carrying between them over a score large and handsome white-and-violet flowers. Also in flower here were varieties of Miltonia Roezlii, Angræcum citratum, Odontoglossum Edwardii, &c. Rising favourites at Bocking Place are choice Ferns, and already many extremely rare species are there to be found. It is intended to make the collection, so far as the genera are concerned, at least, as representative as possible, and well-defined rare species are always being looked for to add to the collection.

Fig. 38.—Senecio Galpini: flowers orange.

Dendrobium nobile vars.

The sprays of some very fine and distinct varieties of D. nobile, sent for our inspection by Mr. H. Weetman, The Hawthorns, Little Haywood, Stafford, "prove," as that gentleman remarks, "the excellence of the strain imported by Messrs. F. Sander & Co. from the Lang Tang Hills." All of the flowers are of fine form, and display remarkable variation in their colours. The lightest-coloured, identical with D. n. Ballianum, is wholly white, except for a pale rose blotch at the base of the lip; the largest is very close to that model flower, D. n. Hardy's variety; and the two others have the bright carmine-crimson hue of D. n. Sanderianum, which one of them very closely approaches. Mr. Weetman says that no two come exactly alike, but all are beautiful, and the plants easier to grow than the older forms, so far as, he says, his experience goes.

Dendrobium speciosissimum, *Rolfe.*

We learn that Messrs. Hugh Low & Co., of the Clapton Nursery, have now obtained further materials of the above splendid new species, which was named some time ago by Mr. Rolfe, but has not yet been introduced to cultivation. It was discoverd many years ago on Mount Kina Balu, in Borneo, by Sir Hugh Low, who found it growing on a Magnolia. He describes it as being much in the way of Dendrobium formosum in general character, but the stems are much more thickly covered with short black hairs. The flowers are pure white, except a blotch at the base of the lip, which is of a rich purple-red colour. The plant is of dwarf habit, and very floriferous, bearing trusses of about four flowers, which are larger than those of D. formosum giganteum.

SENECIO GALPINI.

Seeds of this handsome greenhouse plant were sent to Kew in 1890 by Mr. E. E. Galpin, who found it growing wild on a rocky cliff, at an elevation of 5000 feet on the Saddleback Mountain, at Barberton, in the Transvaal, where it grows and flowers freely in April. Plants of it flowered at Kew in October, 1891, when a figure was prepared and published in the *Botanical Magazine*, t. 7239. Last autumn it flowered earlier, and was very effective with its silvery Crassula-like foliage and heads of bright orange-coloured flowers. The shoots die almost to the base after flowering, but fresh shoots are pushed out from below, and these may either be taken off and rooted to be grown on to flower in the following autumn in 5-inch pots, or they may be left on the plant which, with proper treatment, will form a compact specimen 18 inches high, such as that shown in Fig. 38, which is from a photograph of a plant grown in the Cape-house at Kew last year. The basal leaves are 6 inches long, and 1½ inch wide, those on the stems being smaller. I believe this plant would grow and flower well out-of-doors in a warm summer under the same treatment as that afforded bedding Pelargoniums. It is easily multiplied by means of cuttings. So far, it has failed to ripen seeds at Kew.

Sir Joseph Hooker thinks that, from a horticultural point of view, the suppression of the genus Kleinia, now merged in Senecio, may be regrettable. S. Galpini belongs to the Kleinia section; but whereas the flowers of Kleinias are white, this and another Cape species, S. fulgens, have orange-coloured flowers. In gardens where the name Kleinia is still in use, the plant figured should be called Kleinia Galpini. *W. W.*

THE ROSARY.

A NEW ROSE.

The *Florists' Exchange* of New York gives a coloured illustration of a new Rose, called Belle Siebrecht. It is alleged to be a seedling from La France, by Lady Mary Fitzwilliam, and to be the only seedling yet raised from La France. The colour of the flower is described as "imperial pink," and the habit of growth vigorous. It is in the hands of Messrs. Siebrecht & Wadley, of New York. It was so highly thought of by our National Rose Society that a medal was awarded for it.

The Effects of Frost upon the Rose.

What the effects of the frost may be among Roses one is almost afraid to imagine. Mine are unprotected, and as there was not much snow in our part, certainly never more than 2 inches even for a few hours, I am surprised at the state of the dormant buds in Rose stocks. These, both Teas and hybrid perpetuals, are looking little the worse. Plants, however, are in many cases hard hit. I was cutting off a few pieces of wood here and there to-day, and find considerable injury has been done. Such varieties as Cleopatra, Comtesse de Nadaillac, and others of notoriously tender nature when compared with the bulk of our Teas, and also the tender hybrid perpetuals, have a very unpromising appearance. Among those with the soundest wood are the Polyantha or Fairy Roses, Paul Neyron, Ella Gordon, Mrs. Paul, and both buds and plants of the new hybrid Sweet Briars. Of my wall Roses, L'Idéal and William Allen Richardson are the least touched, and these seem to be even more hardy than Gloire de Dijon, Aimée Vibert, and other old varieties.

That there will be sad tales of destruction I am sure, for the wind on several occasions was the coldest I have ever experienced. Added to this, we had so bright a sun, that notwithstanding the extreme cold, its power was sufficient to thaw the Rose shoots for an hour or so at midday, to be frozen hard a few hours later. If our plants do as well as those in other parts of the country, and come through this ordeal fairly well, I shall be more than ever in favour of non-protection. The extreme degree of cold, and the winds, together with the alternate thawing and freezing in the course of a few hours, will have tried the cold-withstanding capabilities of unprotected Roses more than has been the case in the memory of the oldest Rose grower. I am ready to admit that my feelings would be more comfortable if the wood of my plants had been protected. But the frost came on so suddenly, and continued with such severity, that nothing could be done.

The saddest sight of all is found among climbers, and those of very strong growth. Well-matured as the wood of these was before the winter set in, the plants have a nipped look, and I fear their chief summer display will be lost. Fortune's Yellow, Climbing Devoniensis, Niphetos, and Perle des Jardins, and a large number of hybrid Perpetuals and Bourbons for pegging down, seem to be in a desperate condition. The chance of a good Rose season for 1895 seems, from present appearance, very small indeed, and I shall anxiously look out for reports from various parts of the country. *A. P., Feb.* 20.

Pruning the Roses.

This is a subject so exhaustively written about from time to time, that one might be justified in considering any further remarks unnecessary. Often as the matter has been discussed, its chief points will still bear repetition. Owing to the very severe frost experienced last month the knife will be almost restricted to the removal of dead or frost-bitten wood during the approaching season. Certainly, this will be the first work. Pruning is often overdone. The correct idea is to assist Nature, rather than to destroy the natural characteristics of a variety. Strong, as well as weak-growing varieties, invariably flower best from the strongest wood of the previous season—always provided that this was properly matured; soft unripe wood is of little value. Now when a Rose has flowered upon these shoots, others rapidly advance to take their place. The original shoot may continue to grow and bloom, more or less, but its vitality and usefulness have been spent, whereas the new comer is improving. By cutting away the former we help the latter by turning the plant's energies in the necessary direction. Year by year the older growths grow weaker, and in time they are succeeded by the others. In the case of dwarfs and standards in the open borders, we shall do well by cutting away these older growths as far as possible, without losing or lessening to too great an extent the number of the healthier and stronger shoots of the previous year. In this simple way Nature is helped, and the greatest number of flowers obtained. On walls, however, we cannot cut the plants back so closely as in the case of dwarf plants, but the same plan may be followed to a certain extent, and those growths that have flowered should be removed, to be replaced with the stronger shoots of last summer's growth. A small quantity of really strong good wood will make a good show, far better in every way than the comparatively useless older growth.

But all Roses used upon walls and fences are not very vigorous growers; and it is good practice to plant Roses of medium growth between those of greater vigour, otherwise, even with the greatest care, we cannot always avoid having bare spaces at the base of the wall. There is another benefit derived from this plan, seeing that a continuous crop of bloom is obtained at the lower part of the wall from these medium growers and more perpetual bloomers. Climbing Roses are seldom particularly showy as regards blossoms after the main crop from last year's wood has passed, but with a judicious mixture of the two classes of Roses, more pleasing results are arrived at in clothing the wall with growth and bloom. Medium growers also need pruning somewhat on the same lines. The growth that last flowered must not be so freely cut away as in the case of climbers, and the strongest and best of last year's shoots should be preserved. Before leaving this part of my subject, it will be well to glance at those late autumnal growths that afforded the last blooms of the season; also those succulent shoots which commenced to grow about the end of August, and were in consequence immature at the end of the season. Most of these are pithy and of little use as bloom-producers. Where several growths are left after the removal of the wood first described, the frost-bitten, dead, and that which has flowered, we may cut out these pithy unripe shoots. Of course, this should not be done unless there is a scarcity of shoots to cover the wall; but as the first point in pruning is the thinning out of all superfluous growth, the removal or not of these shoots, according to circumstances, will have to be considered.

I have now described the pruning of wall-Roses, and those on pillars and arches. In the case of Roses that are pegged down, the same strong-growing varieties are chosen, and each season the wood which has bloomed should be removed, and replaced by pegging down the long, upright growths that grew from the base of the plants last summer. The same principle holds good here as with climbers, viz., the removal of old, and laying-in or pegging-down of new wood that has not flowered. Do not fear to thin-out these growths, remembering that every eye will be producing shoots of new growth from 9 to 18 inches long, and the mass of foliage thus secured needs considerable space in which to develop. If one gives a thought to what these shoots now pegged-down will present when each is furnished with new shoots, they will not crowd them, as many do, simply from fear of undue thinning.

Cut superfluous growths back to the base rather than partially shorten several. In the case of growers, like Marie Baumann and General Jacqueminot, we must first of all consider whether quantity or quality be wanted. If the former, then we should cut away the thin, sprayey wood from the centre; shorten the medium growths to a third of their length, and leave the stout and strong shoots almost entire. These last need bending to as horizontal a position, and as nearly resembling pegged-down Roses, as circumstances will allow. If the wood was matured, they will flower from each eye similarly to Gabrielle Luizet and others among pegged-down varieties. But if quality be the aim, all weakly wood in whatever position found must be cut out, the remainder being cut back to within four or six buds of the main stem or base, always observing that the last or end bud faces outwards, so that the young growth will have a tendency to grow outwards and give space to the other. Both as regards the variety and each individual plant, the pruner should bear in mind the rule, that the weaker the plant the harder should be the pruning. If a plant is weak for the variety, it should be cut down in order to secure better shoots from the base. There is little to say respecting notoriously-weak growers, except that they need limiting to a very few of the best eyes at the base of their principal shoots.

Time to Prune.

As to the proper time for pruning, much will depend upon the situation of the Rose-garden and the kind of season. Last year our Roses were so forward by March that many feared delaying pruning until the early part of April. As a rule the Bourbons and Hybrid Perpetuals may be pruned at the end of March; as also those upon sheltered walls and fences. Teas not trained upon fences, &c., should be left till the middle of April, unless very sheltered and in a warm district. We need have little fear of the precocious growths that come from the extremeties of our Roses. Such would rarely come to perfection, and they really form an outlet for the sap, leaving the lower and more valuable buds comparatively dormant until growth can take place without check. If such late-flowering varieties as Baroness Rothschild and Merveille de Lyon are wanted in bloom with the bulk of other hybrid perpetuals, these should be pruned ten days earlier than those. *A. P.*

FORESTRY.

PROFITABLE WOOD MANAGEMENT.

Those who advocate the planting of inferior or waste land with timber-trees are invariably met with the rejoinder that timber-growing in this country will not pay, and instances are given of the expenses of planting and the low-selling value of timber, which are sufficient to make the most reckless planter pause and reflect. We do not doubt for one moment the accuracy of the statements made by opponents of forest-planting, but we maintain that their arguments so far fail to make out a case against it. In the first place their instances are derived from experience gained in this country. This, from an abstract point of view, is as it should be, for conditions vary with countries and districts, and local experience alone can furnish information upon which certain principles must be based. But those who know anything of the way in which British woods in general are formed, managed, and harvested, would as soon think of taking an Irishman's Potato-patch as an illustration of profitable market-gardening, as a British plantation as an instance of economic forestry. We hasten to add, however, that there are exceptions to this state of affairs, and also that those in immediate charge are seldom entirely responsible for it. After administering this sedative, we feel emboldened to give a few reasons which we think justify us in coming to such a conclusion.

Take the case of a plantation formed, say, nowhere in particular. Without going into minute details, we will suppose the outline presents as many acute angles as are consistent with an irregular figure. This will ensure the expenditure of such a sum upon fencing as will preclude all probability of the crop proving a financial success, and will satisfy the most

enthusiastic anti-planter. The planting itself will be done by various representatives of rural labour, who, as the work nears completion, will have gained tolerably intelligent idea as to which end of the plant goes into the ground. The species selected and the sizes used are such as to gladden the heart of the most pessimistic nurseryman with a good stock of overgrown stuff, and who forwards the trees with as many roots as would suffice for plants half their size. As the interval between lifting and replanting rarely exceeds six months, a certain percentage will probably struggle into leaf during the next summer, and the majority of these, under exceptionally average conditions, will be eaten up by hares and rabbits during the succeeding winter. After a few seasons of beating up, the fortunate proprietor will be in possession of a combination of thicket, shrubbery, arboretum, and plantation, through which he and his friends will shoot once or more every season. The remaining years of its life will probably be enlivened by a series of interesting and instructive

Fig. 39.—Oncidium insculptum: petals, dark cinnamon; sepals, purplish-brown; margins of all segments, pale yellow.

thinning and pruning experiments, carried out by experts whose ideas are not dimmed by sameness nor blighted by convention. After a century or so, the trees in the plantation rot, are blown or cut down, usually all three operating in its disappearance, and the proprietor at the time perhaps considers it a favourable opportunity for settling the long-disputed question of woods paying. Yellow records and accounts are unearthed in the estate office, which show that so many men were employed for so many days in Stubb's Furze, or that a certain number of trees were sold from the same at different times. The result of these investigations is, that Stubb's Furze is found to have cost more than it yielded; the owner for ever after asserts that "woods don't pay, sir," and on the strength of that assertion is regarded by his neighbours as an authority on forestry matters in general.

The above picture may be overdrawn, but we have no reason to believe that such is the case. We rather incline to the belief that eight out of every ten coverts in England have a similar history, and it is from such examples that facts and figures are frequently derived for the purpose of demonstrating that woods do not or will not pay. The reason for their not paying is obvious. It is true that when formed for game cover alone, they serve the object in view in all cases, and may be said to pay in a sense, but to use them as test cases of profitable or unprofitable timber-growing is absurd. The question of actual profit in connection with a crop of timber is somewhat complicated at the best. We can either regard the timber as a crop, and distinct from the soil, or the two may represent a stock or capital in much the same way as permanent pasture is regarded. In the former case the profit is represented by the excess over cost of production, as with any other crop. This cost is usually divisible into two sub-heads—initial cost of formation equivalent to a certain capital invested in stock, and maintenance, rent, and taxation charges, the annual amount of which must be capitalised. The rate of interest charged on these sums determines the length of the financial rotation, which is inversely proportional to the rate. As the thinnings become marketable, the net sums realised are invested or bear interest at the same rate, and consequently early thinnings, after a certain age, which do not affect the ultimate value of the main crop, tend to prolong the rotation by counterbalancing the amount which the plantation has ultimately to discharge. Where the soil and timber are regarded as a capital, the interest on it is represented by the annual timber fall, both of which, in a normally stocked forest, are constant, the interest being the annual increase in growth over the whole area. It is the great length of time requisite for an artificially-formed forest to reach the normal condition of stocking that renders planting so unpopular as an investment, but when once that condition has been reached, there is no reason why it should not yield as good returns as hundreds of other and more speculative investments made daily by capitalists throughout the country. Any estate, the wooded portion of which is well and properly stocked, ought, by proper management, to yield a fair interest on the sum which the timber stock represents. To ensure such being the case, it is necessary not only to exercise great skill and economy in the planting and thinning operations, but also to see that the crop on each working unit is cut on the financial rotation principle. The absence of definite rotations in British wood-management precludes the possibilty of the highest yield being assured in all cases; and although without such rotations crops may still pay the owner, it does not allow of any definite conclusions being arrived at regarding the real productive power of the soil. Before the statement that woods do not pay can be made in good faith, therefore, it is essential that a trial should have been made under conditions which allow a margin of profit to be made, when this is at all possible; but such conditions are rarely accorded to British woods. Until the usual encumbrances are removed, and timber crops grown on business principles, the profits, if such there be, will always be of a more or less accidental nature, instead of an assured and approximately definite amount. *A. C. Forbes, Bowood, Calne.*

ONCIDIUM INSCULPTUM.

This remarkable species, introduced from Ecuador by Messrs. Backhouse, was flowered for the first time by the late Mr. John Day at Tottenham, and described by H. G. Reichenbach in these pages August 3, 1872. We have had sent to us for our inspection by Mr. Bailey, the gardener at the Briars, Reigate, a small spray of this plant under the name of Oncidium Barclayi which appears to be identical with this species, see fig. 39. Reichenbach says:—"The ligulate generally-lobed lip has basilar extorse auricles, and the membrane of these runs from both sides under the stalk, where it is connate—a very unusual case. The dorsal sepal is unguiculate, with an oblong blade, and very undulated, brown, with a whitish-yellow border. The side sepals are much alike, narrower, arched outside, connate at their base. The petals are nearly like the dorsal sepals, but with shorter stalks." The flowers measure 1½ inches in diameter, sepia-brown, with a metallic-greenish lustre, the sepals darker than the petals; the crest is of the latter colour, and sometimes white. The pseudobulbs are ovoid, compressed, smooth, 3 to 5 inches long, and about 2 inches broad. Leaves ensiform, 12 to 18 inches long, complicate at the base.

Cultural Memoranda.

PANDANUS VEITCHII.

This inmate of the stove is a valuable and very attractive decorative plant. A stock of it may be worked up in a short time by detaching and potting up the suckers, which are produced freely from the axils and bases of well-established plants. They should be put into pots from 2½ to 3½ inches in diameter and depth, according to the size of the young plants. Drain the pots well, and use a peaty soil, with a sprinkling of sharp sand added, which should be made moderately firm. Afterwards shift the plants into larger pots, as they require more space at the root; but plants in pots from 4½ to 6 inches in diameter are the more useful. After the young plants have made roots, they should be afforded a position near the roof-glass, in a stove or warm pit.

Eulalia.

There are several varieties of this ornamental grass grown in gardens, viz., E. gracillima univittata, E. japonica foliis striata, and E. j. zebrina. They are quite hardy, and are suitable alike for planting on the margins of ponds, in bog gardens, and for growing in small pots in cool pits or houses for decorative purposes, their light and graceful habit and the ornamental character of the leaves rendering them of exceptional value for mixing with other plants. They are easily increased by dividing the old plants into several small pieces, and potting these into 2½-inch and 3-inch pots. Use a compost consisting of about three parts of light sandy soil and one of leaf-mould and peat, and make this firm

about the roots. Stand the pots on sifted coal-ashes in a pit or frame, and keep close, and shade on bright days until the plants show signs of fresh growth, when the shading should be discontinued, and a free circulation of air gradually admitted.

Libonia penrhosiensis.

The present is a good time to take off cuttings and work up a stock of plants. Cuttings taken off with a couple of joints and inserted in 3-inch pots, crocked and afterwards filled with sandy soil, watered, and finally plunged in sawdust in a hand-light placed in a warm corner of the stove, Melon, or Cucumber-house, will soon form roots if shaded during the hottest part of the day. They should then be potted-off singly into thumb-pots, using a light sandy mould, and placed on a shelf near the glass, where they should be afforded shade until root-action has commenced. Pinch the growths during the five following months, in order to secure nice bushy plants well furnished with their slightly bell-shaped, orange-coloured flowers. *H. W. Ward.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CATTLEYA HOUSE.—Plants of C. Trianæi, and many of its distinct varieties, are now coming into flower, and to keep the blooms fresh and perfect a little extra air may be admitted through the top ventilators, whilst care is taken not to allow any moisture to settle on the flowers. Amongst Cattleyas of quite another type, is the distinct C. Lawrenceana, which is now prominently showing its flower-buds in the sheath, and should receive more liberal supplies of water at the roots, and be placed well up to the light in the warmest part of the house. As the young breaks of Cattleya gigas are now starting to grow, the plants must no longer be kept under resting treatment. It is very important at this season to give this species all the light possible, but when the sun is strong and powerful, the plants must be thinly shaded, in order to prevent the young leaves being scorched; very little water at the root is needed until the growths are well advanced; and at no time must the plants be kept in a saturated condition. An occasional drying of the compost will prevent the old roots from decaying. These directions are also applicable to C. Rex. C. Dowiana, and its varieties are also starting to grow, and should be suspended close up to the roof-glass in the warmest corner of the house. They should be repotted immediately after they have bloomed, or, in the case of those failing to flower, when the growths commence to root.

CŒLOGYNES, &C.—The species C. Massangeana, C. tomentosa, C. flaccida, C. barbata, C. graminifolia, C. Fœrstermanni, C. corrugata, C. Rossiana, C. speciosa, C. conferta, and C. elata, may all now be repotted, if they require it. Cultivate them in well-drained pots or pans, with peat and sphagnum-moss to root in. An abundant supply of water is necessary whilst growth is being made, and a slight syringing overhead on warm days will help the plants to produce strong clean growths. Basket-culture is preferable for the three first-named, as their long racemes of blossoms are seen to greater advantage when suspended from the roof. An intermediate temperature will best suit all of them. By this time many young seedling Dendrobiums will have started to grow, and should be repotted at once, using chopped sphagnum and broken crocks, which should be pressed firmly around the plants. No peat should be used until after they have reached the flowering stage. After potting, place them in a hot moist stove, and give but limited quantities of water until new roots appear, when it may be gradually increased. Such plants as Chysis aurea, C. Chelsoni, C. Sedeni, C. bractescens, C. lævis, and C. Limminghi, must be watched when the flower-spikes appear, that no thrips or water get among the buds. Thrips are also very fond of the young growths, but they may be easily eradicated by puffing a little Scotch snuff well down into the points. These plants will succeed well in shallow pans suspended to the roof of the Cattleya-house. Fresh rooting material should be supplied if necessary after the flowers fade.

LÆLIAS.—The present is a good time to re-pot Lælia anceps, L. albida, L. autumnalis, L. Gouldiana, and others of that section. During the re-potting, the materials about the roots should be disturbed as little as possible; and unless the plants require more space to grow in, or the old materials have become decayed, they should be left alone. If re-potting is necessary, the old roots should be left untouched, or probably the plants will not bloom satisfactorily. Pot rather firmly, but only so much, that when the plants are watered, the water will pass freely through the compost. The plants root freely in ordinary peat and sphagnum moss, rather more moss than peat being used. After re-potting, water sparingly, until they show by the lengthening of the roots and new growth that more is needed.

ODONTOGLOSSUM CITROSMUM.—This species which requires a Mexican-house temperature, is now beginning to grow, and as the flower-spikes push up through the centre of the new growths, they must be watched daily, and immediately the former become visible, a piece of wool should be wrapped around them as a protection against the ravages of woodlice and slugs. The wool will keep off these pests; but they must still be trapped by the usual methods. When the spikes appear, the plants should have a thorough watering, and a place in a house with a moist growing atmosphere. Plants which show no signs of flowering within the next few weeks should not be rested any longer, as no amount of dryness at the root at this season will cause such plants to bloom.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

GRAPE VINES.—In the case of Black Hamburgh and others requiring like treatment, the fruit from which is not required before the month of October, the vineries should be kept cool for the present, and the Vines started about the end of the present month.

VINE EYES.—Those which were put in to strike about three weeks ago are now making roots, and when these reach the side of the pots a shift into 32's should be afforded, the plants being shaded for a few days when the sun is bright. When the roots have generally penetrated the new soil, a close humid atmosphere should be maintained, and all the draughts of cool air which would check growth should be carefully guarded against. The temperature of the house or pit should not fall at night below 70°, while by day it may rise to 80° or 85° with sun-heat.

CUT BACK VINES.—These, if recently shaken out and repotted, may have more water afforded them as growth increases, but it must be carefully applied until root-action becomes active, and the foliage is growing quickly. Keep them well syringed, and see that the growth is supported.

PEACH-HOUSE.—Continue to disbud the forwarder trees, and tie in the shoots as soon as these are of sufficient length to reach the trellis. Some varieties of the Peach often produce twin fruits, notably Noblesse and Grosse Mignonne, one of which should be rubbed off, the better-placed fruit being retained. Avoid crowding the shoots in any part, and syringe the trees morning and afternoon. Should red-spider show itself, syringe the trees thoroughly all over with a mixture of soft-soap (2 oz. to the gallon of water), and moisten the borders and paths at night with farmyard liquid. Let the roots be well supplied with tepid liquid from the manure-tank, or guano-water used occasionally as a change.

STRAWBERRIES IN POTS.—Plants which, having been early potted, were well rooted in August, and protected in cold pits and frames from November onwards, have passed through the winter safely, although they have been in a frozen state for weeks, the soil being dry, no harm has been done. Those which are plunged in ashes out-of-doors are, I fear, too much damaged to be of any use for forcing, although they may be of use to fill up gaps in the beds later on. The entire stock should be inspected the first dry day when the frost is out of the soil, replacing any pots split by the frost, with sound ones. Even in cool pits the frost has raised the ball above the rim of the pot, and left the soil light and spongy, and this must be made firm again with a blunt potting-stick, or the roots will suffer. Examine the drainage, and top-dress the plants with fresh loam and a sprinkling of Clay's Fertiliser, or other approved manure. Replunge the plants in moist coal-ashes or tree leaves in pits and frames, protecting them from cutting winds, sleet, and rain. Under these conditions they will be better prepared for forcing than were they exposed on the dry shelves of a late forcing-house. Continue to bring on successions in numbers according to the demand, preparing the plants, as before advised, by plunging them in a moist, gentle hot-bed, so that the roots may be well started before growth of leaf begins, with the result that the foliage is stronger, and the bloom-trusses are thrown well above it. Plants which are swelling fruit should be daily syringed to check the increase of red-spider, and regularly afforded some kind of liquid-manure, weak soot-water being one that is very beneficial. Soot-water must be used in a weak and perfectly clear state, or the roots of the plants will suffer. As the fruit shows signs of colouring, clear water only should be used, syringing must cease, and a drier atmosphere maintained, or the fruit will be lacking in firmness and flavour. Plants coming into flower must be watered regularly, but moisture must be kept from the blooms and foliage until the fruit is set. Keep the plants well up to the roof-glass, but free from cold currents of air. Continue to fertilise the flowers, going over them after the sun has shone on them a few hours, as the pollen is then more easily distributed. A night temperature of 55° will suit them until the fruit is set; and as soon as the weather permits, a little air may be left on at night.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

AMERICAN PLANTS.—The planting of Ghent Azaleas, Andromedas, Ericas, Ledums, Kalmias, Pernettyas, Skimmias, Rhododendrons, &c., which may not have been completed in the autumn should be carried out when the weather allows of it being done. Where the re-arranging and making of new shrub-beds are in progress, no time should be lost. The autumn is really the best time for planting and re-arranging beds of Rhododendrons and other peat-loving plants, but it may be undertaken with a good chance of success at any time during the winter and spring, provided the plants are not growing or flowering. They naturally come out of the ground with a good ball of roots, and this should be preserved intact, planting without delay, and mulching the surface of the beds or merely the roots with half-decayed manure or leaf-mould. When making new beds, if the soil is ordinary loam, have it removed to the depth of 2 feet, and if the subsoil be clayey and wet some kind of drainage will be needed, for although these plants require abundance of moisture in the soil during the growing season, they do not succeed where water is stagnate in the soil; nor on the other hand will they do much good in arid, sandy, and dry soils. In such a case as the latter means should be taken to counteract the defect by placing a 6-inch layer of strong turfy loam at the bottom of the beds, and above that the turfy peat with a liberal proportion of half-decayed leaves and cow-dung or stable manure, and mulching the whole when done. In dry weather frequent waterings should be afforded the plants till they are established. Old beds of Azaleas, Ericas, Andromedas, Kalmias, &c, showing signs of exhaustion or overcrowding should be carefully taken up with good root masses, the beds trenched, fresh peat and manure being incorporated during the process When replanting afford each plant more space. Do not let the roots remain uncovered whilst the work is in progress, but cover them with damp litter, &c. There are no hardy plants that better repay care and attention in the matter of replanting and manuring than Azaleas and Rhododendrons, &c. In many gardens the common and Portugal Laurels are browned by frost, whereas the Rhododendrons are bright and green, and the latter ought to be planted in greater quantities than they are, especially in districts where peat soil is obtainable. There are not many districts where the plants grow well in the staple soil, and they do not succeed where lime is found in the soil in any quantity. Turfy loam, if given some additions in the way of peat, leaf-soil, or burnt-soil, will grow them well, with occasional top-dressings of leaf-soil and manure when the beds get old. It is bad practice to dig these peat-beds, as is sometimes done. Specimens and standards of the Rhododendron or Azalea planted on the lawn should have the grass removed from around the stems, giving them a bed of about 2 feet in diameter, so that it is practicable to afford them abundance of water during dry weather, and top-dressings when these appear to be needed. Standards should also be securely staked, and tied with Cuba bass, which is very flat and strong, and does not cut the bark like tied string, and is not unsightly.

HYBRID VARIETIES AND SEEDLINGS.—Fine beds and borders of Rhododendrons may be cheaply obtained by planting seedlings of the choicer hybrid varieties, and dotting thinly amongst them, at a distance of about 6 feet apart, plants of the choice-named varieties. The seedlings being planted at 2 feet apart, come in useful for transplanting to other places when they get crowded together thickly; good varieties of the hybrid section are Brilliant, Baroness L. de Rothschild, Baron Schroder, Bruce Findlay, Commodore, Countess of Clancarty, Cynthia, Duke of Portland, Firefly, F. Waterer, Helen Waterer, Highlander, J. H. Agnew, J. Waterer, K. A. Waterer, M. Waterer, M. J. Waterer, Quadroon, Sir H. de Trafford, Stanley Davis, Mrs. J. Clutton, Warrior, and William Cooper. Dwarf Alpine varieties of Rhododendrons are useful as edgings to beds of the larger growing varieties, and some species are sweetly-scented.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

HERBACEOUS CALCEOLARIAS.—These plants shou'd now have their final shift, and those which have been wintered in large 60-pots repotted into 24's, the potting soil consisting of a good fibry loam, leaf-mould, and of dried and powdered cow or deer-dung, and a small quantity of coarse but clean sand. Firm potting with no water afforded for two or three days afterwards are points not to be lost sight of. Place on a shelf in the greenhouse close to the glass, or in a frame to which frost has no access. Green-fly being an almost ever-present pest on these plants, light fumigation should be afforded once in three weeks. When the plants have filled the pots with roots, they should receive liberal waterings with manure-water. Plenty of air should be afforded on all suitable occasions, and allow plenty of space between the plants.

FUCHSIAS should now be brought to the light, and one or two of a variety placed in the stove or early vinery for the purpose of furnishing cuttings for propagation. The branches should be a little shortened to induce them to throw strong shoots for this purpose. Those not so treated may be turned out of their pots, most of the soil shaken off the roots, and repotted into pots of one size smaller than those out of which they came. Fuchsias like a compost of turfy loam and leaf-mould, with a good quantity of sharp sand. Pot firmly, cut out all weak shoots, and shorten others back to a distance of three or four buds from the base. Almost any sort of house will be suitable for starting them in if they can be syringed occasionally. No water should be afforded them for a week after repotting. Fuchsias that were struck from cuttings last autumn and are now growing fast should be potted on before they get pot-bound, in the soil above-mentioned, with the addition of dried cow-manure, and some ½ inch bones in small quantity. The plants should be kept growing in a temperature of about 60° by night, with a rise of 5° by day. Well syringe the plants, and fumigate them at once if thrips should make their appearance. If standards of Fuchsias are required, young plants should be grown on to the required height, pinching off all the side shoots as they appear, and when the desired height is attained, stopping them. Four of the shoots which arise from this stopping should be allowed to grow, continually pinching them till a bushy head is obtained, when flowering may be allowed. Some of the best varieties of Fuchsias for forming standards are Ballet Girl, Mrs. E. Marshall, James Lye, Mrs. King, Mr. J. Huntly, Rose of Castile, Avalanche, Mrs. H. Cannell, General Garfield, Star of Wilts, Miss Lucy Finnis, Kingsburyana, and Gipsy Queen.

VIOLETS.—It has been a very bad time for Violets in cold frames, and these plants will require to be carefully picked over, and all decayed leaves removed now that there is a chance of taking off the lights. Plenty of air should be afforded at the top and bottom of the frames during the day when mild, and a small amount at night when no frost is anticipated, removing the lights altogether on bright sunny days. Prick up the soil of the bed with a hand-fork, and peg the runners down for planting out in April. If three or four of the strongest are selected on each plant, the rest may be cut off. These runners make much better plants than divisions from old plants will do. Having pegged down to the soil the required number of runners, afford the bed a good watering.

TREE CARNATIONS.—Cuttings of these plants may still be taken, always obtaining the young shoots, these striking more readily than those that are old. Any cuttings that have roots may be potted off singly into 60's, taking much care in separating them from each other, as the roots very readily break off. When potted place in the stove or other warm house until re-established, that is for about a week, or if that be impracticable, stand them on a shelf in the greenhouse close to the glass, affording in either case one thorough watering, and syringe them twice a day.

FREESIAS.—Plants which have ceased to flower should be placed on a shelf near the glass, and watered with some weak manure-water occasionally until the bulbs are fully grown, when a gradual drying-off may begin. Freesias are sometimes neglected after flowering, but this is most unwise if the bulbs are required to flower another year. They should be kept growing till the bulbs are of full size, and then gradually matured.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

CURRANTS ON WALLS AND FENCES.—Red and White Currants may be very usefully grown on walls for early and late use. The double cordon is a good form, easily managed, takes up very little room, and the fruit may thus be grown on the bare spaces often found between the fruit-trees on walls which might otherwise be vacant. A few should be planted on a south aspect where possible, as the fruit will then come well in advance of that on bushes, and as many as possible should be found room for on walls with north and east-aspect for late use. The fruit on north walls will be somewhat inferior in flavour to that on the east aspect, but it may be kept longer in good condition if properly protected by tiffany, or netting fine enough in the mesh to exclude wasps as well as small birds. To form double cordons the young plant should be pruned to about 1 foot from the base, and a couple of shoots trained in from this point at 9 inches apart, pinching any side-growths to a couple of leaves. At the winter pruning, the leader, if strong, may be shortened to 15 inches, but if weak, to half that length, and so on each year till the required height is attained, spurring all side-shoots at each winter's pruning to two buds. The best varieties for this purpose are White and Red Dutch, and Raby Castle, with Victoria for late use.

GOOSEBERRIES AS CORDONS.—Gooseberries are often grown on espaliers as upright cordons, and as such form admirable edgings to garden paths, occupying very little space, while the fruit is easily gathered, or protected. They are best grown at about a foot from the edge of the path, and 4 feet in height. Young and vigorous plants of one year should be selected, and planted at 20 inches apart if for double cordons, and at double this distance if plants with four upright branches are intended to be grown. Shorten the main shoot of these to 12 inches from the ground, and cut off all others. When growth commences, select two shoots to train at 10 inches apart for double cordons, rubbing off all others. At the autumn or winter pruning, shorten the leaders to 1 foot or 15 inches, and the following spring again select the strongest shoot near the top for further extension, pinching the side-growths to four or five leaves, which at the winter pruning should be spurred in to a couple of buds, or about 1 inch in length, and so on till the top of the trellis is reached when the leader should be treated as directed for side-shoots. If to form a cordon with four vertical branches be the aim in view, two branches should be selected as for double cordons, allowing these to grow upright the first year so as to gain extra strength; at the time for pruning in autumn, shorten these to 15 inches, and bring them carefully into a horizontal position. From resulting growths select four shoots, one at each end, and the others 5 inches from the stem, one at each side, and train upright, treating afterwards as advised for double cordons. Gooseberries also succeed well on walls, and may be grown in the same form as the above. A few good varieties for espaliers are Warrington, Keen's Seedling, Whinham's Industry, Lion's Provider, Whitesmith, Antagonist, Leader, Leveller, Green Overall, Yaxley Hero, Queen of Trumps, and Keepsake.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SPRING CABBAGE.—When frost and snow have at length disappeared, the beds of autumn-planted Cabbage should be examined, filling up all vacancies with plants from the seed-beds, and clearing off dead and decaying leaves. When the land has become drier, the plants should be made firm in it by treading lightly round each, remembering that none of the tribe does well in loose land. A sowing may be made out-of-doors of some variety for summer use, choosing a warm border for the seed-bed. Nothing will be gained by sowing on land that is not more than a degree above the freezing point.

HORSERADISH.—Beds of Horseradish which have become exhausted should, at this season, be thoroughly renovated, and if necessary destroyed, by digging up every particle of root, and a fresh plantation made in a new place. Horseradish may be much improved in size of root, flavour, and tenderness, if good culture be pursued, and the plant considered to be worth a better place than that usually afforded it. In the case of new beds being made, provided the soil is in good condition, it should be trenched to the depth of 2 feet 6 inches, if the staple is deep enough for them, dressing it liberally with rotted manure, which should go to the bottom of the trench. If stiff in working, plenty of leaf-soil and wood-ashes may be mixed with the staple at various depths, which can be done during the trenching. The sets may be planted as the work of trenching proceeds, in that way preventing the trampling of the land. If the soil be dry enough at the time it is dug, I prefer to plant the sets with a dibber, which should be marked so that the holes will be of the same depth; and these may be filled with a light kind of soil after the set is pushed to the bottom. For planting crowns with 2 inches of root attached, make the best plants. These should be inserted 1 foot deep, and will make good "sticks" in two years from the time of planting. Crowns are apt to flower if left intact when planted, and it is best to remove them. A good set should be about the size of one's finger, 3 inches long, and these are to be preferred to smaller ones. Some sets may be planted to come in before the others. These should be of the required length, side-roots being removed except one or two near the bottom-end, and the crown should be sunk only just below the ground-surface. If more than one shoot appears from a set the first year, remove all but one; and the second year, when several shoots will certainly appear, most of them may be removed and used for planting purposes, the central one being retained. Horseradish should be planted in rows of about 20 inches apart, and the plants stood at 7 to 8 inches apart in the rows.

POTATOS.—When the snow has disappeared, a few sets may be planted at the foot of south walls and other warm places. Slight hotbeds, consisting of tree-leaves and stable-litter may also be made for hastening a crop of tubers. These beds may be placed in pits dug out in the ground, or in those with turfen walls or other simple contrivances, hooped over and covered with mats. About one foot of light soil should be placed on them, earthing up being done by adding more soil as it becomes necessary by the growth of the tops. The disused hotbeds make suitable quarters for Vegetable Marrows and for the hardy kinds of Cucumbers.

PEAS.—Owing to the impossibility of making any sowing of Peas out of doors, a sowing should be made in pots or on pieces of turf, preferably the latter; the turf should be of last year's cutting, one foot square, and when sown the grassy side should be turned downwards. A flat, straight board, 5 inches wide, should be laid on a row of these sods in the middle, so as to leave about a space of 3½ inches on either side of an incision made along the edges of the board. These incisions should have a depth of 1½ inches. The soil left in the middle space may then be removed to the depth of the incisions. Place in the shallow furrow thus made a layer of soil from the potting-bench, then sow the seed, and cover with any good soil at hand. Stand the turves on coal-ashes close up to the roof-glass in a pit having a temperature of 40° to 45°. The soil should not be allowed to lack water when the plants are above ground, and air must be admitted on all favourable occasions, thus preparing them for transplantation to the open ground.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

MONDAY, Mar. 11 { Annual Meeting of the United Benefit and Provident Association.

TUESDAY, Mar. 12 { Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster. Horticultural Club.

SHOWS.

FRIDAY, Mar. 15 { Manchester Botanical Society's Show (two days).

SATURDAY, Mar. 16 { Show of Plants, Flowers, &c., at the Crystal Palace.

SALES.

MONDAY, Mar. 11 { Gladioli, Spiræas, Roses, &c., at Protheroe & Morris' Rooms.

TUESDAY, Mar. 12 { Imported Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, Mar. 13 { 50,000 Japanese Lilies, Roses, Greenhouse Plants, Fruit Trees, Gladioli, &c, at Protheroe & Morris' Rooms.

THURSDAY, Mar. 14 { Importation of a New Dendrobe, by order of Messrs. F. Sander & Co, at Protheroe & Morris' Rooms.

FRIDAY, Mar. 15 { Imported Cattleya Mossiæ, from Messrs. H. Low & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42°.2.

Manure for Small Holdings.

We have reason for the belief that the cottagers and others who obtain land under the Parish Councils, will be considerably handicapped in their efforts to obtain good returns for the labour expended on their holdings, owing to the difficulty that will be experienced in obtaining a sufficiency of manure. All, or most of them, will understand the need for manure; the Council's peripatetic lecturers on horticulture will see to that, even should the terms of the letting not insist upon some certain amount of manuring being done annually; moreover, we may take it that, when a cultivator sees his produce lessening in bulk and becoming poorer in quality, he will ascribe the deterioration to lack of fertilising ingredients in the soil, and will do all that lies in his power to supply the deficiency. This may not be so very onerous a task if he resides in or near a large town, or where the cess-pit is not a thing of the past; but in villages, where but few animals, draught or otherwise, are kept, the difficulties are sure to be great. One means of supply is sure to be at hand—we allude here to the cottage slops and closet contents, which, if rigorously saved, either on the Moule system or as a liquid, would be extremely useful. For use in the garden, if at home, the liquid method is, perhaps, preferable, because the distance to be traversed is always small; but the dry earth system (Moule's) furnishes a more portable kind of manure.

The liquid manure should be kept in casks sunk in the ground or not, according to fancy, and furnished with a lid. Into these should go the house slops, soot from the oven flues and the chimneys, trimmings of vegetables, &c.; and when a cask is full, and the contents have fermented somewhat, a little green vitriol (sulphate of iron), should be put into it so as to check further fermentation, and consequently the emission of bad odours.

Those persons in a village who may not be engaged in the cultivation of land in any form could, in some cases, be induced to part with their slops &c., for a small consideration. Amongst others, the village schools, which always furnish more fertilising manures than the schoolmasters require for their gardens, would be enabled, if the dry earth system were adopted, to add considerably to the masters' stipends if they were permitted to dispose of them to allotment holders.

There need be no doubts of the efficacy of the manures obtained by Moule's system, the dry earth being dried and re-used as often as six times, which is quite possible with dry clayey or purely loamy soils, being fully equal in commercial value to one-third of the price of the best Peruvian guano, i.e., that 3 cwt. of the soil from a Moule's closet is equal to 1 cwt. of guano of the best kind. Such was Prof. Voelcker's opinion thirty years ago, when genuine Peruvian guano was obtainable at £12 per ton. As against the so-called guanos of to-day, the proportions would be nearer 2 to 1; and even then the dry earth so manipulated is a very valuable aid to plant growth.

One great advantage of the Moule system in country places lies in the dry earth being a powerful deodoriser, and to a certain extent a disinfectant as well.

The foul cesspool, with its attendant evil of infecting the drinking water if the latter be obtained from a well in the neighbourhood of the former, would cease to exist, and what was once a noisome evil, would become an inodorous source of profit to the cotter.

We would urge on all persons interested in the well-being of the working population in our small towns and villages the proper conservation of the fertilisers ready to hand, which, as is too often the case, are allowed to run to waste or become a source of disease.

Horticulture in Schools.

A very important advance in relation to gardening has just been made by the Education Department, by placing horticulture into the list of class subjects. Agriculture has long had educational recognition, but it was difficult to give to that subject more than theoretical study, valuable to the residents in the rural districts as that may be. Horticulture, that somewhat hard term for gardening, is in very different category, for that does admit of practical study and of demonstration. Already in many directions, and notably in the county of Surrey, school or continuation gardens have been established by the County Councils, and, although not in association with the regular school instruction, or assisted in any way by the Education Department, yet in many cases these groups of gardens have been directed by local schoolmasters, where they have the required knowledge as well as willingness to undertake the duty. Then there has further been the general oversight of the County Council horticultural instructors, so that if but in a limited degree, these gardens have been very helpful in disseminating a knowledge of gardening; and now, for the first time, the Education Department has embodied horticulture in the code of school instruction, and an hour or so per day during school hours, devoted to practical or class instruction in gardening will count as instruction according to the department's requirements; and encouragement is furnished to horticulture in this elementary stage, that is a long way in advance of anything which has previously been done. And yet this new departure, after all, only puts gardening for boys into the same category as needlework or cookery, or laundry-work for girls; so that a boy's claims to obtaining of a wider knowledge of practical work in schools is being but tardily recognised. County Councils and Technical Education Committees have already recognised carpentry and other occupations for lads as a means of developing artisans, but the Education Department has done little, hence the new departure indicates that the department is looking more favourably upon technical instruction as compared with merely academical instruction than has hitherto been the case. We therefore seem to be on the eve of very important changes in the system of education as furnished by primary schools, and gardening presents itself as an admirable beginning.

Alarmists may too hurriedly leap to the conclusion that this gardening instruction in schools will lead to the production of a nation of gardeners. So far as relates to the rural districts, to some extent that may be true, but certainly not of professional gardeners, because these cannot be fashioned in elementary schools. What it is hoped may result is, a wider love for gardening, shared by all classes, hence a wider desire for allotments and gardens; a better appreciation of the work as a vocation in relation to land cultivation, and thus in myriads of ways help to render labour more constant and more identified with the land than it now is. The fact is, so far from being a nation of shop-keepers, we have a far bigger nation behind these, and that is a nation of consumers. Then, the shopkeepers, being the indispensable intermediaries as distributors of products, we want a nation of producers—and of all things, of good food products, such as the land can give us. Thus, the more largely we rear cultivators, the more do we extend our production, the greater the wealth of the community, and the larger the consumption. It is in the hope that some such results may follow, that the County Councils first, and after these the Education Department, have placed gardening into such a prominent position in relation to elementary schools.

Of course, very much will depend on the nature of the instruction given, and the form of supervision to which it is subjected. This latter supervision, it is obvious, cannot be furnished by the purely educational school-inspector. Probably not one of these gentlemen has any practical knowledge of horticulture, and to place the work or instruction under their control would be a mistake. To secure efficient supervision, the department must either provide its own practical horticultural inspectors, or else it must work in conjunction with the County Councils, who have already promoted garden instruction. In that way some tangible and useful results may be effected. Where school committees elect to take up horticulture as a class-subject, they will of course have to find land, tools, crops, &c., and furnish the proper local supervision. All that so far, and especially in Surrey, the County Councils have to some extent done. It is hoped that the work thus admirably performed by these county authorities will not in any way be checked by the action of the Education Department. Rather is it to be hoped that united action may lead to yet greater efforts and better results.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, March 12, in the Drill Hall, James Street, Westminster. Special prizes are offered for Daffodils on this occasion; and at 3 P.M. a paper by Mr. Collenette, of Guernsey, on the "Diseases of Tomatos" will be read.

United Horticultural Benevolent and Provident Society.—The annual meeting of the above will take place at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday, March 11, at 8 P.M., and Mr. G. Gordon will preside.

The Gardeners' Royal Benevolent Institution.—The Duke of Fife, K.T., P.C., has kindly consented to preside at the fifty-sixth annual festival dinner in aid of the funds of the Gardeners' Royal Benevolent Institution, at the Hôtel Métropole, on June 28 next.

Market Gardeners' Compensation Bill.—On Thursday night, February 28, Mr. Channing tried to get the Market Gardeners' Compensation Bill through, but met with disappointing opposition. Mr. Channing's wish was that the Bill should be read a second time, and referred, like Sir Edmund Lechmere's last year, to the Standing Committee on Trade.

Kewites Assembled.—The annual general meeting of the Kew Guild was held on Thursday evening the 28th ult., in the Garden Library, when the annual report was read, and adopted with enthusiasm. The President (Mr. Geo. Nicholson) was in the chair, and there were more old members present than on the last occasion. Many letters were read from distant members, expressing regret at their being unable to attend, and cordially approving the past work of the committee. The manner in which the *Journal* is edited was also the subject of much commendation.

Rose Show Fixtures for 1895.—In addition to those which appeared in our last issue, we have received the following from Mr. E. Mawley:—July 2 (Tuesday), Sutton; 3rd (Wednesday), Farningham. Our correspondent will be glad to receive the dates of other Rose shows than those named above, for publication in future lists.

Horticultural Club.—The usual monthly dinner and conversazione will take on Tuesday, March 12, at 6 P.M. The subject for discussion will be "The Vegetation of the Italian Lakes, especially that of Lago Maggiore," to be opened by Mr. H. Briscoe-Ironside.

The Orange in the United States.—In the great census returns for 1890 now passing through the press at Washington, U.S., there is a section devoted to fruits and nuts grown in the tropical and sub-tropical sections of the States. The acreage and produce dealt with are immense in their proportions, and in this case, at least, figures are made really interesting. The area under the Orange is just now peculiarly interesting, because of the recent great destruction by reason of December's frosts. Now for the figures. The number of acres of bearing and non-bearing trees is 184,003; on this acreage there were at date of census, 3,885,890. The number of non-bearing trees was 9,705,246. As to the value of the fruit product, in 1889 it was 6,602,099 dollars. The estimated number of acres remaining, suitable for planting was 2,260,855; thus there remained to go on with for the next record some 2,076,852 acres.

Weston Horticultural Society, Bath.—Mr. F. Nash, manager to Messrs. G. Cooling & Sons, Bath, gave an interesting lecture at a meeting of this Society on Monday evening, February 25, on "Cottage and Allotment Gardening." There was a

Fig. 40.—Greensward Avenue and Viola-beds near Mansion, at Mount Merrion, Co. Dublin (see p. 303).

good attendance, and the reading of the lecture was followed with close attention. After the meeting a short discussion took place.

Shirley Gardeners' and Amateurs' Mutual Improvement Association.—An extra meeting was held in the St. Deny's Parish Room, Southampton, on Thursday last, Mr. B. Ladhams, F.R.H.S., presiding over a fair attendance of the members. Mr. J. Amys, gardener to the Hon. Mrs. E. Yorke, gave an interesting lecture on "Rotation of Crops for Cottage Gardens and Allotments." A hearty vote of thanks was accorded to the lecturer at the close of the discussion.

Isle of Wight Horticultural Improvement Association.—The monthly meeting of the above was held at Warburton's Hotel, Newport, on Saturday last, when Dr. Groves, J.P., presided over a very good gathering of members, who had attended to hear an address on the "Cultivation of Grapes for Market," by Mr. Barkham, of Haven Street. Mr. Barkham, however, decided to waive the above subject, and to give a few practical hints to amateurs and cottagers on "The General Cultivation of the Vine," this he did in a very lengthy and practical address, for which he received a unanimous vote of thanks. Mr. A. E. Cave, of Newport Nursery, staged a nice group of plants, including Orchids, Ferns, Palms, Dracænas, and two Orange plants in fruit. Amongst the Orchids he had some good types of Cœlogyne cristata Chatsworthii, Dendrobium speciosum Hilli, D. Wardianum giganteum, Cypripedium Boxalli, C. venustum, Lælia anceps Morado, Sophonitis grandiflora, and Oncidium Cavendishianum, for this collection he received the Association's Certificate for Cultural Merit. The Association is making rapid progress, and is receiving the assistance of many amateur and professional gardeners in all parts of the island. During the session, papers will be read on "Forests and Forestry," "Judging Chrysanthemums," "Cultivation of Vegetables," "Tuberous Begonias," "Mushroom Culture," &c.

Flowers in Season.—Some blossoms of Violets of an enormous size, and Cyclamen grandiflora, equally unusual, come from Mr. Smith, West Dean Park, Chichester. We do not remember to have seen larger Violets. The plants of this, the Victoria variety, have been grown in cold frames, with double mats as covering, and some litter put round the sides. The variety should not be mistaken for the Victoria Regina, from which its bloom differs greatly; and in its much longer flower-stalks. The Cyclamens were all from two-year-old plants. Some excellent Primula sinensis fimbriata blooms come from Messrs. B. S. Williams & Sons, Holloway. A fine bloom of the beautiful Camellia reticulata reaches us from a Scotch garden. It is a species too seldom met with now-a-days.

Garden Pictures.—At the present time there is on view at the Fine Art Society's Gallery in New Bond Street, London, a collection of water-colour pictures, by Mr. George S. Elgood, R.I., well worthy of a visit by lovers of a garden. The subjects number seventy-nine, and represent the assiduous work of about two years spent in Italy, France, Spain, Ireland, and England. The subjects of his fancy are those old-fashioned gardens in these islands where broad overflowing borders of hardy perennial plants and annuals, afford great patches of colour so dear to most of us, as well as to the wielders of the brush. When these delightful borders are set off and contrasted with ancient hedges of Yew, Cypress, and Box, and margined next the path with edgings of Box a foot wide, and very suggestive of slugs and other devourers of garden plants, the painter always pleases. We look and admire, but we know all the same that a reproduction of all this old material is unattainable in a lifetime. The battlemented hedge at Rockingham Castle looks every bit as ancient as the yellow-and-grey lichened walls of the castle. As tit-bits of gay borders we may instance those at Abbey Leix, at Clontarf, the mass of Sweet Williams at the Villa Aldobrandini, Frascati, the mass of Moon Daisies (Chrysanthemum maximum) at Palmerston, the masses of unrestrained White Lily in the view of Tangier from the Villa La France. The tall old hedges of Cypress of the villas in Spain and Italy, with sometimes Date Palms or Chamærops Fortunei, with a bed of Phlox, Poppy, Pæonies, or Lilies, to furnish the desired bit of colour, are frequently met with in the collection. The Patio, Generalife, Granada, affords a curious scene of a narrow conduit, with walled upright sides, ending in an open doorway, with only the sky behind, the conduit wall bordered with Carnations, growing in pots, and some Hollyhocks and Oleanders in bloom. We thought how much nicer would have been the first had they not been rigidly staked and tied.

Waterford Horticultural Society.—The annual general meeting of this Society was held on the 27th ult., in the City Hall. Since last year the Society has been strengthened by the amalgamation with it of the Waterford Amateur Cottage and Window Gardening Society. The affairs of the amalgamated association will be conducted by a joint committee and two honorary secretaries, Mr. W. Richardson and Mr. D. Cantwell. It is intended to hold two exhibitions during the present year, one in July and another in November.

Vegetable Assimilation and Respiration.—The *Proceedings of the Royal Society* (vol. lvii., No. 342), published February 20, include papers on No. I, "Experimental Researches on Vegetable Assimilation and Respiration; No. II, On the Paths of Gaseous Exchange between Aërial Leaves and the Atmosphere," by F. F. Blackman. The following conclusions are arrived at:—"1. Under normal conditions, practically the sole pathway for CO_2 into or out of the leaf is by the stomata. Since oxygen diffuses more readily than CO_2 through fine openings, the same probably holds for oxygen and the whole of the gas exchange. 2. Under abnormal conditions, when the stomata or intercellular spaces are blocked, and the surrounding tension of CO_2 is great enough, passage of CO_2 by osmosis through the cuticle may take place. 3. That such closure of stomata as is held to take place in darkness does not prevent the distribution of gas exchange closely agreeing with that of the stomata. 4. That the exhalation of CO_2 in bright light by a leafy shoot in Garreau's well-known experiment is not the expression of any physiological truth for the leaf, but is only due to the imperfections of the conditions; to the presence of immature parts, or of tissues not sufficiently green or not fully illuminated. Mature isolated green leaves fully illuminated, assimilate the whole of their respiratory CO_2, and allow not any to escape from them."

The Red Cedar (Juniperus virginiana)—"Red Cedar is the wood of lead pencils; and practically the wood in all these indispensable articles, at least in pencils of good quality, is the wood of this tree from Florida, where there are great factories belonging to German manufacturers, devoted to cutting up Cedar wood into pencil stock. Every artist in all the civilised world, every man of letters, every school-teacher, all the bankers, lawyers and other men of affairs, the men and women who control the world, and all the school-children who are going to control it, hold every day in their hands a piece of this wood. It would be interesting to know what proportion of these men and women, the most intelligent and best-educated of the human race, knows anything of the origin of these little cylinders of wood, of the character and appearance, and of the name even of the tree that builds them up in its long life of slow accretions." *Garden and Forest.*

Orchids in Brussels.—I noticed in M. Pauwen's establishment that the plant of Cypripedium Chamberlainianum shown last May at the Antwerp Exposition Universelle is still in bloom and bearing buds. Also in bloom were Dendrobium nobile var. Ballianum superbum, three specimens of Cattleya Trianæi Massangeana, all with flowers of the same character, the mid-rib of the divisions widely-marked with purple, the limb feathered and streaked with the same colour. A plant of Cattleya Trianæi bore a large flower of good form and excellent habit, the lip very large, spreading, and remarkable for its beautiful colour. A lovely variety, Odontoglossum guttatum Hyeanum, bore a fine raceme of twelve flowers, pure white, spotted with reddish-purple, the form good and general effect excellent. The rare O. pardinum was also in bloom. *Ch. D. B.*

Reports on American Agriculture.—We have received the following reports relative to American agriculture:—From the United States Department of Agriculture, Washington, *Report No.* 6, on the Fiber Investigations, and devoted to the Uncultivated Bast Fibres of the United States; from the Agricultural College, Michigan, Farm Department, *Bulletin No.* 117, devoted to Millet; from the New York Experiment Station, *Bulletin No.* 76, containing Notes on Strawberries for 1894; from the University of California, Agricultural Experiment Station, Berkeley, Cal., *Bulletin No.* 104, devoted to Investigations of Californian Olives and Olive Oils; and *Bulletin No.* 105, relating to 1, The Canaigre or Tanner's Dock; 2, Australian Salt Bush for Alkali Soils. Also from the University of Wyoming, Agricultural College Department, *Bulletin No.* 19, on Squirrel Tail Grass (*Hordeum jubatum*), one of the stock pests of Wyoming.

Phonography.—We recommend all interested in this study to send to Sir Isaac Pitman, Bath, for a circular "Respecting the Fonografik Improovments" which that most industrious worker is proposing to introduce into the science so indissolubly connected with his name. Like the writer, "I kanot heer enter inter eni pertikulars ov the Improovments," but can only say that they tend to still further simplify phonography to the decipherer without rendering it more elaborate to the writer.

Tea Culture in the Caucasus.—A communication from St. Petersburg states that the Administration of Imperial Appanages having decided to make experiments in Tea planting in the province of Batoum, in the Caucasus, where the climatic conditions are similar to those of the districts of China and Japan where Tea is grown, will despatch a committee of agriculturists this month to northern India, Ceylon, China, and Japan, in order to study the industry, and to bring back Tea plants and Chinese planters in order to make the attempt. The Administration has also resolved to send M. Krasnoff, Professor of Geography at the University of Charkoff, to South America and Mexico, in order to make inquiries as to certain other tropical plants, the cultivation of which would, it is believed, be also practicable in the Caucasus.

Fruit Culture in California.—Mr. Butters has published a lecture read before the Cape Town Chamber of Commerce on the subject of Fruit Culture in California. About half a million acres are devoted to fruit culture, from which 400,000 tons of fruit, or over forty millions baskets of fruit per annum, are yielded on the average. At first the local markets were quite insufficiently supplied, but now the eastern States are also supplied, and all this has been effected by the energy of the planters themselves, the railroad companies being now taught that a great business can be done, the refrigeration process enabling the fruit to be preserved for some time. Chicago, at a distance of 2509 miles, takes a large quantity of the produce. It costs £10 a ton of 2000 lb. for carriage, but not only is fresh fruit sent there, but even to New York, 1000 miles further, 19 000 to 20 000 cars are despatched every season, besides several millions of pounds of dried fruits, and at least one million cases of tinned fruit. Not satisfied with their achievements at home, these enterprising horticulturists are now pushing their goods across the sea into England. They ship their fruit

3500 miles by land, and another 3000 miles by sea. Mr. Butters very appropriately asks why South African fruit should not compete with the Californian, or rather, why it should not stock the markets at the time when Calfornia produces no fruit. The whole story is in sad contrast to the apathy and inertness of our own agriculturists when confronted with bad times. Mr. Butters is very enthusiastic, but not unduly so, and we wish him all success in his crusade, and we heartily sympathise with the zeal and energy he displays in endeavouring to overcome South African inertia, and in showing that fruit culture is a superior investment in the long run to gold mining or diamond digging.

Iris sisyrhynchium, according to Mr. Duthie, is largely used for fodder in Baltistan, where also Iris kashmiriana of Baker is used for planting over graves.

Botanical Magazine.—The plants illustrated in the March number are—

Heptapleurum venulosum var. Erythrostachys, t. 7402.—A tall stove-shrub of the Aralia family, with stalked peltate-digitate leaves, the segments stalked, oblong acuminate. The small red flowers are in terminal, much branched clusters.—Kew.

Disa sagittalis, t. 7403.—A South African terrestrial species, with terminal racemes of cream-coloured spurred flowers. The two pollen masses are coherent.—From the garden of H. J. Elwes, Esq.

Veronica loganioides, Armstrong, t. 7404.—A dwarf shrub, with ascending pilose branches, small ovate-acute leaves, closely crowded in four rows. Flowers in clusters at the ends of the branches, white.—New Zealand. Flowered at Kew and Edinburgh.

Weldenia candidas, Schultes, t. 7405.—A remarkable Mexican Commelynad, with linear-lanceolate leaves thinly beset on the upper surface with little tufts of white hairs. The white flowers are in the axils of the uppermost leaves. Each has a 5 fid puberulous calyx half the length of the slender corolla-tube, which ends in three broadly ovate or suborbicular leaves. The tubers of this plant were found by Mr. Gosling at the bottom of the crater of the Volcan de Agua. Mr. Gosling planted the bulbs in his garden at Guatemala, 9000 feet lower than the spot where the tubers were found. The daily range of the thermometer in the city of Guatemala is from 9° to 22° C. (48° to 71° F.), and in the crater of de Agua it is from 6° to 11° C. (21° to 51° F.)—The tubers were received at Kew, and flowered in a cool greenhouse.

Schinus dependens, Ortega.—An Anacardiaceous spring shrub, with small ovate-acute leaves, in the axils of which are produced short clusters of yellow flowers. It is a native of subtropical and temperate western South America. It is hardy at Kew.

Nymphæa Culture.—We gave our readers, in our issue for February 23, an account of an interesting experiment in the commercial cultivation of tropical species and varieties of Water Lilies carried out by the brothers Harster at Speyer. Those of our readers who are acquainted with these plants will have wondered by what means the cultivators have overcome the property of the blooms to close at eventide, and thus render them useful and enduring articles for bouquets and other floral devices. It consists of a minute spray-apparatus, by means of which a few tiny drops of water are carried to the bottom of the very spongy part of the bloom, bringing the movements of the protoplasma to a standstill. The absorption of water is not put a stop to by cutting the bloom from the plant, and all the properties which it possesses in the fresh state are preserved. This is an interesting process, whose further development in the florist's art is of great importance, as the retention, for instance, of the half-opened forms of Roses, Tulips, Pæonies, &c., may be easily preserved. The flowers are neither killed, conserved, nor coloured, but retain all of their natural attributes, except the ability to close their petals. The species and varieties which have proved the most profitable under cultivation are:—A. Those that flower at night, viz., N. amazonica, white, large-flowered; N. Ortgiesiana rubra, rose-red; and N. hybrida Rheinnixe, raised by Harster, large-flowered, light rose-coloured. B. Those that flower during the day, viz., N. cyanea, light blue; N. zanzibarensis, varying from light to dark blue; N. z. rubra, wine-red; N. z. rosea, rose; and N. Marliacea chromatella, canary-yellow.

Great Quinquennial Bulb Show at Haarlem.—We are indebted to the kindness of Mr. E. H. Krelage for the following timely notification of a big event at Haarlem. The fifth great quinquennial bulb show will be held by the Royal Bulb Society of Haarlem from March 22 to 26 inclusive. The competition is open to members of the society only, and will therefore be the more severe, as most of the leading firms of the famous bulb district are among the intending exhibitors. The schedule of prizes consists of 132 entries, viz., twenty for Hyacinths, twenty-two for Tulips, twelve for Narcissi, the others being devoted to all kinds of bulbs and bouquets. Among the medals offered, there are twenty-five of gold, some hundreds of silver-gilt, silver, and bronze, besides extra prizes. The Judges are experienced bulb-growers chosen from among those who will not exhibit, and in a number of entries the judging system by points will be applied. The rules for this manner of judging were given in the programme of the show, and are known therefore by the intending exhibitors. The show is to be held in the large music-hall, which adjoins the Vereeniging Club at Haarlem, and will be opened at 1 p.m., on March 22. Intending visitors from abroad will be heartily welcome, and may find this an exceptional occasion for comparing the various growers' strains, and for observing the advances made in bulb culture during the last five years. Especially the classes for miscellaneous bulbs will prove of great interest and completeness.

Gold Coast Botanic Station.—The progress made in establishing a botanic station at Aburi on the Gold Coast, has been noticed in the *Kew Bulletin*. The site is in the hills, at an elevation of about 1400 feet, overlooking the seaboard near Accra and Pram Pram. In addition to its suitability for the growth of economic plants, Aburi is a valuable sanatorium for European invalids. The locality has been greatly improved of late years, and it promises to become the centre of activity for many cultural industries started by the Botanic Station. The progressive development of the station is described in the *Kew Bulletin*, 1891, p. 169; 1892, pp. 14 and 297; 1893, pp. 160 and 365. During the winter of 1893-94, Mr. William Crowther, the Curator (appointed in 1890), was deputed to visit the West Indies "to observe the system pursued there in the cultivation of economic plants, and to bring back such useful seeds and plants as might with advantage be introduced to the Gold Coast." Mr. Crowther very successfully carried out the object of his mission, and published a detailed report (*Kew Bulletin*, 1894, p. 227). Since then the work of the Aburi Station has made excellent progress. The inception, as well as the actual work, so far accomplished in botanical enterprise at the Gold Coast is entirely due to the Governor, his Excellency Sir William Brandford Griffith, K.C.M.G. He has given warm and consistent support to the station, and personally encouraged in every way the efforts of the Curator. Coffee, Cacao, Rubber, and other tropical plants are grown.

Bradford Paxton Society: Annual Dinner.—The annual dinner of the Bradford Paxton Society took place on Thursday, February 28, at the Market Tavern Hotel, Godwin Street. Between seventy and eighty members and invited guests sat down, the company including delegates from kindred societies at Batley, Wakefield, Morley, and Leeds. Mr. R. Eichel (president) was in the chair, and Mr. J. Collier occupied the vice-chair. From the report read by Mr. H. R. Barraclough, the hon. secretary, it appeared that the membership had increased during the past year to the number of twenty, bringing the present total up to eighty-nine. The papers read during the year had been of a high order, affording much information, especially to young gardeners. The adoption of the report was moved by Mr. Collier, and seconded by Mr. Myers. Among the toasts given was that of the "Bradford Paxton Society," proposed by Mr. J. Spencer, and responded to by the President, both speakers referring to the educational nature of the work of the Society; "Kindred Societies," proposed by Mr. Thomas Bull, and responded to by delegates from Wakefield and Leeds; and "The Essayists," proposed by Mr. Kershaw, and acknowledged by Mr. B. Spencer.

Cape Fruit.—The other day the R.M.S. *Scot* arrived at Southampton with 726 boxes of fruit, consisting of 483 boxes of Grapes, 130 boxes of Tomatos, 80 cases of Apples, 21 boxes of Pears 9 boxes of Chillies, and 1 box of Gooseberries.

Dundee Horticultural Association.—At the Technical Institute, Dundee, on Tuesday evening, the 5th inst., Mr. J. Simpson presiding, Mr. A. Innes, of Hallyburton Gardens, Coupar Angus, read an instructive paper entitled "A Melon-house and a Few Frames." He gave structural details of a Melon-house, and followed with the culture of the Melon. He also remarked on the various uses the house could be put to when the Melons are not occupying it, viz., cultivating French Beans, Freesias, and raising vegetables from seeds. He also gave, in a concise manner, the culture of double and single flowered Violets in cold frames. Mr. Innes exhibited two pots of Freesias, some French Beans, Mushrooms, Onions, and three varieties of double Violets. A long discussion followed; and a vote of thanks to the chairman and the essayist were given.

Ayrshire Gardeners' Mutual Improvement Association.—The first of a series of lectures, under the auspices of the Ayrshire County Council, was delivered by M. W. Williamson, Tarvit Gardens, Cupar, in the Carrick Street Hall, Ayr, on Monday evening last, the subject being "Hardy Fruit." Mr. Williamson, in the course of his lecture, treated upon all hardy fruits of importance to Scotland, suggesting rules for their cultivation. It was gratifying to see the hall so well filled. The next lecture takes place on March 11, when Mr. M. Temple, Carron Gardens, Falkirk, will lecture on "Vegetables."

Cambridge Horticultural Society.—The annual meeting was held at Cambridge on the 27th ult., when the election of officers for the coming year and other business was duly carried out. The report showed an adverse balance of £35, all debts had been paid, except a liability to the bankers of the sum named. It was resolved unanimously to hold three exhibitions during the present year, and suggestions were made respecting amalgamation with other societies in the town.

MOUNT MERRION (CO. DUBLIN).

Mount Merrion House stands on a gently-rising hill-side, about five miles from Dublin, and a lesser distance from Kingstown Harbour, and it belongs to the Earl of Pembroke, who, however, does not reside there, although he is a frequent visitor, and takes a deep personal interest in his tenantry. The extensive and valuable suburban property, known as the Pembroke estate, extends from Dublin to Merrion, and includes several miles of foreshore in this rich and beautiful district, of which the Earl of Pembroke is the owner. Of course, it is well known that the celebrated "Strongbow," the romantic and warlike son of Gilbert de Clare, the first Earl of Pembroke (A.D. 1149) was the first of his line to enter the annals of Irish history. "Strongbow" went to the assistance of Dermot, the then deposed King of Leinster, in the year 1169, and having reinstated him in power, he espoused the beautiful Eva, the King's daughter. The important picture by D. Maclise, R.A., of "The Marriage of Strong-

bow and Eva," is now in the National Picture Gallery at Dublin, where it is much admired. On the death of King Dermot himself in the year 1170, "Stongbow" succeeded him, and dying six years later was buried in Christ's Church Cathedral in Dublin, the Archbishop St. Laurance presiding at the ceremony. His wife Eva had only one daughter, named Isabella, who gave her hand with the earldom of Pembroke, and vast estates, to William Marshal, son of John the Marshal of the court of King Henry the Second.

In more recent times Mount Merrion belonged to the Right Hon. Sidney Herbert, well known for his State services during the Crimean war, and whose statue by Foley, now stands before the War Office in Pall Mall.

Mount Merrion is approached from the Dublin main road between Booterstown and Blackrock, by a superb avenue of great width and 1 mile in length, fringed with trees and villa residences, and extending from Mount Merrion itself to the public park at Blackrock, which overhangs the shores of Dublin Bay. The whole district is bright, mild, and salubrious, and vegetation of all kinds is luxuriant in the district. Many of the roadsides in this locality are densely carpeted with Tussilago fragrans, an Italian immigrant that has quite naturalised itself; and Merrion Avenue is especially redolent with its Heliotrope-like odour every winter and spring. Inside the entrance-gates there is a fine avenue of Elm, Lime, and Beech trees, and the park is rich in Ash, Horse Chestnut, and Sycamore trees of considerable size. The house of Mount Merrion is a neat and unpretending structure, snugly covered with Ivy and other creepers, and the oldest portions existent are of the time of Elizabeth. On the slope behind the house is a grove of Beech, Scots Fir, and other trees, having walks radiating from the centre; and fine views of Phœnix Park, Chapelizod, and Dublin, are obtainable from the higher ground, Howth Head, with the blue waters of Dublin Bay, being a familiar and beautiful feature on a clear day. From other elevated points views are obtained of the Dublin and Wicklow ranges, including the peak of the Sugar-loaf Mountain.

There are broad breadths and sweeps of lawns and noble trees, and a large kitchen garden with wall and other fruit trees, and extensive ranges of vineries, Peach-houses, greenhouses, conservatory, &c., all richly stocked and in good condition. Near the house are several fine evergreen Oaks (Quercus Ilex), and inside the garden gate there is a noble pair of the Chusan Palm (Chamærops excelsa), the tallest one being in fruit, and about 12 feet in height. The variegated New Zealand Flax (Phormium Colensoi variegatum) is 8 to 10 feet high, and it flowers and seeds freely; and there are splendid specimens of Fatsia (Aralia) Sieboldi, Griselinea littoralis, Smilax aspera, and varieties of female Aucubas, laden with berries; while the New Zealand Cordyline (Dracæna) australis (or D. superbiens) attain considerable dimensions, and have flowered here. On a bit of turf near the vineries, there are two fine old Mulberry trees with enormous heads, their wrinkled trunks being about 6 feet in their circumference. The bedding-plants and ribbon borders were formerly a great feature here, and even yet add a glow of colour to the wealth of green grass and climber-laden walls, as shown in our illustration (fig. 40). The little wood or grove here, near the house, is the only known Irish habitat of the grass Hordeum sylvaticum, it having been discovered here some years ago by Mr. John Bain, A.L.S. Some of our readers may also remember the magnificent specimen of the Californian Pitcher Plant (Darlingtonia californica), as grown here by the late Mr. Duncan Welsh some years ago, and figured in these columns at the time from a photograph kindly made for us by Mr. Greenwood Pim [which we reproduce (see fig. 41). Ed.].

Scarcely anywhere else so near to Dublin can a more pleasant visit be paid than to the well-kept gardens and demesne of Mount Merrion, and it is a great boon to the public that its noble owner, and Mr. Fane Vernon, his representative, admit visitors freely every Saturday during the season. The gardens and grounds are under the zealous care of Mr. Hugh Crawford (whose Chrysanthemum blooms gained the principal prizes at the Dublin Show in 1894), and whose invariable attention and courtesy to visitors is well known and much appreciated. *F. W. Burbidge.*

Home Correspondence.

WILLIAM HURST PEA: A COINCIDENCE.—The meetings of the Devon and Exeter Gardeners' Association are, by permission of the Mayor, held in the Council Chamber of the Exeter Guildhall, the walls of the chamber being adorned with historic portraits of famous mayors and conscript fathers of the Town Council of a bygone age. At a recent meeting—the paper down for discussion being one on early vegetables — William Hurst Pea came in for an exhaustive and favourable criticism. About the time the Pea was sent out by Messrs. Hurst and Son, it was for a season grown at Newton Poppleford, in Devonshire, and when it was sent out, American gardeners were the first to recognise its value, it falling rather flat the first year of its trial in England, though it has since taken a prominent position. The coincidence of such a discussion taking place in that particular room was remarked by the Secretary, Mr. Hope, who called attention to the fact that here was a life-size and probably life-like presentment of William Hurst, looking calmly upon their proceedings. This William Hurst, who died in 1568, at the ripe old age of ninety-six, had the probably unique honour of being five times Mayor of the ever-faithful city — her motto being "Semper fidelis." This worthy progenitor of the Hurst family founded and endowed an almshouse in the east end of Exeter. *A. H.*

DUKE OF YORK AND URIAH PIKE CARNATIONS.—We notice in your issue for February 16 what Mr. J. Douglas, writing of Tree Carnations, says of the varieties Duke of York and Uriah Pike. With us Duke of York is equally free-flowering, especially in winter; in fact, it is the quicker of the two in opening its flowers in the dull days of mid-winter. Uriah Pike is a beautiful deep crimson, several shades darker than the former, and some would probably prefer its colour; but for size and "high-built shape" of bloom, Duke of York holds the premier position. The two varieties are unquestionably the finest crimson perpetuals ever sent out, and are favourites with both market growers and the public. *C. C.*

CYPRIPEDIUM DAUTHIERI.—I see in your number for February 9 mention is made of a particoloured C. Dauthieri, which has appeared among the orchids at Clare Lawn, East Sheen. This resembles one which bloomed with me on January 23, 1892. In mine, the upper sepal had the left half greenish-

Fig. 41. Darlingtonia californica, as grown at Mount Merrion (see p. 303).

yellow, the other purple. The left petal was purple, but somewhat lighter in colour; the right being greenish-yellow, slightly shaded with vinous-brown; the lip yellow. A more remarkable variety was that which flowered in the preceding January, and was named by Mr. N. E. Brown in the *Gardeners' Chronicle*, April 4, 1891 (p. 426), in which the whole flower was almost of one colour of greenish-yellow, the lip being more yellow, the upper sepal more green. These varieties continue to flower. The first I named var. Janet Ross, the second was named var. Poggio Gherardo. *H. J. Ross, Florence.*

EUCHARIS GRANDIFLORA. — When looking through the gardens of Edward Skeffington Smith, Esq., Leix Manor, Portarlington, Queen's County, recently, I saw one of the best-flowered collections of Eucharis I have ever seen. The plants were all in 12 inch pots; each pot carried an average of twenty spikes, upon each of which there were from six to eight exceptionally large flowers, and the foliage was very luxuriant. The plants had been grown in a cool stove, and liberally fed with manure-water. Orchids are also well grown here, and the whole place reflects great credit upon Mr. Horrell, the able head-gardener. *Anglo-Hibernian.*

Fig. 42.—DARLINGTONIA CALIFORNICA IN FLOWER.

SQUIRRELS.—"Adversity introduces us to strange companions." I have been forcibly reminded of this during the late inclement month, and, although my windows have constantly been visited by the usual small birds, blackbirds have never before approached so near. A squirrel came once, and, to illustrate how very hard pressed they were for food, to my great surprise I found them making raids on my heap of Parsnips (grown for cows); they came to feed in numbers, and not only to feed, but actually carried away large roots. The other day one attempted to carry a root up a tree, and it was most amusing to watch his efforts, carrying his load in front of him for about 2 feet; being overpowered by its weight in his ascent, he let it drop, but seized it again, and tried going up backwards, dragging it after him. This method also failing, he became frightened, and ran away. On weighing the Parsnip I found it turned the scale at 5 ounces. Since then I have observed one of these little rogues labouring along the grass with a root 11 inches long, 8½ inches in circumference, and weighing 8 ounces, which he had dragged over rough ground more than 100 yards. I have long known what robbers squirrels are of nuts, Apples, Strawberries, and other unconsidered trifles, but never before knew them to attack my cows' winter food. This year, however, my knowledge of natural history has received a severe shock, for I was under the impression that, to a certain extent, squirrels hibernated like dormice in the winter. I now find that I am wrong, and that they are not, like Rip Van Winkle, residing in Sleepy Hollow, but certainly live in Wide-awake Villa, for these merry little creatures may be seen plundering my Parsnip heaps from early morning until night. "But though they rob me, I cannot kill them." *Charles Noble.*

TREES SPLIT BY FROST.—During the late frost the Spanish Chestnuts and English Oaks have been split to an alarming extent. I find the damage has principally occurred to trees of moderate age, say 60 to 70 years; in some cases the fissures were 6 to 9 inches deep. One case is very curious: an Oak is split almost exactly into four quarters. In most cases the fissures are closed, but the marks are distinctly visible. *Charles Noble.*

GRAPE-VINES IN POTS *v.* PLANTED CANES (see *Gardeners' Chronicle*, p. 176).—All credit to Mr. G. Wythes for communicating his system, but I must certainly say he loses a year by planting out. We have here in Sweden, generally during the months of November, December, and January, very dark unfavourable weather for Vine forcing, and it is needless to think of such a thing without light to help us. Our Vines in pots are fruited after the first year's growth, and have always as yet, given us quite as good a result as Mr. Wythes mentions, viz, eight bunches to the Vine. The weight of fruit usually exceeds the weight of the pot and the soil it has been grown in. Mr. Wythes wisely observes that well ripened canes must be used. I have never had any difficulty in ripening canes grown on during the summer close to the glass and in 10-inch pots. They are placed on the pipes in our Pine-pit, about Feb. 15 or 20, and I have no difficulty in cutting ripe Grapes if the weather be favourable at the end of May, and am never later than the beginning of June. Of course, I allude to early varieties, but the later sorts, treated the same way, are quite as good for forcing, and are extremely useful a few weeks later. *James Loney.*

PROPAGATION OF FICUS ELASTICA.—Your correspondent, "J. D. G.," in the issue of March 2, in regard to the above subject by means of cuttings, appears to fail to grasp the utility of the method in question. Certainly every bud will form a plant if time and space can be allowed, and a large number is wanted. If a sufficient number of tops can be obtained, this does away with the necessity of utilising every bit of a plant. Where a great many are wanted, means have to be taken so as to increase the stock in the manner you describe. The assumption that a plant is devoid of most of its leaves before propagation is undertaken is not right, for I should hesitate to take off a cutting of that length from a plant that had been weakened by the loss of its lower leaves, as the few remaining leaves would most likely fall off before the cutting was rooted. When a plant has got too tall for the house in which it is standing, it is no "waste of good material" to take the growing tops and strike them, thus making useful plants in a short space of time. Some of these tall plants have three good leaders, which will be taken off at the first opportunity and treated in the successful manner described, and by this means there is a very acceptable saving both in time and space. *W. Sharpe.*

MR. STEVENS' NEW STRAWBERRY.—Being in the neighbourhood of Mr. Stevens' place recently, I was induced to inspect his new Strawberry-plants, and was astonished to see so many ripe Strawberries on them so early. I can confirm all that you said of his seedling; but, in fact, to fully appreciate its excellent qualities as an early form it must be seen at home. The plants are so nearly all alike well cropped with fine fruit, that there is little choice in getting one better than another. As you say, the foliage is remarkably small and dwarf, that they scarcely cover the 6-inch pots the plants are grown in, and they are certainly not more than 3 inches high. To look at the plants one would think that they had never thrown up a single leaf during the time they had been forced into flower, and produced their fine ripe fruit. I never saw a better lot of Strawberries so early in the season, and it would no doubt be of interest to your many readers for Mr. Stevens to afford some account of the origin of his seedling, and his manner of treatment. *R. Inglis, Abbots Leigh, Sussex.*

—— I can fully confirm your estimate of the fine qualities of this variety, having seen the plants several times this season at their various stages. In the first week in February I never saw such a crop of Strawberries before grown in pots, not even in the month of April. Plenty of the plants carried from ten to fifteen fine fruit, some of which weighed one ounce apiece. There are 4000 plants now to be seen in flower and fruit, and scarcely any failures amongst them. The foliage is very small, scarcely enough to cover the pots. The plant is a free setter, and its trusses are carried well above the foliage. Mr. Stevens told me that he used nothing but soot-water for watering the plants. *W. Richardson, Hassocks Nursery, Hassocks.*

HILL'S "EDEN."—Just a few lines in reference to Mr. Douglas' note of last week under this heading. Dr. John Hill based his title of Sir on his membership of the Swedish order of Vasa, an order apparently founded to commemorate the memory of Gustavus Vasa. Presumably, there is no doubt about Hill's having been elected to the order of Vasa, but of what value the order was it is difficult, at this distance of time, to come to any definite conclusion. Hill was a man of extraordinary versatility, but he wrote too much. Dr. Johnson described Hill as "an ingenious man," and "a very curious observer;" and further, "if he would have been contented to tell the world no more than he knew, he might have been a very considerable man, and needed not to have recourse to such mean expedients to raise his reputation." Hill quarrelled with nearly everybody, attacking most virulently those who had been patrons and friends. Garrick's epigram is well known:—

> "For physic and farces, his equal there scarce is,
> His farces are physic, his physic a farce is!"

The most complete account of Hill and his seventy-six (!) publications with which I am acquainted appears in the *Dictionary of National Biography*, vol. xxvi., pp. 397 to 401. Hill was unquestionably a charlatan, but it is just as well to remember that the eighteenth century was an age of empiricism, and "Sir" John Hill was not a much greater humbug than many of his contemporaries who held their

heads very high, and regarded themselves as very learned individuals. Posterity, if it has not appraised them all at their own valuation, has been a trifle too hard on Hill. *W. Roberts*, 86, *Grosvenor Road, S.W.*

—— Hill received the order of the Polar Star from the King of Sweden as a reward for a copy of the very last of his literary ventures, to wit, *The Vegetable System*, in twenty-four volumes, illustrated by 1600 copper plates. Henceforth he styled himself Sir John Hill. His diploma as a doctor was received from the college of St. Andrews. He is mentioned by D'Israeli as a literary impostor, though he seems to have been an educated man of unwearied application to business, however shady in character some of the latter may have been. He was the butt of epigrammatists, and as he wrote about almost everything, he laid himself open to the attacks of the wits. Dryden's lines to Milton, commencing—

"Three poets, in three distant ages born,
Greece, Italy, and England did adorn,"

was parodied thus—

"Three great wise men in the same era born,
Britannia's happy island did adorn,
Henley in care of souls, displayed his skill,
Rock shone in physic, and in both, John Hill;
The force of Nature could no further go,
To make a third she joined the former two."

Henley was a religious quack, and to Rock is attributed the saying, that of twenty men, nineteen are fools, the latter of whom he secured as his prey while the regular physicians secured the twentieth, as theirs. Lord Bute appointed Hill as the first Director of Kew Gardens. He died of an attack of gout in 1775; and as a tincture he sold was warranted a specific for that disease, occasion was given for these, the last lines written upon Hill—

"'Poor Doctor Hill is dead! Good lack!'
'Of what disorder?' 'An attack
Of gout! Indeed! I thought that he
Had found a wondrous remedy.'
'Why, so he had; and when he tried
He found it true—the doctor died!'"

R. P. B.

[The correspondence on Hill must now cease. Ed]

MUSICAL SEEDSMEN: A SUGGESTION.—A year or two since, I believe, a cricket match was played on the Crystal Palace ground for some charitable object. I have not, unfortunately, the needful reference to hand just now that would supply a record of the success of that venture, but I surmise that a musical entertainment would eclipse that effort, if given at a suitable period of the year, at either the Palace or the Aquarium, in conjunction with one of the Royal Horticultural Society Shows. A leading provincial firm has very nobly undertaken three consecutive dramatic performances, at all of which they have been successful, and have thus augmented the funds of three deserving local charities. If such a result is attainable amongst a limited number of seedsmen's artistes, what success might not be achieved by seedsmen selected from north, south, east, and west? I should be delighted to see some further correspondence on this matter, as I am convinced that gardeners and the general public would patronise the venture in large numbers. The artistes employed should be required to furnish credentials to the elected secretary as to their representative merits as vocalists or instrumentalists. All performers, I would suggest, should be *employés* of the seed trade proper, which would be the means of cementing together its present isolated and disjointed members. I cannot, in conclusion, refrain from reiterating my conviction that a substantial sum might from such means be placed at the disposal of the Gardeners' Benevolent Fund, or other horticultural charity. *Musical Seedsman.*

STRAWBERRY LA GROSSE SUCRÉE.—In the *Gardeners' Chronicle*, p. 409, vol. i. for 1877, you published a note from me in reference to the above. I then spoke of its being with me more free setting and fully a week earlier in ripening than Keen's Seedling. Each year since we have grown the variety in question, and have generally had similar results to those first recorded. On some soils La Grosse Sucrée grows badly, hence there is a difficulty in getting good runners for early forcing. In such cases, of course, it will not be wise to use it. Those of your readers who have not tried it, I would certainly advise them to do so. I enclose a few fruits as a fair sample of others picked the end of last week, that you may see they weigh fully three-quarters of an ounce each. *H. J. C. Grimston, Tadcaster.* [Our correspondent sent two fine fruits, quite ripe, and highly coloured, in support of his statements. Ed]

TOMATO CULTURE.

(*Continued from p.* 134.)

The particular form in which to apply the various articles of plant-food to the Tomato, as well as the special association in which they may be applied, exerts quite a decided influence, not only on the quantity of the crop grown, but also upon the quality of the fruit.

A due consideration of the character and amount of the existing available plant-food of the soil, and some definite information in regard to the composition of the Tomato plant and fruit, ought to guide the gardener in the selection of the kind and the quantity of the different manurial substances he uses. To assist in this matter the following analytical data is given, which illustrates the chemical composition of the ashes or mineral ingredients of the Tomato fruit, with selected constituents in the ashes of the Tomato bine (stems and leaves), and also of the plant roots.

Percentage Composition of the Ashes of Tomato Fruit, Tomato bine, and Tomato Roots.

Constituents.	In the Fruit.	In the Bine.	In the Roots.
Potash	27·00	16·67	2·48
Soda	10·39		
Magnesia	8·21		
Lime	12·10		
Phosphoric Acid ...	18·58	23·33	0·51
Sulphuric Acid ...	4·86		
Silica	12·36		
Iron Oxide	3·96		
Chlorine	2·54		
	100 00		

According to calculation, we find the Tomato requires for the development of its various parts, the amounts of fertilising materials per ton of produce as shown in the following table:—

Selected Constituents in 1 *ton of Fresh Produce of Tomato Fruit, Tomato bine, and Tomato Roots.*

Various Parts.	Nitrogen.	Phosphoric Acid.	Potash.
	lb.	lb.	lb.
In fruit	3·58	1·12	6·05
In bine...	7·17	1·57	11·20
In roots	5·38	1·33	6·50
Mean	5·38	1 34	7·92

The data thus given shows that about $5\frac{3}{8}$ lb. of nitrogen, $1\frac{3}{8}$ lb. of phosphoric acid, and nearly 8 lb. of potash is taken up from the soil by each ton of fresh Tomato produce yielded, provided these were grown in equal quantities of fruit, of bine, and of roots, although in reality we know there would be the greatest bulk of stem and leaves.

The figures show that the bine portion of the plant is the largest consumer of manurial ingredients, whilst the roots take up and retain in their tissues about a mean quantity between that of the fruit and of the stems and leaves.

A close examination of the foregoing data further reveals the fact of the remarkable variations in regard to the relative proportions of these essential elements of plant-food—nitrogen, potash, and phosphoric acid—in the different organs of the Tomato-plant.

Now we know that a productive horticultural soil implies, for various reasons, the presence of decaying vegetable matter; this condition is secured either by a direct addition in the form of stable or farmyard-manure, or by some other vegetable refuse material, such as leaf or turf-mould. An excessive accumulation in the soil of either animal or vegetable matter, or both, is apt to turn the soil into a breeding-place of injurious parasitic growths. For this reason it is not advisable to secure a liberal supply of the various essential articles of plant food by the use of an exceptionally large quantity of stable manure, or of any organic refuse material of a similar character.

A moderate use of these substances, supported by a proper addition of concentrated commercial articles of plant-food, for the purpose of rendering them complete fertilisers, deserves in the majority of cases, and particularly in the cultivation of the Tomato, commendation on account of the directness and certainty with which we can reach the object in view.

Let us ask, does stable manure contain the important food materials—nitrogen, potash, and phosphoric acid—in relative proportions, which correspond exactly to the food requirements of the Tomato?

In moderately-decayed and good stable or farmyard manure, there are 120 parts of potash to each 100 parts of nitrogen, with 60 parts of phosphoric acid to each 100 parts of nitrogen. It is known that the nitrogen of stable manure exists in very different conditions.

That due to the urine of the animals will be the most readily available, that in the finely comminuted matter in the fæces will be much more slowly available, whilst that in the straw or litter will be still more insoluble; hence, the reason of the small proportions of plant-food that is at once effective in stable or farmyard-manure, and the very large amount that accumulates within the soil in a very slowly available condition.

Turning now to the composition of the Tomato, taking the whole plant, there are the following proportions of nitrogen, potash, and phosphoric acid, viz, 147 parts of potash to each 100 parts of nitrogen, with 25 parts of phosphoric acid to each 100 parts of nitrogen. There is, therefore a very great difference in the proportions of these ingredients supplied by stable-manure to that which is required by the plant. And we find that in the matter of potash, dung is particularly deficient, for whilst the Tomato plant assimilates 147 parts of potash to each 100 parts of nitrogen, the dung only provides 120 parts of this ingredient to each 100 parts of nitrogen.

And now we ask—What must the gardener do, if he wishes to employ manures of commerce in part to replace or to increase the constituents and activity of farmyard manure? The answer is, that he must supply the plants with the most important food materials in a readily soluble and rapidly acting form. In numerous experiments which have been conducted with the Tomato, it has been found that the addition of nitrogenous manures such as guano, nitrate of soda, or sulphate of ammonia to mineral manures, especially potash and phosphoric acid, in some cases has more than quadrupled the produce.

Superphosphate is particularly helpful in encouraging the feeding roots of the plant. Indeed, the results so far obtained amply demonstrate that, great as is the capability of luxuriance of the Tomato plant, its full development and productiveness is pre-eminently dependent on full supplies of soluble food, especially of potash by manure.

Looking at the constituents of the Tomato-plant and its manurial requirements, we learn that a liberal supply of nitrogen and potash, in the absence of a corresponding proportion of phosphoric acid, tends to retard the timely maturing and ripening of the fruit, whilst it is not less recognised that a too-liberal supply of lime in the soil favours in an exceptional degree the growth of leaves and stems. *J. J. Willis, Harpenden.*

JEAN FRANÇOIS BOURSAULT.

Everyone knows the Boursault Rose, of a race of hardy climbers, whose parent is the European Rosa alpina, although probably very few people know much of the man, once a conspicuous character in

Parisian life, whose name it now best commemorates; and we are glad of the opportunity to publish some facts concerning him, for which we are indebted to our correspondent, Monsieur Edward André of Paris.

Jean François Boursault was born in Paris in 1752; or, according to the *Dictionnaire Larousse*, toward 1760, and died in Paris in 1842. He was the great-grandson of Edme Boursault, a poet and author of some celebrity, and the son of a linen-draper in easy circumstances of the Quartier des Innocents. Boursault early left Paris to follow a band of travelling players, making for himself some reputation in his earliest *rôles*. Admiration for his ancestor, the dramatic author, influenced his choice of the theatrical profession, and out of respect to the memory of his name, which he did not want to run the risk of having hissed, he adopted that of Malherbe, which he retained as long as he continued on the stage. Boursault established a French theatre at Palermo, but being unfortunate, and his affairs involved, he took advantage one day of King Ferdinand's passing to throw himself into the sea. This excellent method of getting his head above water, as a wit of the time remarked, succeeded admirably. A crowd collected, the curiosity of the king was excited, and Malherbe, who had been fished from the water, was brought before him. The actor described his miserable condition in such a dramatic manner that the sympathy of the king was moved, and he gave him money enough to pay his debts. Returning to Paris at the beginning of the Revolution, Boursault plunged into the movement with enthusiasm, but soon afterwards returned to the stage, and had built for himself in the passage des Nourrices, between the Rue St. Martin and the Rue Quincampoix, a theatre which he called Théâtre Molière. In 1806 Boursault changed the name of his theatre, which he now called Théâtre des Varié és Étrangères, and undertook to play Shakespeare, Schiller, Lope de Vega, &c., an undertaking which soon failed. Next we find him engaged in cleaning the streets of Paris. His street-cleaning contract and the gambling-houses, which he obtained control of later, made him immensely rich, and he became known for his taste in horticulture and his collections of plants. The garden of his villa in Rue Blanche and his gallery of pictures were among the most famous in Europe. He collected in his hothouses the rarest plants of the two hemispheres. In 1830 he bought for three millions of francs the Salle Ventadour, and became Director of the Opéra Comique. This venture was not successful, and he was on the point of failing, but eventually was able to save his fortune. After this, with the capriciousness of old age, Boursault sold his famous gallery, pulled down his hothouses, which were the richest and best stocked in France, and perhaps, in Europe; destroyed his park, building on its site two rows of houses, which now form the Rue Boursault. This was his last fantasy and his last undertaking, for he died shortly afterwards, leaving a large fortune.

Obituary.

Mr. R. B. Laird.—The death occurred on the morning of Monday, March 4, at Dundee, of Mr. R. B. Laird, senior partner of the firms of R. B. Laird & Sons, nurserymen, Edinburgh, and W. P. Laird & Sinclair, Dundee. An affection of the heart, which unexpectedly showed itself, was the cause of death. Born at Balgone, North Berwick, in 1823, Mr. Laird went at an early age to Dundee, and under his elder brother, the late Mr. W. P. Laird, learnt the business of nurseryman and seedsman. He came to Edinburgh in 1843, and was about five years in the establishment of Messrs. Dickson & Co. In 1848, along with the late Mr. John Downie, he founded the business in Frederick Street, and lately at West Coates, which was well known for many years as Downie & Laird. Mr. John Laing joined the firm afterwards, and for some years the busine was carried on in Edinburgh, London, and Sydenham, under the title of Downie, Laird & Laing. At the dissolution of this partnership the firm was carried on under another designation by himself and his sons, and latterly he has been for the most part resident in Dundee, where another branch was established. A man of strong individuality, with excellent business capabilities, and of a genial and amiable disposition, Mr. Laird was widely known in the horticultural world, and was one of the remaining links between the past and present generation of horticulturists. By many gardeners, old and young, he will not soon be forgotten. He was always ready to lend a helping hand to those in need of assistance, and he spent much time in doing what he could to further the interests of young gardeners, and to get them a start in life. He was one of the founders of the Dalry Congregational Church, and one of the original elders. For many years he was a director of the Scottish Trade Protection Society. *Scotsman, Tuesday, March* 5.

Thomas Baines.—We greatly regret to announce the death of Mr. Thomas Baines, a personality well known to horticulturists in most parts of the country as a first-class cultivator of plants, an exhibitor of renown in former days, and latterly a successful landscape-gardener. The deceased had been in failing health for the past two years, and fell a victim to the prevailing epidemic of influenza. He died at his residence at Fern Cottage, Palmer's Green, N, on Saturday, March 2, at the age of seventy-two years, and was buried at the Great Northern Cemetery on the 7th inst. We publish anew extracts from an article that appeared under the heading "British Gardeners" in these pages on February 6, 1875, which accompanied a portrait of him as he then appeared:—

"He was born in July, 1823, in the then entrance-lodge to Claughton Hall, the seat of the Brockholes, of Claughton, in North Lancashire, one of the oldest families in the country, they having been in uninterrupted possession of the estate since the time of Edward II. Whitaker, in his *History of Lancashire*, traces the Baines family on the estate for 400 years. His great-grandfather, Thomas Baines, whom, he remarks, he well recollects, died at the age of ninety-six, at Claughton Hall, after having been for many years steward of the estate for the grandfather and uncle of the present James Fitzherbert Brockholes, Esq. His grandfather served his time in the garden at Claughton, and held the head-gardener's situation for fifty years; and his father was also there brought up to the profession.

"From early childhood," writes Mr. Baines, in the notes which accompanied his portrait, "I was passionately fond of gardening. My first essay, and the one most indelibly fixed upon my memory, occurred when I was about five years of age. I then assisted my mother in planting some Ivy near the door of the lodge, which Ivy now forms a complete porch over the door, and in the forty-five years which have elapsed, has developed a trunk 33 inches in circumference. At thirteen years of age I commenced my gardening career under my grandfather, who was a really good gardener of the old school, and was well known in the north of the kingdom as a most successful grower of fruits, especially of Grapes. There was in those days little chance of a youngster trying his hand at the walls until he was sufficiently initiated in the work of the kitchen garden, or in the houses, until he knew something considerable about both. In most of the old establishments, fruit and vegetable culture were the chief considerations, with such plants as sufficed for decorative purposes, and to furnish the comparatively small demand for cut flowers which was then made. Having fewer subjects to deal with, the young men learnt their culture, especially the things of a utilitarian description, very thoroughly. Nevertheless, I was very fond of plants, and in the summer of 1842 walked 30 miles to see Fuchsia corymbiflora; railroads were not so plentiful then as now, neither was the money to spend in riding overabundant, so that young men situated as I was, thought little of using their legs."

At that time much landscape-work was being done at Claughton, including draining, a subject then not much understood or practised. These operations, on a large scale, much interested young Baines, and gave him, as he said, an excellent opportunity to observe how it was done.

The high-farming at Claughton also interested him much, especially in connection with stock. Through those early years he went regularly to a night-school.

The narrative continues: "I then engaged as gardener to S. L. Behrens, Esq., of Catteral House, near Garstang, in Lancashire, and afterwards removed with the family to the Polygon Avenue, Ardwick, near Manchester. Here Mr. Behrens became extremely fond of plants, and we soon got together a nice collection of Orchids, Heaths, stove, greenhouse, and fine-foliage plants, and Ferns, as well as most of the best florist flowers of the day, including Auriculas, Dahlias, Pansies, Pinks, Carnations, and Hollyhocks. These latter, although never exhibited, were just as carefully prepared by tying, thinning, and shading, even to the providing of stands similar to those used for exhibition, and in which the flowers were arranged for placing on the tables in the entrance-hall. Few men had a more perfectly-trained eye or better taste as regards the appreciation of form and colour, either in a painting, a well-kept garden, or a florist's flower.

"I remained in Mr. Behrens' service for seven years, until he went to reside abroad. I then engaged with his cousin, H. L. Micholls, Esq., with whom I lived for twenty years—first at Bowdon, in Cheshire, where the collection of plants I had charge of was formed, and afterwards at Southgate. Mr. Micholls was exceedingly fond of his garden, and took the greatest delight in watching the growth of the plants, from their earliest stages up to the time of their full development.

"In 1870 Mr. Micholls removed from Bowdon to Southgate House, near London, to which place I accompanied him, and remained until his disposal of it, and the dispersion of the plants."

Mr. Baines was a very prolific writer on a great variety of horticultural subjects, and had been for a long series of years a correspondent of this journal. He was the author of a useful book of reference, entitled *Greenhouse and Stove Plants*, which was published in 1885.

Markets.

COVENT GARDEN, March 7.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	4 0	6 0
Azaleas, doz. sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	3 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches ...	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 0	2 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	6 0	9 0
Marguerites, 12 bun.	1 6	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun. ...	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchale), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	4 0	5 0
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	4 0	12 0
Aspidistra, per doz.	12 0	30 0	— various, doz.	5 0	12 0
— specimen, each	5 0	15 0	Foliage plants, doz.	9 0	24 0
Cinerarias, per doz.	9 0	18 0	Genistas, per doz.	10 0	18 0
Cyperus, per dozen	4 0	10 0	Hyacinths, per doz.	9 0	12 0
Dracæna, each ...	1 0	7 6	Marguerites, p. doz.	6 0	12 0
Erica hyemalis, dz.	12 0	18 0	Mignonette, p. doz.	0 0	6 0
— various, doz.	9 0	12 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	— specimens, ea.	10 6	84 0
Ficus elastica, each	1 0	7 6	Primulas, per dozen	4 0	6 0
			Solanums, per dozen	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cobs, per 100 lb. ...	25 0	27 6	Pine-apples, St. Michael, each ...	2 0	6 0
Grapes, 1st quality, black, English, lb.	2 0	3 0	Strawberries, per lb.	8 0	12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 heads	5 0	6 0	Potatos, Channel Islands, per lb. ...	0 5	0 6
Beans, per lb. ...	1 0	1 6	Rhubarb, per dozen bundles	1 3	1 6
Cauliflowers, p. doz.	2 0	6 0	Seakale, p. punnet	1 9	2 0
Cucumbers, per doz.	3 0	4 0	Tomatos, Canary Islands, per lb. ...	0 3	0 6
Mushrooms, per lb.	1 0	1 3			
Onions, per bushel	2 0	2 6			

OLD POTATOS.

Markets very firm. Fresh arrivals being readily bought up at last week's quotations.

NEW POTATOS.

Market firm, arrivals not quite up to demand. *J. B. Thomas.*

SEEDS.

LONDON: *March* 6.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now an increasing inquiry for farm seeds. Prices generally show no important variation. Good samples of Clover and Grass seeds are now obtainable on very moderate terms. Haricot Beans being almost exhausted, and greatly wanted, have again advanced considerably. Blue Peas also continue to rise. The excessive scarcity and dearness of vegetables fully explain these two movements. Rape seed is strong. There is no change in Mustard. Bird seeds meet slow sale. Linseed steady. Buckwheat neglected.

FRUITS AND VEGETABLES.

BOROUGH: *March* 5.—Quotations:—Savoys, 5*s.* to 10*s.* per tally; Brussels Sprouts, 1*s.* 6*d.* to 2*s.* per half-sieve; Carrots, 2*s.*; Turnips, 3*s* 6*d.*; and Parsnips, 3*s.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* to 2*s.*; Celery, 8*s.* to 14*s.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 5*s.* to 7*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 13*s.* to 18*s.*; and other sorts, 8*s.* to 10*s.* per barrel.

STRATFORD: *March* 6.—There has been a good supply of all kinds of produce at this market during the past week, and, with a large attendance of buyers, a brisk trade has been done at the undermentioned prices:—Savoys, 2*s.* to 7*s.* per tally; Sprouting Broccoli, 4*s.* to 5*s.* per sieve; Cauliflowers, 5*s.* to 6*s.* per dozen; Turnips, 30*s.* to 70*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; ditto, Cattle-feeding, 13*s.* to 22*s.* 6*d.* do.; Parsnips, 90*s.* to 100*s.* do.; Mangels, 8*s.* to 15*s.* do.; Swedes, 10*s.* to 17*s.* do.; Onions, English, 60*s.* to 100*s.* do.; Dutch, 3*s.* to 3*s.* 3*d.* per bag; Bordeaux, 4*s.* to 4*s.* 9*d.* per case.

FARRINGDON: *March* 7.—Quotations:—Cauliflowers, 6*s.* per basket of 18; Savoys, 5*s.* to 6*s.* per tally; Turnips, 2*s.* 6*d.* to 3*s.* per bag; Carrots, 1*s.* 9*d.* per cwt.; Rhubarb, 1*s.* 3*d.* per dozen bunches; Parsley, 6*d.* per lb.; Horseradish, 1*s.* per bundle; Sprouts, 4*s.* per bushel; Cucumbers, 4*s.* 6*d.* per dozen; Apples, 12*s.* to 15*s.* per barrel; Greenings, 15*s.* to 18*s.* do; Golden Russet, 18*s.* to 21*s.* do.

POTATOS.

BOROUGH: *March* 5.—Quotations ranged from 90*s.* to 135*s.* per ton.

STRATFORD: *March* 5.—Quotations:—Magnums, dark-soil, 85*s.* to 90*s.*; do., light-soil, 90*s.* to 105*s.*; Bruces, 90*s.* to 110*s.*; Imperators, 90*s.* to 105*s.*; Scotch Magnums, 100*s* to 110*s.*; Scotch Bruces, 100*s.* to 110*s.*; Main Crop Kidneys, 110*s.* to 120*s.* per ton.

FARRINGDON: *March* 7.—Scotch Magnums, 110*s.* to 140*s.*; Main Crop, 100*s.* to 135*s.*; Snowdrops, 100*s.* to 130*s.*; Hebrons, 100*s.* to 130*s.*; Magnums, 100*s.* to 120*s*; Black-lands, 85*s.* to 100*s.* per ton. New: Canary Islands Kidneys, 18*s.* per cwt.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

WATER.—Can you, or any of your correspondents, explain a strange state of my pump water? When thaw commenced, the water became all at once whitish; cloudy as though milk were mixed with it. My well (pump) is a very old one, quite secure from any contamination, and has always had beautiful bright water. The most singular thing is, that several other wells are infected in the same way. The well was cleaned out about ten years ago. Two men have been pumping for two days, and many hogsheads have been pumped up; and the water has become pretty clear and bright. Perhaps if you mention this some other friends of OUR Paper may report. I say OUR Paper, because I have taken it since 1841; and have all the volumes bound up. *W. M. R.*

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending March 2.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1895.	Accumulated. Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1895.	Rainfall. Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 —	0	43	— 56	+ 332	1 —	38	5·6	21	26
1	3 —	0	46	— 78	+ 458	3 —	31	4·1	29	25
2	3 —	0	38	— 78	+ 330	0 aver	40	5·5	39	28
3	4 —	0	42	— 82	+ 339	2 —	36	3 9	28	25
4	4 —	0	42	— 100	+ 420	4 —	26	3·6	26	26
5	5 —	0	41	— 107	+ 363	3 —	26	3·2	36	26
6	3 —	2	37	— 84	+ 397	5 —	28	2·9	45	28
7	4 —	0	36	— 80	+ 351	3 —	28	3·5	22	27
8	4 —	4	35	— 126	+ 363	4 —	29	4·9	49	33
9	3 —	7	33	— 121	+ 312	1 —	34	4·6	28	28
10	4 —	11	37	— 174	+ 244	5 —	32	6·0	33	29
*	6 —	5	28	— 141	+ 253	3 —	36	5·1	51	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

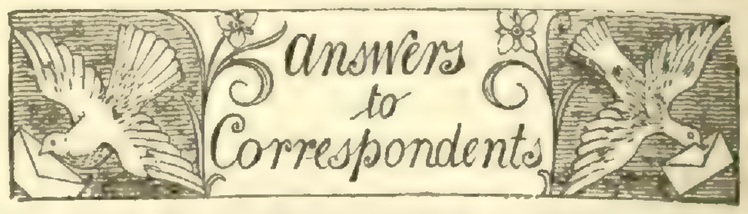
THE following summary record of the weather throughout the British Islands for the week ending March 2, is furnished from the Meteorological Office:—

"The *weather* during this period was somewhat changeable; overcast skies accompanied by showers of sleet or snow, having alternated with intervals of bright sunshine. Towards the end of the week the snow experienced in 'Scotland, N.,' was very heavy.

"The *temperature* fluctuated considerably, but continued below the mean as a whole, the deficit ranging from 3° or 4° in all the more northern and western districts, to 5° in 'England, S.,' and to 6° in the 'Channel Islands.' The highest of the maxima were registered either on February 28 or March 1, and varied from 51° in 'Ireland, S.,' and 50° in 'England, S. and S.W., to 46° in 'Scotland, N.' The lowest of the minima, which were recorded on February 26th over 'England and Ireland,' and on March 2nd in 'Scotland,' ranged from 18° in 'Scotland. N.,' and 19° in 'Scotland, E. and Ireland, S.,' to 27° in 'England, N.E,' and to 28° in the 'Channel Islands.'

"The *rainfall* just equalled the mean in 'England, N.E.,' but was less in all other districts.

"The *bright sunshine* varied considerably in amount in the different districts, but was generally in excess of the mean. The percentage of the possible duration ranged from 20 to 45 in 'Scotland,' from 28 to 33 in 'Ireland, and from 22 to 49 in 'England;' in the 'Channel Islands' the percentage was as high as 51.'



BOOKS: *A. B. C.* Enquire of the publishers, Ward, Lock & Co., Warwick House, Salisbury Square, London, E.C.

CARNATIONS: *W. J. Godfrey.* The Carnations are very fresh and sweet, and similar to those you were good enough to send for our inspection last season.

CHRYSANTHEMUMS: *G. Jones.* You should obtain some manual on the subject, such as Mr. Molyneux's, or Mr. B. C. Ravenscroft's. To treat the subject properly would occupy too much of our space.

INSECTS: *M. Chalwin.* No. 1 is too poor a scrap to be dealt with; 2, the leaf is infested with brown scale. Wash with some kind of insecticide, such as Fir-tree or Lemon oil; 3, the fragments of bark from a Grape Vine, show that some irritation was set up by a species of mite, the effect being the creation of a woolly mass on the bark.—*F. B., Kildare.* We could not find any insects in the pieces of Vanda teres. Send other specimens in a small box, or in some other way by which we may find them.

MAKING ASPHALT PATH IN TOMATO HOUSE: *J. C.* It would be an imprudent proceeding to make a path of hot tar, &c., whilst there are living plants in the house.

NAMES OF PLANTS: *T. W. G.* Coronilla Emerus.—*Dormont* Camellia reticulata.—*W. J. W.* Dendrobium aggregatum.—*A. J. N.* Cypripedium villosum Boxalli, generally called C. Boxalli.—*W. S., Kilmarnock.* 1, probably Croton irregulare; 2, C. aurea maculata; 3, C. angustifolius; 4, C. irregulare; 5, C. Weissmanni; 6, C. Johannis. The foliage of Crotons vary so much that it is difficult to say for certain.—*T. T.* Maxillaria variabilis.—*J. M. B., Oxon.* Dendrobium clavatum.

PAINT FOR HOT-WATER PIPES: *J. C.* Lampblack and boiled linseed oil—no driers or turpentine. This may be applied even whilst the pipes are hot, and no harm will be done to the plants in the house.

PINUS PINSAPO: *W. G.* No harm will be done by your shortening back young growth or even removing entire branches, if you observe in the latter case to leave a snag of some 5 or 6 inches in length if you are cutting them back to the place of origin. Prune after growth has begun.

REMOVAL OF PLANTS: *W. M. L.* Morally, you are within your rights; legally, it is a criminal offence. Can you not come to an arrangement with your employer?

SPECIMENS FOR STUDY: *P. K.* At any good tree nursery. Messrs. Barron, Elvaston, Borrowash, Derbyshire; and, probably, in your own neighbourhood at Barnet, at Messrs. W. Cutbush & Sons.

TARRED HOTWATER PIPES: *A. C.* We fear there is nothing to be done in your case, short of taking the pipes to pieces, and burning off the thick coat of tar.

VINES: *Priory Lodge.* The cracks are probably due to the action of frost. By binding the parts closely together, and covering the wounds with grafting-wax, a union of the separated parts may take place. Do not cover the stems entirely with the wax.

WASTE STEAM AVAILABLE IN THE DAY-TIME TILL 6 P.M.: *R. H.* If you would put up an ordinary hotwater apparatus with boiler, &c., a small wrought pipe to convey the steam, could be run through all the water-pipes, which would sufficiently heat the water during the day, whilst at night the boiler might come into use.

WOODLICE: *Priory Lodge.* Stuff some hay loosely into drain-pipes or pots, and empty these daily into the furnace; also distribute boiling water into their haunts. Carbolic acid will drive them away, but destruction is best.

COMMUNICATIONS RECEIVED.—H. R. Barraclough—Marianne Baines.—T. J. C.—E. L.—C. B. G.—W. A.—H. T. W.—T., Bocking Holme.—W. Miller.—West, Newman & Co.—Ant. Taylor.—H. H. D'O.—J. W.—T., Acton.—T. T.—Carter & Co.—W. Stanbury.—Hugh Low & Co.—W. W.—L T.—P. L. S.—F. G. Hunt.—P. W.—R. D.—W. B.—Leonard Barron.—J. Anderson.—E. L.

SPECIMENS RECEIVED.—T. T.—G. H.—H. K.—M. C.

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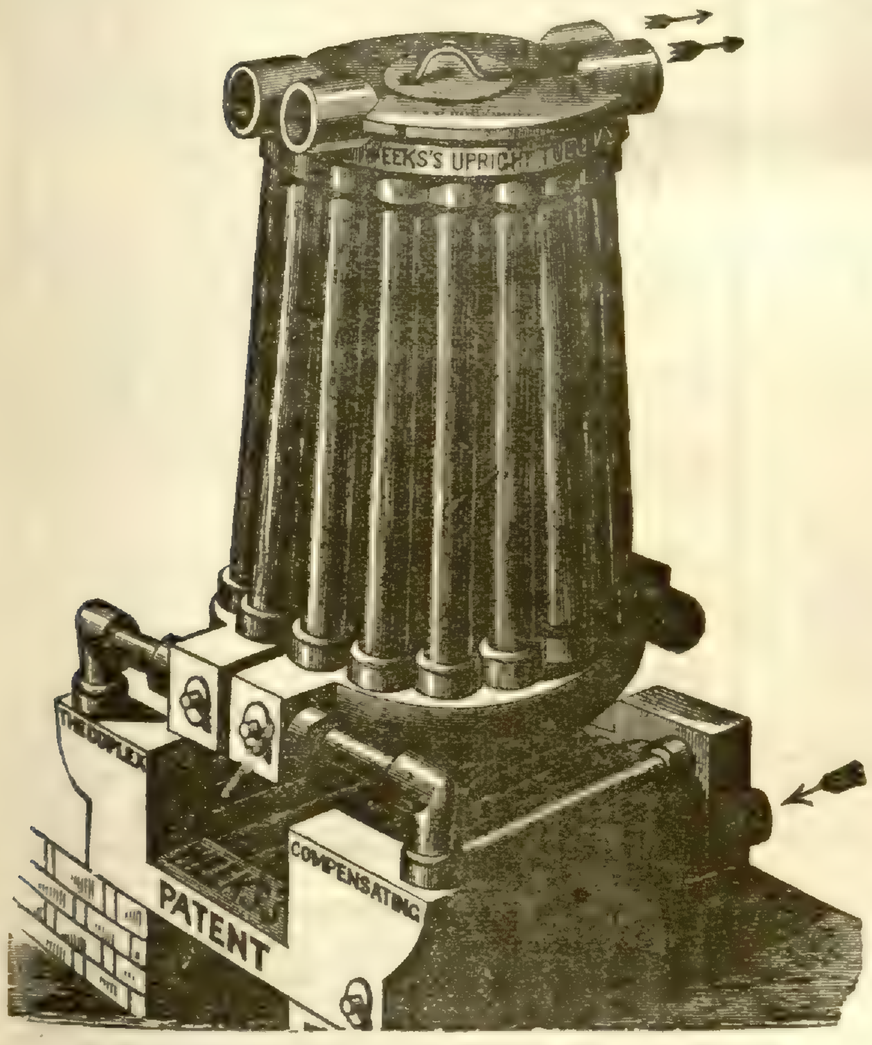
CHELSEA, LONDON, S.W.



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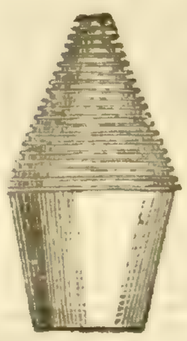

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GARDEN FRAMES.
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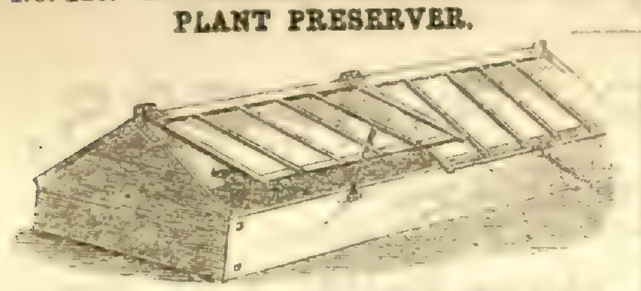
		Prices for one frame.	If two frames are ordered.
2 Light	6 ft. by 4 ft.	£1 17 6 each	£1 15 0 each
2 Frame	8 ft. by 5 ft.	2 12 6 ,,	2 10 0 ,,
,,	8 ft. by 6 ft.	2 15 0 ,,	2 12 6 ,,
,,	12 ft. by 6 ft.	3 15 0 ,,	3 12 6 ,,
,,	16 ft. by 6 ft.	4 15 0 ,,	4 12 6 ,,

No. 110.—SPAN-ROOF FRAME or PORTABLE PLANT PRESERVER.



					If two frames are ordered.
6 ft.	long by 3 ft.	wide	£1 15 0	each	£1 12 6 each
6 ft.	,, 4 ft.	,,	2 0 0	,,	1 17 6 ,,
6 ft.	,, 5 ft.	,,	2 10 0	,,	2 7 6 ,,
12 ft.	,, 3 ft.	,,	3 0 0	,,	2 17 6 ,,
12 ft.	,, 4 ft.	,,	3 10 0	,,	3 7 6 ,,
12 ft.	,, 5 ft.	,,	4 2 6	,,	4 0 0 ,,
12 ft.	,, 6 ft.	,,	5 5 0	,,	5 0 0 ,,

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Three Coats of best Oil-Colour.

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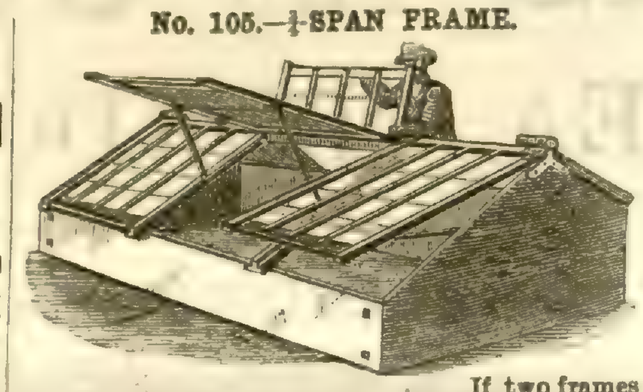
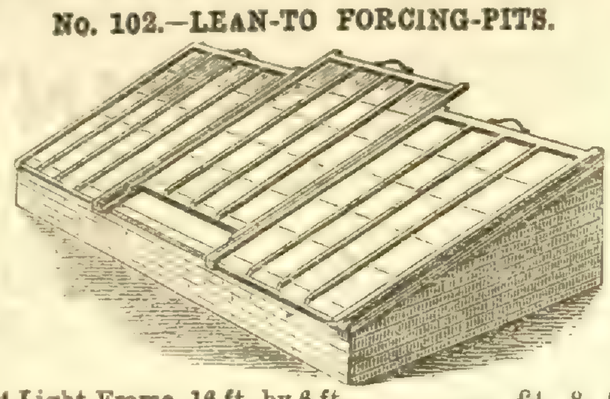


				If two frames are ordered.
2 Light	5 ft. by 5 ft.	£3 5 0 each		£3 2 6 each
4 Frame	10 ft. by 5 ft.	4 0 0 ,,		3 17 6 ,,
4 ,,	8 ft. by 6 ft.	4 0 0 ,,		3 17 6 ,,
6 ,,	12 ft. by 6 ft.	5 10 0 ,,		5 5 0 ,,
8 ,,	16 ft. by 6 ft.	7 0 0 ,,		6 12 6 ,,

No. 102.—LEAN-TO FORCING-PITS.



4 Light Frame,	16 ft. by 6 ft.	... ...	£4 8 0
8 ,, ,,	32 ft. by 6 ft.	... ...	8 8 0
4 ,, ,,	16 ft. by 7 ft. 6 in.	...	5 1 0
6 ,, ,,	24 ft. by 7 ft. 6 in.	...	7 3 0

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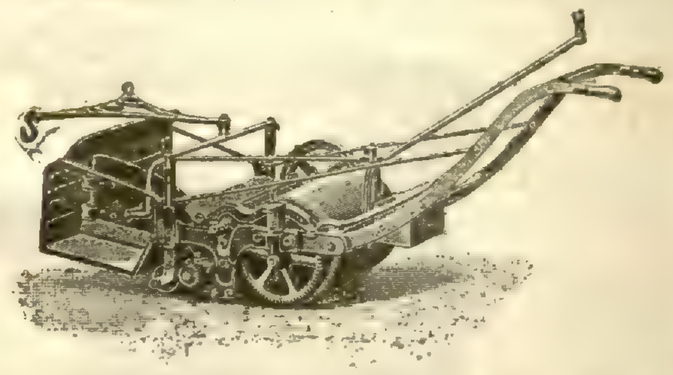

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Leithen	19/6
Quair	21/-
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Ettrick	23/3
Yarrow	24/3
Teviot	25/6

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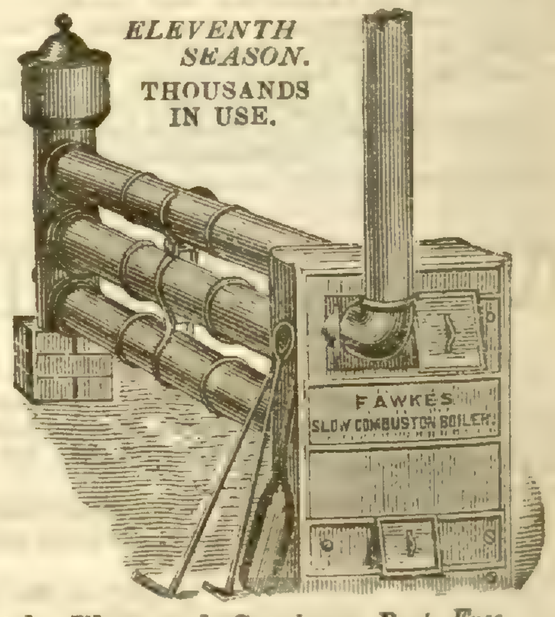

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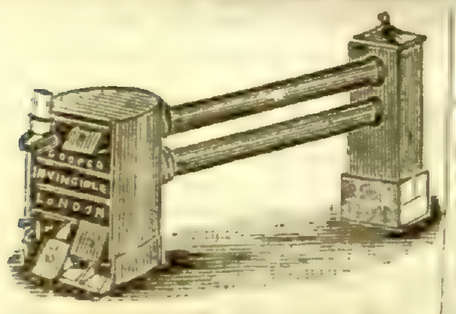

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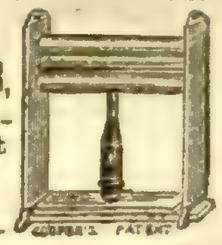

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,, Improved Ne Plus Ultra	...	,,	1	2	,,
,, Runners, Ordinary	... ...	,,	1	0	,,
,, Champion Scarlet	... ...	,,	1	3	,,
,, Ne Plus Ultra	... ...	,,	1	6	,,
PEAS, Cooper's First and Best	...	,,	0	9	,,
,, ,, Earliest of All	... ...	,,	0	10	,,
,, ,, American Wonder	...	,,	1	4	,,
,, ,, Sangster's No. 1 Improved	...	,,	0	9	,,
,, ,, William 1st	... ...	,,	1	2	,,
BEET, Cooper's Blood-Red	...	per oz.	1	0	—Carriage free.
CABBAGE, Feltham "All Heart"	...	,,	0	9	,,
CARROT, Cooper's Early Gem	...	,,	0	4	,,
CAULIFLOWER, Cooper's "Early Snowball"	... ...	,,	1	6	,,
CUCUMBER, Cooper's Imp. Model	...	Packet	1	0	,,
RADISH, New Scarlet Forcing	...	Per oz.	0	4	,,
TOMATO, Cooper's Challenger	...	Packet	0	6	,,

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FROM 40/-.

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THE RAPID PROPAGATOR.
The only perfect Propagator for raising Plants from Seeds, Slips, or Cuttings.

1 ft. 8 by 1 ft. 6	£1	0	0
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4 ft. by 2 ft. ...	2	8	0

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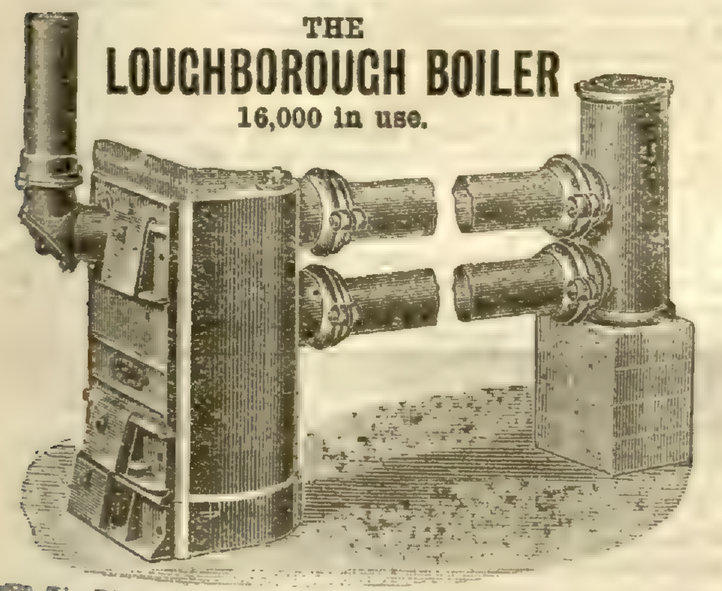

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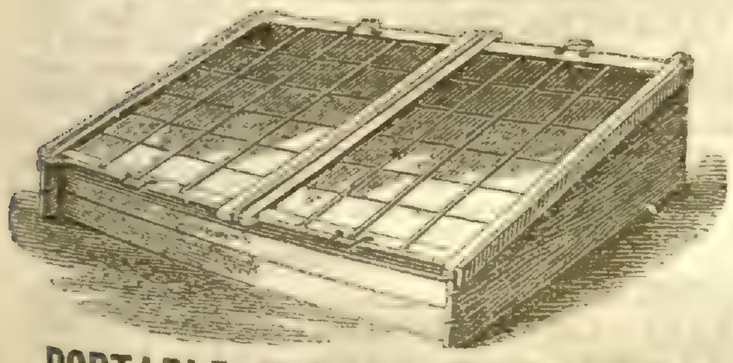

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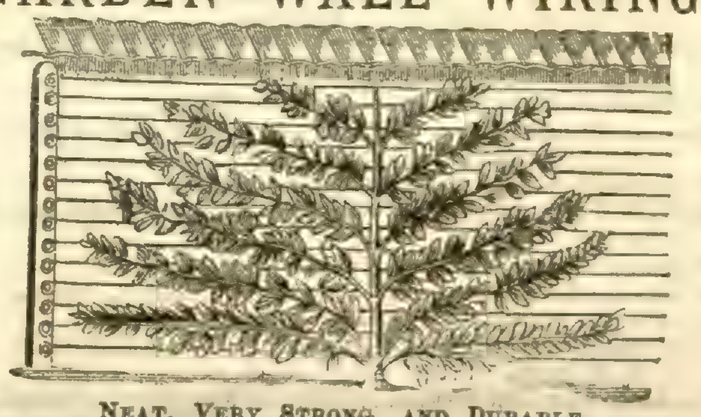

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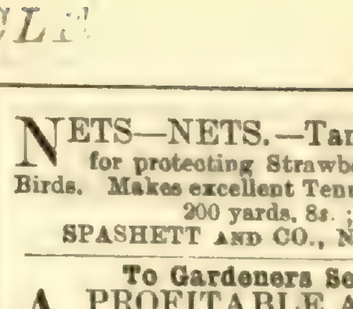

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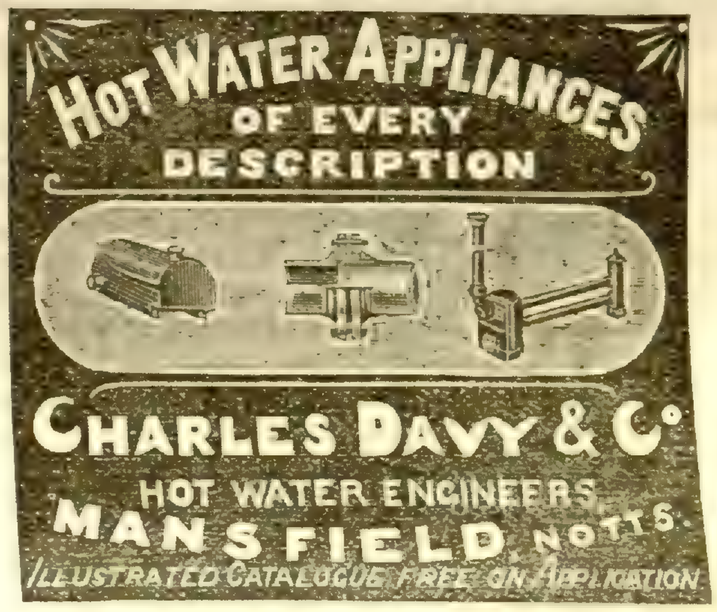

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8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
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LITTLE & BALLANTYNE, Carlisle—Farm Seeds.

THOMAS KENNEDY & Co., 106 and 108, High Street, Dumfries, N.B.—Agricultural Seeds.

H. CANNELL & SONS, Swanley, Kent.—Plants.

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E. P. DIXON & SONS, Yorkshire Seed Establishment, Hull.—Farm Seeds.

ADOLPHE VAN DEN HEEDE, 111, Rue du Faubourg de Roubaix, Saint Maurice, Lille (Nord), France.—Chrysanthemums and Dahlias.

MR. H. C. FRETTINGHAM, Landscape Gardener, Contractor, &c., Stapleford Nurseries, near Nottingham (established 55 years), having decided to relinquish the Nursery part of his business, begs most respectfully to offer his services or advice to any Nobleman, Lady, Gentleman, Commissioner of Works, Corporate Bodies or Public Committee. He has a large experience in the laying out of Halls, Mansions, Villas, Bicycle Tracks, Public Grounds, Tennis Courts, Cricket Grounds, &c. He has, by contract, maintained in order the whole of the Parks and Recreation Grounds, including Arboretum and Castle Museum Grounds (which he made), &c., which belong to the Nottingham Corporation, for about fifteen years; and will be pleased to furnish name of the very numerous Halls, Mansions, &c., where he has been employed.

E. BENNETT begs to THANK the thirty-eight Applicants, and to say the SITUATION IS NOW FILLED.—The Gardens, Chilham Castle, Canterbury.

JOHN R. BOX hereby THANKS the numerous Applicants for the offer of their Services for the Vacancy in his establishment, and begs to inform that the SITUATION IS FILLED.

D. KEMP begs to THANK the MANY APPLICANTS and to say the SITUATION is now FILLED.

Derbyshire.

A GENTLEMAN REQUIRES a good HEAD GARDENER, to undertake Gardens, Pleasure Grounds, and a considerable Range of Glass, finding all labour for the same. He would receive £100 a year and Cottage, and after supplying house would be allowed to sell all surplus for his own profit. Railway communication good. Large population near. Character required.—JOHN GERMAN AND SON, Surveyors, Ashby-de-la-Zouch.

WANTED, a HEAD GARDENER and General Supervisor; three men in garden. £1 a week and home.—Mr. BALDWYN-CHILDE, Kyre Park, Tenbury, Worcester.

Derbyshire.

WANTED, at Lady-Day, a WORKING HEAD GARDENER, for Gardens and Pleasure-grounds, where small staff only can be employed. Must understand Plain Glass. Wages, 25*s*. per week, and cottage.—Character required.—JOHN GERMAN AND SON, Surveyors, Ashby-de-la-Zouch.

WANTED, a HEAD WORKING GARDENER.—A thoroughly experienced Man required immediately, to take charge of Kitchen Gardens, two men under him. Applicant must understand Pigs, and Wife required to look after Poultry and Rearing of Chickens. Wages, 30*s*. per week inclusive, with nice cottage. No children. Ages not over 40. Only a thoroughly respectable couple need apply to Mr. LORD, Proprietor, West Cliff Hotel, Folkestone.

WANTED, a GARDENER, as Head of two.—Must thoroughly understand Kitchen Garden, Lawn, Small Greenhouse. Married.—Apply, stating wages and references, to A. W. HEBER PERCY, Esq., Durweston, Blandford.

WANTED, a thorough practical GARDENER in all branches, especially Vegetables and Flowers; and Management of Poultry. No children. Wife as Laundress.—State wages required, with cottage.—Apply "AMCUS," 1, Wellington Street, Strand, W.C.

WANTED, a competent GARDENER (SINGLE-HANDED).—Must be well up with Vines and Fruit Trees, and the general routine of a Good Garden. Wages £1, with comfortable cottage, coals, and vegetables. Without family preferred.—Apply by letter, giving full particulars, to R. S., Albert Cottage, St. Julian's Road, Streatham, S.W.

WANTED, GARDENER (UNDER).—Must write a clear hand, and one accustomed to propagating Hard and Soft-wooded Plants; for Inside and Outside work. Four men kept. Wages 15*s*. and bothy on premises. Coals and milk.—Apply by letter to Head Gardener, with full particulars as to age, last place, &c., to THOS. CHRISTY, F.L.S., Malvern House, Sydenham.

Under Gardener.

WANTED, a strong, industrious, active young MAN, with thorough knowledge of Kitchen Gardening.—Must have a good character, and be in every way trustworthy. Wages, 18*s*.—Apply by letter, addressed "ROCKVILLE," New Fillebrook Road, Leytonstone, Essex.

WANTED, a young MAN, not under 22, as SECOND, in the Houses. Wages £1, no bothy.—J. SMART, Bishop Burton Hall, Beverley.

WANTED, by Country Vicar, a GROOM GARDENER. Churchman, married; middle-aged. Good references.—Apply F., 2, Crescent Rise, Hart Hill, Luton.

WANTED, AT ONCE, a Young Man as GROOM-GARDENER. One pony kept; living and quarters free; wages 6*s*. per week. Total abstainer.—R. G. G., Mr. Scott, House Decorator, Charles Street, Bath.

WANTED, a strong active young MAN, used to Machine and Kitchen Garden. Wages 14*s*. per week, with lodgings. Churchman and abstainer preferred.—Apply by letter, stating age, &c., to H. CRIX, The Gardens, Goddington, Chelsfield, Kent.

WANTED, a married couple.—Man thorough GARDENER, wife LAUNDRESS. Long characters.—Apply to General OWEN JONES, Basing House, Banstead.

WANTED, a man of character and ability as GROUND FOREMAN.—A permanent situation and good wages.—Apply by letter in first instance, to WM. PAUL AND SON, Waltham Cross, Herts.

WANTED, INDOOR MAN, well up in Growing Ferns.—Must be a good Propagator and Plantsman. Also OUTDOOR MAN; good Budder and Grafter. Wages 21*s*. State particulars.—H. ENGLISH AND CO., Clapton Nursery, near Clevedon.

WANTED, a PROPAGATOR, good and quick, for Cut-flower Trade, Bouvardias, Primula, and Fern Raising, and General Soft-wooded.—HEWITT AND CO., Harborne Road, Birmingham.

Trade.

WANTED, a First-class GROWER, for the Glass Department chiefly, for Cut Flowers, this branch being a specialty; and to take charge in the absence of Principal. Permanency for a willing and industrious man.—State age, wages expected, and where experience gained, to W. TROUGHTON, Nurseryman, Preston.

WANTED, AT ONCE, a JOURNEYMAN (Inside).—Active, and well up to his work. Wages 18*s*. per week.—Copies of testimonials to HEAD GARDENER, Colston Bassett, Bingham, Notts.

WANTED, a JOURNEYMAN.—Not less than twelve months' character. Must thoroughly understand his work Inside and Out. Bothy, and 14*s*. per week.—Apply, stating age, and all particulars, to D. S., Hollandsfield, Chichester.

WANTED, a good SECOND JOURNEYMAN.—Large place. Bothy. All particulars.—WILLCOCKS, Head Gardener, Norman Court, Salisbury.

WANTED, a MARRIED COUPLE; Man plain Gardener and to be generally useful: no glass. Wife a thorough Laundress for family.—Apply, giving age, wages, &c., R. ORMSBY WALE, Alford, Lincs.

WANTED, a respectable young married MAN, strong, for Kitchen Garden and General Outside, Horse, Machine, &c.; 15*s*., house, coals, &c. Also strong active young MAN, for General Inside and Out. Able to take turn with Fires; 14*s*., bothy, &c.—GARDENER, The Node, Welwyn, Herts.

WANTED, a MAN, good Budder and Grafter. One who has a thorough knowledge of Nursery Work.—Apply, with references, to D. ROBERTSON, Nurseryman, Helensburgh, N.B.

WANTED, a respectable young MAN, to grow Tomatos and Cucumbers. State age, experience, and wages expected.—WM. LUDBROOK, The Nursery, Staines Road, Twickenham.

WANTED, TWO Young MEN, for Jobbing Gardening, to live in the house. Board and lodging found. None but with good character need apply. Work all the year round.—H. WRIGHT, 2, Station Terrace, Willesden Green, Middlesex.

WANTED, a situation in a good Market Nursery, near London.—Age 21; six years' experience. Good references from present and previous employers. Two and a half years in present situation.—C. B., 3, Park Cottages, Southgate, N.

WANTED, ASSISTANT for SEED DEPARTMENT.—Apply, HEWITT AND CO., 8, Worcester Street, Birmingham.

WANTED, a SALESMAN.—Plants, Fruit, and Vegetables, to go with Van. Must be good Fruit and Vegetable Grower. Cottage found.—The Nurseries, Smeeth, Ashford, Kent.

WANTED, IMMEDIATELY, young MAN (age 21), of good address, as CLERK. Able to keep Books, attend Customers, with some knowledge of Wreath-making, &c. Willing to be useful. State wages.—CLERK, 41, Wellington Street, Strand, W.C.

WANTED, energetic young MAN.—Well up in making Wreaths, Crosses, Bouquets, &c. Must also be a good Salesman.—State age, wages, experience, &c., to EDWARD CARR, Florist, Market Hall, Southport.

WANTED, a HANDY MAN, to work in the Garden.—Able to milk, if required; good rough Carpenter, &c.—Apply, stating age, length of character, and wages, to D. B., Hollandsfield, Chichester.

WANT PLACES.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

JOHN R. BOX, Croydon, has now upon his Register several able and well-qualified HEAD GARDENERS, FOREMEN, JOURNEYMEN, and SINGLE-HANDED GARDENERS, men of highest character; and will be pleased to give employers particulars.

GARDENER (HEAD). — Practical; thoroughly understands Grapes, Peaches, Melons, Orchids, Stove and Greenhouse Plants, Forcing Fruit, Vegetables, &c. A first-class Grower all round. Well up in Floral Decorations. Highly recommended. Abstainer. Married.—H. D., 24, Lower Parkfields, Putney, S.W.

GARDENER (HEAD).—Advertiser, who has been Farming on his own account for the last five years, desires to treat with any Nobleman or Gentleman requiring the services of a thorough competent and industrious man. Is well versed in the Early Forcing of Fruits, Flowers, and Vegetables, and is a good Orchid Grower. Eight and seven and a half years in two last places, the latter with Sir A. B. Walker, Bart., Osmaston Manor, Ashbourne. Testimonials of the highest order.—WM. SHIRWIN, Woodhead, Kniveton, Ashbourne, Derbyshire.

GARDENER (HEAD); age 37, married (Scotch).—A GENTLEMAN can highly recommend his late Gardener for a large establishment, where first-class Gardening is required. Good Manager of Men; first-class House and Table Decorator. Excellent references. Abstainer.—J. J., 11, Leythe Road, Acton, W.

GARDENER (HEAD); age 32, married when suited.—Mr. J. LOCKHART, Gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington, can with every confidence recommend Edward Joseph, who has been with him four years as General Foreman; experienced in all branches of Gardening. Highest references.

GARDENER (HEAD, where several are kept).—Married. Age 46. No family. Life experience of Gardening in all its branches. Can superintend pasture land, stock and poultry if required.—S. L., South Entrance, Saxmundham, Suffolk.

GARDENER (HEAD).—Thoroughly experienced in leading branches; can be well recommended; twelve years in last situation.—S, W., Messrs. Thos. Perkins & Sons, Nursery and Seedsmen, 34, Drapery, Northampton.

GARDENER (HEAD); age 32, married when suited.—Mr. W. S. GILBERT desires to strongly recommend his Foreman Gardener, who is anxious to obtain a situation as above; he thoroughly understands the Management of Hot-houses, and also Outdoor Gardening in all its branches. Five years' excellent character.—Apply to J. DANCER, care of Head Gardener, Grim's Dyke, Harrow Weald.

GARDENER (HEAD), where two or three are kept; age 29.—J. CHOWN would be pleased to recommend his Foreman to anyone requiring a thoroughly practical and trustworthy man. Well up in all branches of the profession. Fifteen years' experience. Total Abstainer.—6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD); age 39.—Advertiser, a thoroughly practical all-round Gardener, conversant in every department. Life practical experience in Fruits, Flowers, Vegetables, &c. Thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, London, W.

GARDENER (HEAD, where two or three are kept).—Age 34; thoroughly practical experience Inside and Out, including Vines, Peaches, Melons, Cucumbers, Stove, and Greenhouse Plants, Flower and Kitchen Garden. Nearly five years' excellent character.—H. G., 120, Albany Street, Regent's Park, London.

GARDENER (HEAD).—Single; thoroughly practical in all branches. Understands Land. Could act as Bailiff. Seventeen years at Chymoroak, Marazion.—JNO. MAERS, Fore Street, Marazion.

GARDENER (HEAD), where one or two are kept.—Age 37, married, one child (age 6). Thoroughly practical in all branches.—E., 8, Dolby Road, Fulham.

GARDENER (HEAD); age 40, married.—The Foreman, Nightingale Nurseries, Bath, can highly recommend to any Nobleman, Lady, or Gentleman, a duly qualified man as above. Life experience. Thoroughly practical in all branches of his profession.

GARDENER (HEAD).—Age 37; married, small family; good experience; long character; wages, with cottage, 24*s*.—GARDENER, 29, Jasmine Grove, Penge, S.E.

GARDENER (HEAD).—Age 28; single; thoroughly experienced in all branches; leaving through breaking-up of establishment; well recommended.—J. GLAVIN, The Gardens, Rose Hill, Delph, Oldham.

GARDENER (HEAD, where one or more are kept).—Age 24; experienced in all branches. Good references.—A. FLOATE, Bonchurch Road, Hassocks, Sussex.

GARDENER (HEAD), age 30.—Situation where several men are employed. Life experience. Can be well recommended.—A. OWENS, St. Clere Gardens, Kemsing, Sevenoaks.

GARDENER (HEAD).—Age 40, married; thoroughly practical Orchid Grower; also well up in Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Garden, &c. Excellent testimonials.—W. MAY, 31, Southwold Road, Upper Clapton, London, N.E.

GARDENER (HEAD).—Age 38, married, one child; life experience in all branches, including Orchids. Highest references.—A. BEECH, 91, Rendlesham Road, Clapton, N.E.

£5 BONUS for information leading to a good appointment as HEAD GARDENER. Age 33; abstainer; twenty years' good experience in large high-class establishments. Good testimonials.—Address, GARDENER, Keynes & Williams, Nurserymen, Salisbury.

GARDENER (HEAD WORKING); age 39, married.—J. STREET, seven and a-half years Gardener at Cannon Hill, Maidenhead, offers his services as above. Twenty-five years' experience. Highest references.—8, The Croft, Boyn Valley, Maidenhead.

GARDENER (HEAD WORKING).—Age 44, married; twenty-nine years' practical experience in all departments. Twenty years' excellent character as Head in present situation, and leaving only in consequence of employer giving up the establishment.—WM. ATKINSON, The Gardens, Westholme, Sleaford.

GARDENER (HEAD WORKING, where several are kept).—Age 42, married; three children; thoroughly experienced in all branches; good references.—J. BARLEYCORN, The Gardens, Barrow Hills, Chertsey, Surrey.

GARDENER (HEAD WORKING).—Age 34, married, no family; seven years' good character as Head, from last employer. Life experience in all branches.—CHARLES HEPBURN, Hunstanton, Norfolk.

GARDENER (HEAD WORKING).—Age 40; married; life experience in all branches of gardening in good Establishments; twelve years Head Gardener in last situation. Good references.—J., Mr. Spencer, The Gardens, Goodrich Court, Ross, Herefordshire.

GARDENER (HEAD WORKING). — Mr. ACTON can with confidence recommend his Gardener as a steady and trustworthy man, thoroughly experienced in the general Management of Garden, Greenhouses, Tomatos, &c. Near London preferred.—The Glen, West End, Southampton.

GARDENER (HEAD WORKING).—Age 30; fourteen years' experience in good Gardens, including Kew. Certificates and testimonials.—C. WILKINSON, Bradwell Grove, Burford, Oxon.

GARDENER (HEAD WORKING), where one or two are kept).—Age 33, married, two children. Well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Garden. Good character. Four years in present situation, eight previous.—A. SMITH, Church Hill, Pulborough, Sussex.

GARDENER (HEAD WORKING), where several men are kept.—Age 40; married, no family; offers his services to any Lady or Gentleman in want of a thorough practical man in all branches; excellent character.—GARDENER, 6, St. John's Road, Leatherhead.

GARDENER (HEAD WORKING).—Age 26, single, desires re-engagement with any Lady or Gentleman requiring the services of an experienced, reliable young man. Good character. Well recommended.—R. B., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 30; fifteen years' practical experience in large establishments: excellent testimonials.—GARDENER, Avenue Lodge, Selly Park, Birmingham.

GARDENER (HEAD WORKING).—Age 35, married, one child.—A GENTLEMAN who is changing his residence, can strongly recommend his Gardener, who has been in his employ three and a half years, to any Lady or Gentleman as a thoroughly practical man.—ROFFEY, North Lodge, Toddington.

GARDENER (HEAD WORKING), in good Establishment; married, two children.—A. E. MARSHALL, The Gardens, Mount Ballan, Chepstow, owing to breaking up of Establishment, through family going abroad, would be pleased to re-engage with any Lady or Gentleman requiring a thoroughly experienced man. Excellent references.

GARDENER (HEAD WORKING).—Age 30, married, no family; experience in Herbaceous Plants, Stove-house, Melons, Vinery, and all branches. Good reference.—FENNELL, Great Barford, St. Neot's.

GARDENER (HEAD WORKING).—Age 35, married, no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING); age 32, single.—JOSEPH FONSEY would be pleased to recommend his Foreman to any Lady or Gentleman requiring the service of a good practical man. Well up in Carnations, Orchids, and Plants. Five years in present situation.—JOSEPH FONSEY, Stanford Hall Gardens, Loughborough.

GARDENER (HEAD WORKING), where two are kept, or SECOND of four.—Age 26, married, no family; fourteen years' experience in all branches. Three years' personal character from last employer.—E. DREWETT, The Elms, Acton Hill, W.

GARDENER (HEAD WORKING), married, no family; well up in Glass and general routine of a good Garden. Good references.—G. H. D., 11, Lochaber Road, High Road, Lee, S.E.

GARDENER (HEAD WORKING).—Age 30, married; well up in Plant, Fruit, Vegetable Growing, &c. Disengaged through employer leaving estate. Highest character and references.—A. HAWKES, The Gardens, Lexden Park, Colchester.

GARDENER (HEAD WORKING), where two or more are kept.—Age 27, married, no family; fourteen years' experience in Vines, Stove, Orchids, Melons, Peaches, Tomatos, Cucumbers, Chrysanthemums, Kitchen Gardening, &c. Excellent characters from present and previous places. Would go abroad.—W. LOVELL, 15, Market Terrace, Tiverton, Devon.

GARDENER (HEAD WORKING).—Age 36, married, no family; thoroughly experienced in all branches of Gardening. Both Inside and Out. Five years' good character.—A. J., Fir Tree Cottage, Glasbury, R.S.O.

GARDENER (HEAD WORKING), married.—A Lady wishes to recommend her gardener. Thoroughly experienced in indoor and outdoor work. Eight years' character.—Mr. THOMAS NOWELL, Mrs. Savory, Park Hall, Evesham.

GARDENER (HEAD WORKING).—Age 29; thoroughly experienced in the General Routine of a good Garden, including Fruit, Plant, and Orchid Houses, and Chrysanthemum Growing for exhibition. Can be well recommended.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (HEAD WORKING), age 27; where more are kept.—Life experience in the general routine of gardening in first-class establishments. First-class recommendations.—G. Coleman, The Gardens, Clare Lawn, East Sheen, S.W.

GARDENER (HEAD of two).—Age 33; married, no family. Life experience; eight years present situation. No objection to stock.—L. T., Rectory Gardens, Market Bosworth, Nuneaton.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 28, married; sixteen years' experience, Inside and Out. Good references from present and previous employer.—C. HOBBS, Clive House Gardens, Esher.

GARDENER (HEAD WORKING, or good SINGLE-HANDED) —Age 29; abstainer. Life experience in all branches. Nine and four years' excellent characters from good private establishments.—J, W., 20, Gibson's Hill, Upper Norwood, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED) —Middle-aged; no objection to stock. Two in family, youngest age 11; five years in present situation. GARDENER, Avenue House, Belsize Park Gardens, Hampstead, N.W.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 45, married; life experience; good in all departments. Wife Poultry.—B., 2, Rosalin Villas, Durant's Road, Ponder's End, Middlesex.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 28, married; life experience in all branches. Five years' good character present place.—J. R., 1, Harp Road, Quarmby, Huddersfield.

GARDENER (HEAD), or FOREMAN (GENERAL), in large establishment.—C. E. MARTIN, The Hoo Gardens, Welwyn, can with confidence recommend his late General Foreman, Wm. Barham, to anyone requiring a thorough practical and trustworthy man.

GARDENER (HEAD), and ORCHID-GROWER.—Age 35; married. Successful grower of Orchids, Grapes, Stove, Greenhouse, and Hardy Plants, Fruits, Flowers, and Vegetables. Reliable manager. Excellent character.—GARDENER, Lett's Library, Crouch Hill, N.

GARDENER (FIRST or SECOND).—Age 26; respectable young man (foreigner); thoroughly experienced. Excellent references. Where opportunity given for Book-keeping and Office Work preferred.—A. KOERING, 329, Lillie Road, Fulham, S.W.

£5 will be given to anyone getting Advertiser situation as GARDENER, where three or more are kept; age 27, married.—B. K., 41, Wellington St., Strand, W.C.

GARDENER.—Age 30, married, no family. Good all round; thoroughly experienced in all branches. Abstainer. Good references.—S., Park House, Holly Park, Crouch Hill, Middlesex.

GARDENER.—MRS. PHILLIPS, Unsted Park, Godalming, will be pleased to recommend W. Wiles, as above, who has served her 19 years. Generally successful in all branches. Life experience in good places.

GARDENER.—Dowager Lady LEWIS recommends Gardener (age 30, single), as First of two or three, or Second where four or more are employed. Has had ten years' experience in good gardens as Second. Good references.—J. G., Harpton Court, Kington, Herefordshire.

GARDENER, where another is kept.—Age 26, married, no family. Good character.—J. TULK, Baughton, near Earl's Croome, Worcester.

GARDENER (WORKING).—Age 45, single.—A GENTLEMAN wishes to recommend his Working Gardener, who was with him seven and a half years. He thoroughly understands the Management of Vines, Fruit, Flower, and Kitchen Gardens.—P. F. WILLERT, Headington Hill, Oxford.

GARDENER in a good SINGLE-HANDED place.—Mr. CHARLES MYLNE BARKER can recommend C. Hobbs, as above. Wife trustworthy and reliable (one child).—C. HOBBS, Gardener's Cottage, Clive House Esher.

GARDENER (SINGLE-HANDED, or with help).—Age 27; understands Vines, Peaches, Tomatos, Cucumbers, Flowers, &c. Abstainer. Good references.—GARDENER, 44, London Road, Braintree, Essex.

GARDENER (SINGLE-HANDED).—Married, no family; thoroughly understands his business. Or Caretaker. No objection to Cow, &c. Country preferred.—J. C., 4, North Street, Thame, Oxon.

GARDENER (SINGLE-HANDED, or otherwise).—Age 34, married; thoroughly experienced. Eight years last situation. Excellent character.—T. STRAND, 95, Kilburn Park Road, Paddington.

GARDENER (SINGLE-HANDED, or where help is given).—Nearly eight years' good character.—A. COLBERT, 38, Histon Road, Cambridge.

GARDENER (good SINGLE-HANDED, or otherwise).—Age 36, married, one child (age 6). A Gentleman giving up house recommends his Gardener as above; a thorough practical man. Total abstainer. Good personal reference.—W., 47, Netherhall Gardens, Hampstead.

GARDENER (SINGLE-HANDED, or SECOND).—Age 28, single; life experience. Good all-round Gardener and Manager. References reliable. Two years present situation.—W. BREWSTER, 5, Gloucester Place, Cheltenham.

GARDENER (SINGLE-HANDED, or SECOND). Age 26; seven years' experience in general routine of Gardening. Three and a half years single-handed, with a Pony-trap, at a rectory, and three and a half as Second in present situation. Also highest reference from previous and present situation. Also married when suited.—F. E., Mrs. Braysher, Kernold's Bank, Chailey, near Lewes, Sussex.

GARDENER (SECOND).—Age 25, single; seeks situation as above in Gentleman's Garden. Three years' good character. Good Scythe Mower.—H. P., 1, Nelson Terrace, Portslade.

GARDENER (SECOND), where five or six are kept, Inside, or Inside and Out.—Age 27. Excellent character.—A. B., 29, Kennet Road, Paddington.

GARDENER (SECOND, or otherwise).—Age 24; abstainer. Well experienced Inside and Out. Good character.—A. SPEAKMAN, 8, Shaftesbury Avenue, New Barnet, Herts.

GARDENER (SECOND).—Age 26, married; life experience, Inside and Out. Good character.—C. SMITH, Elmore, Chipstead, Surrey.

GARDENER (SECOND); age 21.—A GARDENER wishes to recommend a young man as above; two years' good character.—W. M., North Street House, Midhurst.

GARDENER (SECOND), Inside and Out.—Age 24; good character.—H. KNOWLES, Up Park Gardens, Petersfield, Hants.

GARDENER (SECOND).—Age 25; 12 years experience; Inside and Out. Mr. H. COSTER, Froyle Park Gardens, Alton, will be pleased to recommend J. Chase as above.

GARDENER (SECOND), where about four are kept; or JOURNEYMAN, in a good Establishment.—Age 22; seven years' experience.—T. BRADFORD, The Gardens, Kitlands, Holmwood, Surrey.

GARDENER (SECOND), or JOURNEYMAN (FIRST), under a Foreman.—Good character.—A. CHEESMAN, Cold Waltham, near Pulborough, Sussex.

GARDENER (UNDER).—Age 22; three years' character; inside and out.—G. WHITE, The Gardens, Lullington Hall, Burton-on-Trent.

GARDENER (UNDER).—Rev. T. HIRST, Bishopsbourne Rectory, can strongly recommend young man (age 25), as Second. Four years' excellent character.—A. L., Bishopsbourne, Canterbury.

GARDENER (UNDER).—Age 20; practical experience Inside and Out. Well recommended.—F. PACKHAM, West Street, West Malling, Kent.

GARDENER (UNDER).—Age 21, single; experienced Inside and Out. Five years' good references. Please state wages.—E. B., 47, Connaught Road, Castle Hill, Ealing, London, W.

GARDENER (UNDER).—Age 26; good knowledge of Kitchen Garden Work, or Inside and Out. Good character.—W. SANSOM, 7, Sydney Terrace, Feltham, Middlesex.

GARDENER (UNDER), in a good establishment.—Age 20; strong and active. Six years' experience. Good character.—H. BISH, The Gardens, Hartswood, Reigate.

GARDENER (UNDER), under a Foreman, in the Houses.—Age 22, single; good references.—COLLYER, The Gardens, Aldershot Park, Aldershot, Hants.

GARDENER (UNDER), and generally useful.—Age 20; five years' good character.—HULBERT, Stoke-by-Nayland, Colchester. Kent preferred.

£2 10*s*. OFFERED.—Situation for Youth, age 18, required, in Shropshire or neighbourhood, in which to Learn Gardening thoroughly. Good elementary knowledge of the work. Good recommendation.—SALOP, 41, Wellington Street, Strand, W.C.

FOREMAN, Inside.—Age 25; ten years' experience in Plant and Fruit Growing, one year as Foreman in last place. Two years at Enville Hall. Good characters.—W. T., 3, London Road, Hackbridge, Surrey.

FOREMAN, Inside or General.—Age 27; life experience in growing Vines, Peaches, Cucumbers, Tomatos, and all sort of Pot Plants. Three years' good character from present situation.—J. WILLIAMS, Hookfield Grove Gardens, Epsom.

FOREMAN.—Age 24; ten years' experience. Thoroughly well up in Plants, Fruits, and Chrysanthemums, House and Table Decorations. Two years in previous situation as Foreman. Excellent references.—PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

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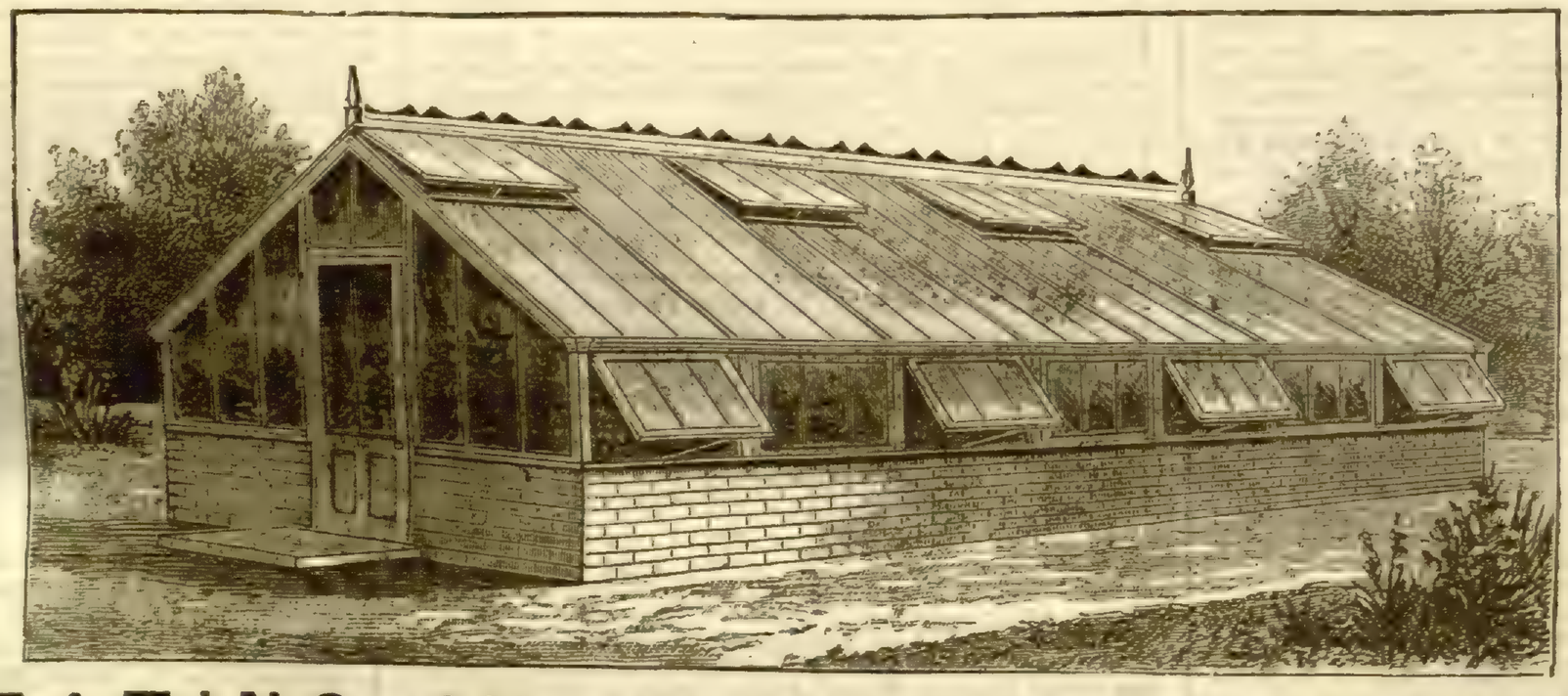

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YELLOW MARGUERITE, FEU D'OR.—Autumn-struck Cuttings, 5s. per 100; White Marguerites, 8s. per 100; Geraniums, Autumn-struck, Vesuvius, 8s. per 100; Henri Jacoby, John Gibbons, Raspail, and Flower of Spring, 2s. per doz., 12s. per 100; Ivy-leaf Geraniums, out of small 60's, 2s. p. doz., 12s. p. 100. Cash with order.—CHARLES W. LAW, Manor Park Nursery, East Finchley, London.

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SUTTON'S EARLIEST CABBAGE.—Mr. R. Lye, Sydmonton Court Gardens, says:—"Sutton's Earliest is the earliest and quickest growing Cabbage I know. Seed sown in a gentle heat early in the spring will produce good heads earlier and better than many varieties sown in the autumn."

SUTTON'S EARLIEST CABBAGE.
Price of Seed, 1s. and 1s. 6d. per packet, post free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

NOW IS THE TIME TO PLANT PÆONIES.
Catalogue of KELWAY AND SON, Langport, Somerset.

GRAPE VINES.—Well-ripened, short-jointed Canes, of all the popular kinds, established in pots, extra strong, for fruiting this year in pots, 6s. to 10s. 6d. each; for planting, 2s. 6d. to 5s. each; extra strong, 6s. to 10s. 6d.
WM. PAUL AND SON, Waltham Cross, Herts.

NEW OUTDOOR TOMATO.—LAXTON'S "EARLY PROLIFIC;" this variety, raised by crossing our "Open Air" × "Challenger," is a better-shaped, earlier, and most prolific "open-air Tomato." The earliest to ripen out-of-doors, of good shape, very prolific, and undoubtedly THE VARIETY for out-door growth; sealed packets, 1s. 6d. Full Catalogue of the best Vegetable and Flower Seeds, gratis; free carriage.—LAXTON BROTHERS, Bedford.

WREATH, CROSS, and BOUQUET BOXES, PROPAGATING TRAYS, &c.
HORTICULTURAL TIMBER MANUFACTURER.
Prices on application to—
EDWARD TAILBY, 76, Summer Row, Birmingham.

Wholesale Vegetable and Agricultural Seeds.

H. AND F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of VEGETABLE and AGRICULTURAL SEEDS of 1894 growth, which will compare very favourably with those of other English growers.
SEED-GROWING ESTABLISHMENT, WISBECH.

GUIBERT & CO., Paris (oldest firm), supply Florists direct from their Greenhouses with Choicest CUT FLOWERS. Enormous saving. Sample box, 10s., carriage paid.—GUIBERT & CO., 22, Rue de Dunkerque, Paris.

MILLER'S SEAKALE ROOTS give great satisfaction, as our repeat orders testify. Strong roots for planting, 4s. 6d. per 100.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

WANTED, CYPRIPEDIUM INSIGNE in EXCHANGE for CATTLEYAS or other ORCHIDS.
SANDER AND CO., St. Albans.

PINES.—WANTED two dozen strong, healthy QUEEN PINES, from nursing-house, or small ones from intermediate-house.
E. STANTON, Silk Mills, Lewisham, Kent.

WANTED, 400 COLEUS CUTTINGS, VERSCHAFFELTI. Would like to EXCHANGE by IRESINE or BEGONIA TUBERS, Laing's strain.
G. FULFORD, The Gardens, Trafalgar, Salisbury.

WANTED, Six good SPECIMEN ORANGE TREES, or Four ORANGE and Two LEMONS. State size and price to HEAD GARDENER, Mawden Hill, Arthington, Leeds.

WANTED, BLACK HAMBRO'S and GROS COLMAR in small pots. Quote lowest price per hundred to—
POLLARD'S NURSERY, Longfield Lane, Cheshunt.

LARGE EVERGREENS from Specimen Borders, at greatly reduced prices. The choicest Green and Golden Varieties, from 4 to 12 ft. Perfect Specimens and safe to move, transplanted within two years. Inspection invited. PENNELL AND SONS, Lincoln.

LOVEL'S YORKSHIRE STRAWBERRIES. Autumn transplanted, 25, 1s.; 100, 3s.; 500, 12s. 6d. Carriage paid. Descriptive LIST free.
W. LOVEL AND SON, Strawberry Growers, Driffield.

PLANTING SEASON.—Immense Stocks of HARDY EVERGREEN and DECIDUOUS TREES and SHRUBS of all kinds, all well transplanted, and in excellent condition for removal. Rhododendrons off Loam a specialty. Priced Descriptive Catalogue free by post.
WM. PAUL AND SON, Waltham Cross, Herts.

LILIUM AURATUM, grand stuff, only 3s., 5s., and 6s. 6d. per dozen; 20s. to 40s. per 100. Extra large Bulbs, 1s. each. All other Lilies at lowest rates. Palms, Seedling Latanias, and Coryphas, 10s. per 100.
F. ROSS AND CO., Merstham.

ORCHID BASKETS, made of the Best Teak, and with Copper-wire Suspenders; also Cylinders, Rafts, &c., at Lowest Prices.—JOHN COWAN AND CO., Ltd., The Vineyard and Nurseries, Garston, near Liverpool.

AUCUBA JAPONICA.—Fine, healthy, bushy plants, 2½ to 3 feet and smaller, uninjured by frost. Catalogue free.
H. LANE & SON, The Nurseries, Berkhamsted, Herts.

Dwarf Tea Roses.

PAUL & SON Offer PROTECTED PLANTS, Frost Free.
The Old Nurseries, Cheshunt.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

CUT FLOWERS, cheapest supply. ROSES, from 1s. 3d. per dozen. And LILY OF THE VALLEY, ARUMS, TULIPS, ORCHIDS, CAMELLIAS, AZALEAS, GERANIUMS, SPIRÆAS, HARRISII LILIES, MAIDENHAIR FERNS. Mixed boxes of above from 5s.
H. W. LEAR, Victor Street, Hull.

Turner's Crimson Rambler Rose.

CHARLES TURNER can supply extra strong plants from ground, 8 to 10 feet high.
The Royal Nurseries, Slough.

CARNATIONS.—For the Best New and Old Varieties apply to J. DOUGLAS. Thirty-one First-class Certificates and Awards of Merit in 1894.
CARNATION and PICOTEE SEED, 2s. to 3s. 6d. per packet.
AURICULA PLANTS, Show and Alpine, to name.
AURICULA, PRIMROSE and POLYANTHUS SEED, 1s. to 2s. 6d. per packet.
CARNATIONS, Seedlings, to flower in summer, from best named varieties, 3s. 6d. per dozen; 25s. per 100. Packing and carriage free. Send for CATALOGUE, post-free.
JAMES DOUGLAS, F.R.H.S., Edenside, Gt. Bookham, Surrey.

LILIES.—All the finest varieties: Henryi, Aur., Rubro-Vittatum, Virginale, &c. Magnificent quality. Lemoine's Gladioli, Begonias, Tigridias, Rare Bulbs, &c.
LYCORIS AUREA (see Plate in *The Garden*, January 19, 1895), L. SQUAMIGERA (hardy new), L. SANGUINEA (new orange-red). List of these beautiful bulbous plants, with cultural notes, free.—R. WALLACE AND CO., Colchester.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Wednesday Next.

GREAT SALE of ENGLISH and GERMAN ROSES.

1000 Choice-named Standard, Half-standard, Dwarf, Climbing, and other ROSES, from one of our most successful English Growers and Exhibitors, consisting of the leading sorts of Hybrid Perpetuals, Teas, Noisettes, and several of the best New Varieties.

Also

A Splendid Collection of 2000 Prize-grown Roses from a celebrated and trustworthy German Nurseryman, including a fine assortment of most of the newest and best sorts, just received direct.

300 Lots of Border Plants, in Great Variety, comprising a Special Collection of CARNATIONS, PINKS, and PICOTEES, HOLLYHOCKS, DAHLIAS to name, IRIS of sorts, ROCKETS, VIOLETS, Choice PRIMROSES, Choice Hardy PERENNIALS, ANEMONES, &c.

A Selection of named Pyramid and Dwarf-trained FRUIT TREES, consisting of Apples, Pears, Plums, Cherries, Apricots, Nectarines, Peaches, &c.; Black, Red, and White Currants, Raspberries, Gooseberries, Strawberries, &c.

A Surplus Stock of well-grown English Ornamental SHRUBS, including RHODODENDRONS, IVIES, LAURELS, PRIVET, BOX, ASH, AZALEAS, CLEMATIS, YEWS, AUCUBAS, THUYAS, LILACS, HYDRANGEAS, &c.

Plants and Bulbs from Ghent Lilium auratum from Japan, a Collection of GLADIOLI and BEGONIAS, a fine variety of LILIUMS, SPIRÆA JAPONICA and PALMATA, DIELYTRA SPECTABILE, and CYPRIPEDIUM SPECTABILE from America.

Collection of Stove and Greenhouse Plants, Pearl and African TUBEROSES, ARUMS, PANCRATIUMS, AMARYLLIS, TROPÆOLUMS, TIGRIDIAS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 20, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT, MARCH 22.

By Order of Messrs. F. SANDER & CO., St. Albans.

GREAT SALE of IMPORTED ORCHIDS.

GRAND IMPORTATIONS.

A NEW GIANT WHITE CŒLOGYNE,
C. MICHOLITZII,

which has large upright spikes of enormous Anguloa-like flowers. Flower-stalks 2 feet long, resembling the inflorescence of Odontoglossum crispum. The finest Orchid novelty discovered by our indefatigable collector, Mr. W. Micholitz. Also—

DENDROBIUMS, ONCIDIUMS, VANDAS, LÆLIAS, ODONTOGLOSSUMS, CYPRIPEDIUMS, &c.

Among other splendid and useful Orchids,

DENDROBIUM FINDLAYANUM,

in magnificent condition, will be offered. This is a particularly fine importation, the bulbs being remarkably plump and hard; from the same locality from which the snow-white variety, D. F. Ashworthii was obtained. Also—

LÆLIA (BRASSAVOLA) GLAUCA,

in grand condition, well-leaved, and in robust health.

DENDROBIUM JAMESIANUM,

fine plants of this large-flowered, free-blooming species.

DENDROBIUM FORMOSUM GIGANTEUM.

CŒLOGYNE CORYMBOSA, DENDROBIUM CRYSTALLINUM, D. THYRSIFLORUM, VANDA KIMBALLIANA, V. CŒRULEA, CYPRIPEDIUM BELLATULUM, all are strong, vigorous plants, in the very acme of health.

Splendid selections will also be included of—

DENDROBIUM FARMERI,

one of the best and rarest of Dendrobes. Grand plants will be offered besides of—

ONCIDIUM SPHACELATUM, O. CAVENDISHIANUM, O. LANCEANUM, O. RUSSELIANUM, ODONTOGLOSSUM REICHENHEIMII, CATTLEYA SKINNERI PARVIFLORA, STANHOPEA ECORNUTA, CATTLEYA AMETHYSTOGLOSSA, DENDROBIUM NOBILE (Lang Tang var.), D. FARMERI AUREUM, &c.

DENDROBIUM SPECIOSISSIMUM (Rolfe).

Re-discovered by our Mr. Ericsson. Dried flowers to hand. We expect consignment daily. If the plants arrive in time, they will be included in the above Sale, and without the least Reserve.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 22, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

3 MASDEVALLIA FRAGRANS (rare).
1 ,, MELANOPUS (true variety).
CATTLEYA LAWRENCEANA, in flower.
,, SKINNERII ,,
CYPRIPEDIUM LOWIANUM ,,
BRASSAVOLA DIGBYANA ,,

MESSRS. PROTHEROE AND MORRIS will include the above Plants in their ORCHID SALE on FRIDAY NEXT, March 22, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

ENORMOUS CONSIGNMENT OF 565 CASES OF JAPANESE LILIES,

COMPRISING

110,300 LILIUM AURATUM,

many of them gigantic bulbs.

1,600 LILIUM AURATUM PLATYPHYLLUM
790 ,, ,, MACRANTHUM
125 ,, ,, RUBRO-VITTATUM
300 ,, ,, VIRGINALE ALBUM
380 ,, ,, PICTUM
1,500 ,, SPECIOSUM ALBUM KRÆTZERI
876 ,, ,, RUBRUM
400 ,, ,, ALBUM NOVUM
456 ,, BATEMANNIÆ
360 ,, KRAMERI
200 ,, ODORUM JAPONICUM
570 ,, THUNBERGIANUM, scarlet
200 ,, ,, WILSONI
700 ,, LEICHTLINII, red
600 ,, TIGRINUM FORTUNEI

160 LILIUM HENRYII,

The New Yellow SPECIOSUM.

2,800 IRIS KÆMPFERI,

Strong Clumps in great assortment.

42 CAMELLIAS, 110 AZALEA INDICA, 50 A. MOLLIS, 50 KENTIAS, ASPIDISTRAS, DRACÆNAS, CORYPHAS, &c., from Belgium; 10 lots Wyndham Industry GOOSEBERRIES, 120 Standard, 420 Dwarf, Moss, and Monthly ROSES, Double and Single BEGONIAS, GLADIOLI, STOVE and GREENHOUSE PLANTS, DAHLIAS, hardy border BULBS and PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 20, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Monday Next.

GLADIOLI, LILIES in variety, BEGONIAS, SPIRÆAS, 50 Lots of GREENHOUSE FERNS and PLANTS, 20 Lots PALMS, IRIS, HERBACEOUS PLANTS, 200 DWARF ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, March 18, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Choice Artist-proof Etchings, Engravings, &c.

FIVE DAYS' UNRESERVED SALE.—By order of Messrs. B. Brooks and Sons, the old-established art publishers, of 171, Strand, W.C.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, Cheapside, London, E.C., on MONDAY, March 18, and four following days, at half-past 12 o'Clock each day. PROOF ETCHINGS and ENGRAVINGS, PHOTOGRAVURES, &c., embracing well-known examples of all the eminent artists; also numerous scarce artist proofs, framed, including some of the most noted publications.

On view. Catalogues had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tuesday and Thursday Next.

NOTICE OF NON-SALE.

MESSRS. PROTHEROE AND MORRIS beg to notify that in consequence of the big SALE of LILIES on WEDNESDAY NEXT, there will be no ORCHID SALE on TUESDAY NEXT, and no Miscellaneous Sale of HARDY BULBS and PLANTS on THURSDAY NEXT, as advertised in some of the horticultural papers.

Long Ditton, Surrey.

(One mile from Surbiton Station.)

CLEARANCE SALE of ORCHIDS, STOVE and GREENHOUSE PLANTS, HOUSEHOLD FURNITURE, full sized BILLIARD TABLE, and EFFECTS, by order of W. Whitley, Esq., who is leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Cock Crow Hill, Long Ditton, Surrey, on WEDNESDAY NEXT, March 20, at 1 o'Clock, a small Collection of well-grown ORCHIDS, in variety, AZALEAS, CAMELLIAS, PELARGONIUMS, CYCLAMENS, LAPAGERIAS, ERICAS, several GARDEN FRAMES and LIGHTS, GARDEN TOOLS, WHEELBARROWS, STEPS, 3 GARDEN ROLLERS, 4 MOWING MACHINES, a few lots of useful HOUSEHOLD FURNITURE, including Bedsteads, Tables, Lamps, Mirrors, several Brussels and other Carpets, and a full-sized Pollard Oak BILLIARD TABLE, by Bennett, with 2 sets of Balls, Pool Balls, Rests, and Cues.

May be viewed two days prior and morning of Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Chingford. Ten Minutes' Walk from Chingford Station.

CLEARANCE SALE of PLANTS, ROSES, HORSES, VAN, STACK of HAY, and Effects, by order of Messrs. Kelman & Page, in consequence of Dissolution of Partnership, and Letting of the Nursery.

MESSRS. PROTHEROE AND MORRIS (having let the Nursery) will SELL by AUCTION, on the Premises, The Queen Elizabeth Nursery, Forest Side, Chingford, on THURSDAY NEXT, March 21, at 1 o'Clock, thousands of GERANIUMS, FERNS, FUCHSIAS, and other Greenhouse Plants; AZALEAS, DAHLIA ROOTS, MARGUERITES, HERBACEOUS PLANTS, &c.; 3000 Dwarf ROSES on Manetti Stock, 150 ROSES in pots, strong Maréchal Niel ROSES, 8 to 10 feet, Black Hamborough VINES, strong CANES, hardy climbing PLANTS, and named FRUIT TREES.

Also, 4 good HORSES, Tumbril Cart, Van, 2 Sets of HARNESS, STACK of HAY, about 25 loads; large quantity of MANURE and LEAF-MOULD, about 300 Cast of POTS, Clamps of POTATOS and CARROTS, BEETROOT and PARSNIPS.

On view day prior and morning of Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Woking, Surrey.

UNRESERVED SALE of the whole of the well-grown NURSERY STOCK, by order of the Trustees under the will of W. Jackman, deceased.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Hook Hill Nurseries, Woking, Surrey, about 2½ miles from Woking Railway Station, and 20 minutes' walk from Worplesdon Station, on THURSDAY and FRIDAY NEXT, March 21 and 22, at 12 o'Clock punctually each day, without reserve, 2000 PORTUGAL LAURELS, 3 to 6 feet; 10,000 Common, Caucasian, and Oval-leafed LAURELS, 3 to 4 feet; 2500 English YEWS, 1 to 5 feet; 1000 LIMES, ARBOR-VITÆ, CUPRESSUS LAWSONIANA, 2000 Variegated HOLLIES, 1 to 6 feet; 5000 Green HOLLIES, 1 to 6 feet; 12,000 FRUIT TREES, comprising clean-grown Standard Apples, Pears, Plums, Cherries, Damsons, Dwarf-trained Peaches, Nectarines, &c.; 60,000 FRUIT STOCKS, 2000 Purple and White LILACS, 3000 AUCUBAS, 1 to 3 feet; 1000 RHODODENDRONS, 2 to 3½ feet, 4000 SPRUCE FIRS, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

N.B.—The valuable FREEHOLD ESTATE, comprising several parcels of choice Nursery and Fruit Land, many having Building Frontages to existing roads, will be offered by Auction by Messrs. PROTHEROE AND MORRIS in "E" Room, 67 and 68, Cheapside, London, E.C., on MAY 10.

The Live and Dead FARMING STOCK, Cows, Horses, &c., will be Sold on the Premises on THURSDAY, March 28.

WANTED to RENT, near London, a few Acres of LAND, suitable for Nursery Purposes.—SULTAN, 41, Wellington Street, Strand, W.C.

FLORISTS.—A really high-class and profitable BUSINESS TO BE SOLD, owing to family arrangements. Excellent shop and good dwelling accommodation in a fine position. Fashionable resort near London. Bargain. Fruit could be added with advantage.—Address, FLORIST, S. Deacon & Co., 150 & 154, Leadenhall Street, E.C.

A FIRST-CLASS FREEHOLD FLOWER and FRUIT NURSERY, to be SOLD, as a Going Concern. Established fifteen years, 14 miles from London, close to station. About 1700 feet of modern Glasshouses efficiently heated and ventilated. Two 100-feet cold Pits. Choice Vines. Capital Residence, Stabling, &c. In all about 3 Acres. Price £5250.—Apply to BOREHAM AND CO., Mowbray House, Norfolk Street, Strand, W.C.

A SPLENDID OPPORTUNITY.—To Gentlemen with Capital at command for working. TO BE SOLD, old-established FLORIST and MARKET NURSERY, Glass, nearly 20,000 feet; very fashionable watering-place, on South Coast; well-stocked, in thorough working order, in full preparation for spring work; there is a great demand for Cut Flowers and all kinds of Market Stuff, Tomatos and Cucumbers, &c. To one with a sufficient capital at command this is a sound concern, and well worth attention; the whole is heated on approved principles, and by an energetic and business man could be doubled in a very short time. Long lease; small ground rent; stock-in-trade at valuation. Price £1800. £750, if arranged, could remain on mortgage. Only principals treated with, and every information given.—H. C., 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists.

TO BE LET, GARDEN GROUND, with Vinery and Greenhouses, in N.W. district.—Apply to Messrs. HIGGINS AND SON, Auctioneers and Estate Agents, 12, Finchley Road, N.W.

SURREY.—TO LET, fifteen miles from Covent Garden; ten minutes from S.E.R. station, FRUIT and FLORIST'S BUSINESS, about 2 acres in extent. Twelve houses, cottage, stabling, orchard, and garden. Moderate rent; very low valuation; a bargain.—Apply to D. LUMSDEN, Purley, Surrey.

MIDDLESEX.—TO LET, in the best part of Market Garden District, 15 miles from London, 1½ mile main line station, 160 acres (50 of which are old pasture), with 10-room well-built House and commodious buildings. Suitable for Market Garden and Dairy Farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

TO LET.—TWO Valuable NURSERIES, suitable for Beginners or others. Situate within easy distance of London, at low rents. £20 and £30 per annum. Capital opportunity for an energetic man. Full particulars of ROBERT PECKITT, 45, Plumstead Road, S.E.

NURSERY TO LET at Tottenham; 3 large Glasshouses, &c., 1 Acre in extent. Good supply of soft Water. Rent, £30, or offer.

ALFRED RICHARDS, Estate Agent, Tottenham.

NURSERY TO BE LET, about half-an-acre. —Seven houses. Six miles from London. Low rent.—Apply, W. G. SHADRAKE, Auctioneer and Estate Agent, High Road, Leyton, Essex.

LARGE GLASS HOUSE FOR SALE.—Lantern Roof; Stove, 24 feet high, 3 feet wide, 57 feet in length. All removable in 40 lights 9 feet 6 inches by 4 feet, corner lights to fill up. Upright lights 50, 4 feet by 4 feet. Very thick glass in roof. A Bargain, as must be removed this season. Hot-water Pipes in the same. What offers?—Apply, HOSKINS, Stansted Park Gardens, Emsworth, Sussex.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

FOR SALE.—Large PALMS and ARAUCARIAS, PINES, SUCKERS and SUCCESSION; TOMATO and CUCUMBER PLANTS. Full particulars on application. WANTED, TROPÆOLUM VESUVIUS.

Address—HENRY PITT, Nurseryman, Abergavenny.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
GARDENS, REGENT'S PARK.
SPRING FLOWER SHOW.
The FIRST EXHIBITION of SPRING FLOWERS will take place on WEDNESDAY NEXT, March 20. Gates open at Two o'Clock. The Band of the 1st Life Guards (by kind permission of the Commanding Officer), will be in attendance. Tickets 2*s.* 6*d.* each, to be obtained at the Gardens, or of the principal ticket agents.

MYROBELLA FOR SALE.—Good, strong, healthy Stuff, 18*s.* per 1000.
Sample on application.
D. MORSE & SONS, Eaton, Norwich.

TO BE SOLD, Cheap, Eight Large PEACH TREES, ROYAL GEORGE, 7*s.* 6*d.* to 10*s.* 6*d.* each.
THOMAS DUCK, Abb·y Wood, Kent.

Strawberries and Raspberries.

H. CANNELL & SONS have all the best new and old sorts in great quantities, in the very finest condition, and at very low prices; orders solicited.
SWANLEY, KENT.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.
GOLDEN, 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

Seed Potatos.

H. & F. SHARPE'S Special Priced List of SEED POTATOS, has been posted to their Customers, but a further copy will be sent to those who have not received it if applied for. It comprises all the best kinds in cultivation, and at prices very advantageous.
SEED-GROWING ESTABLISHMENT, WISBECH.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

PLUM STOCKS.—Good roots, and trimmed for quartering. BRIARS, selected for grafting or budding. ROSES, GRAPE VINES, Fruit trees of all kinds.— WILL TAYLER, Fruit-tree and Rose-grower, Hampton, Middlesex.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

STRAWBERRY ROYAL SOVEREIGN (LAXTON).—Well-rooted Runners, 3*s.* per doz., 20*s.* per 100; STRONG FRUITING RUNNERS, 6*s.* per dozen, 40*s.* per 100; free cash.—S. HAMILTON, Mayfield Gardens, Perth, N.B.

STRAWBERRY PLANTS.—Laxton's Noble and Sir Joseph Paxton, well-rooted Plants, 4*s.* per 1000. Cash with Order.
A. AUGER, Orange Tree Farm, Dartford, Kent.

PRIMULA CUTTINGS. — Marchioness of Exeter, 2*s.* 6*d.* per doz. Lord Beaconsfield, 2*s.* per doz. Ivy-leaf PELARGONIUMS, Madame Crousse and Albert Crousse, 4*s.* 6*d.* per 100. All good cuttings, sent post free for cash with order.
GEO. DRABBLE, Ketton Hall Gardens, Stamford.

B. R. DAVIS' BEGONIA CATALOGUE. —A Gem of Gems. Acknowledged to be the best Descriptive Catalogue of one of the best Gold Medal Prize Collections in cultivation, post-free.
B. R. DAVIS, Begonia Grower, Yeovil, Somerset.
P.S.—A quantity of English Oak, 8 to 15 feet; also Privet ovalifolium, all sizes, from 1 to 6 feet.

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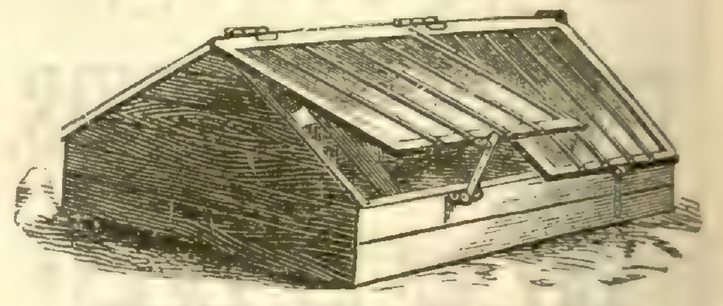

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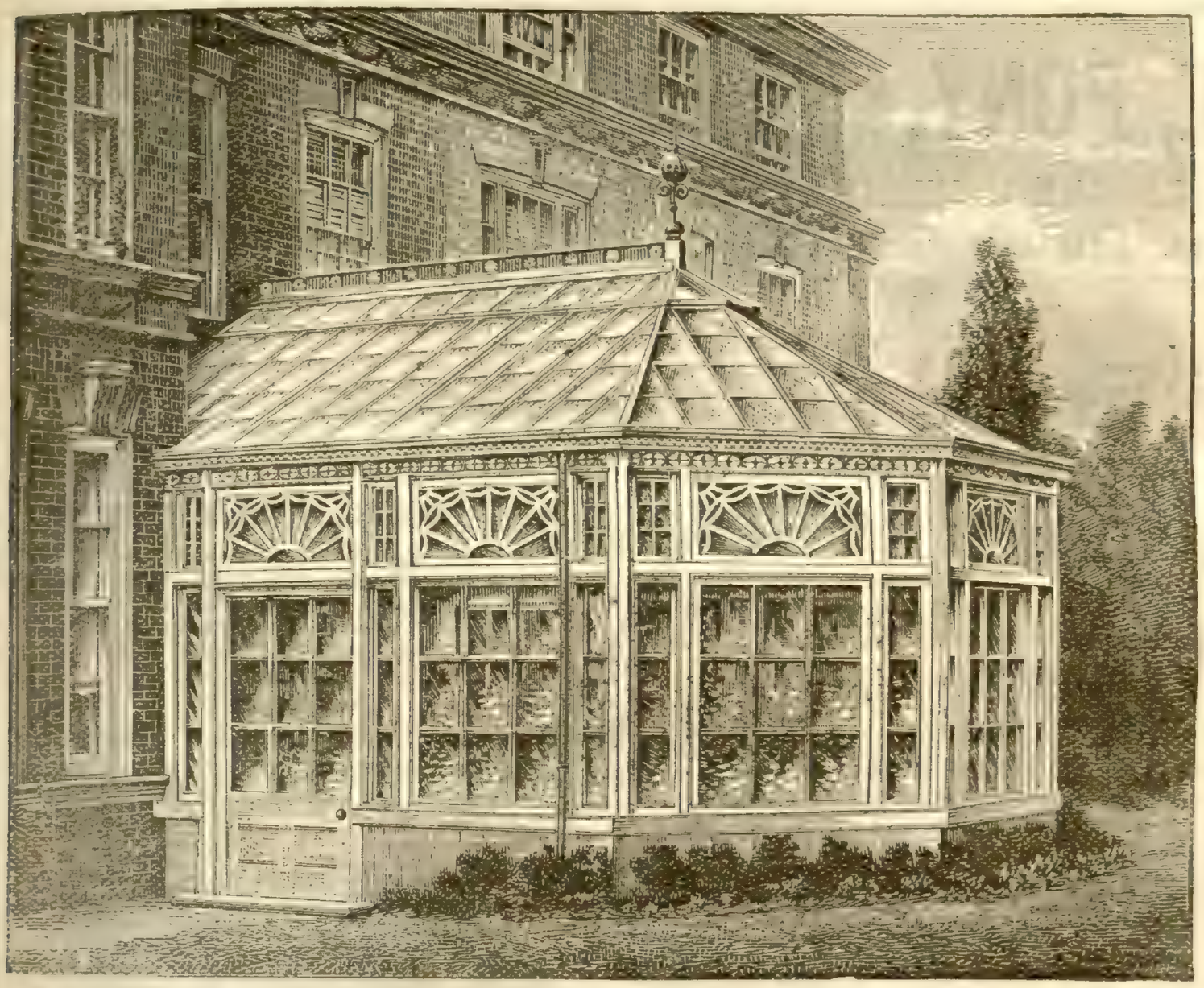

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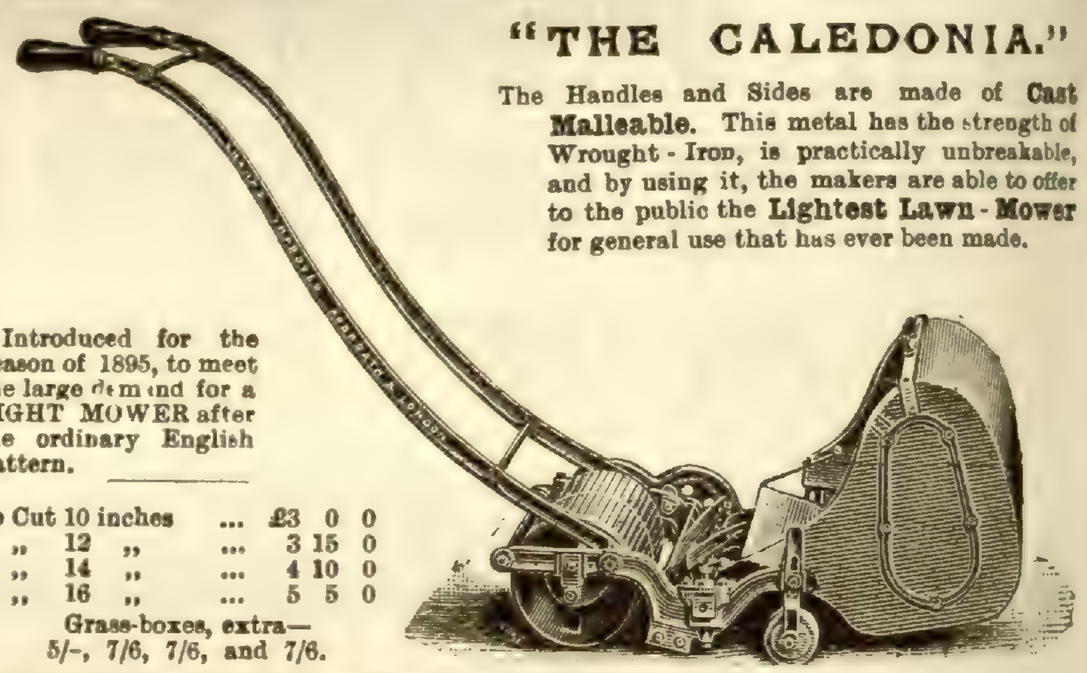

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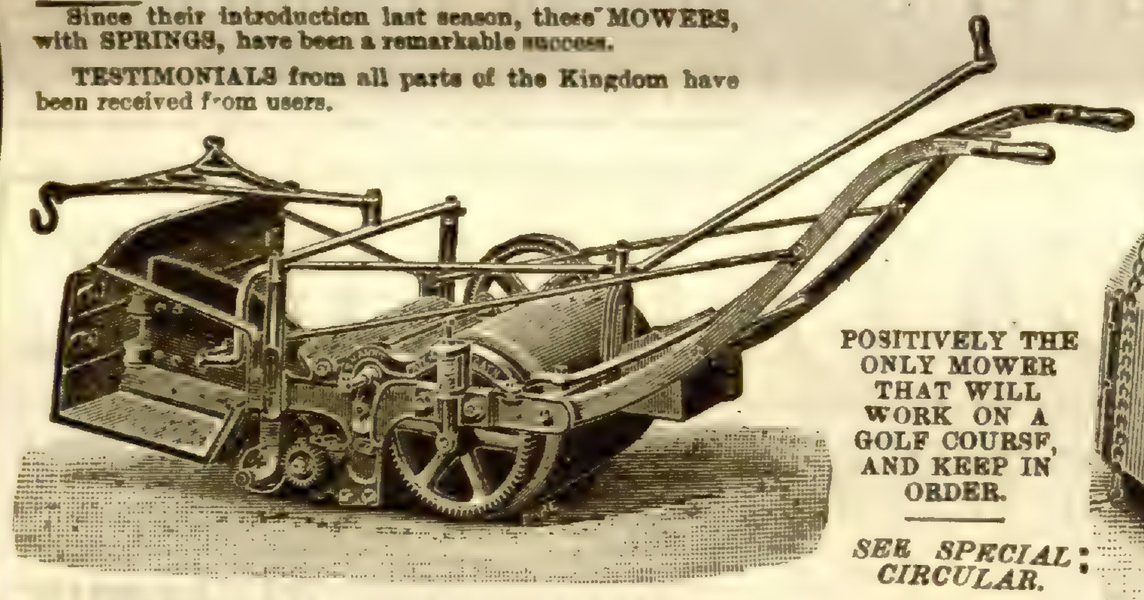

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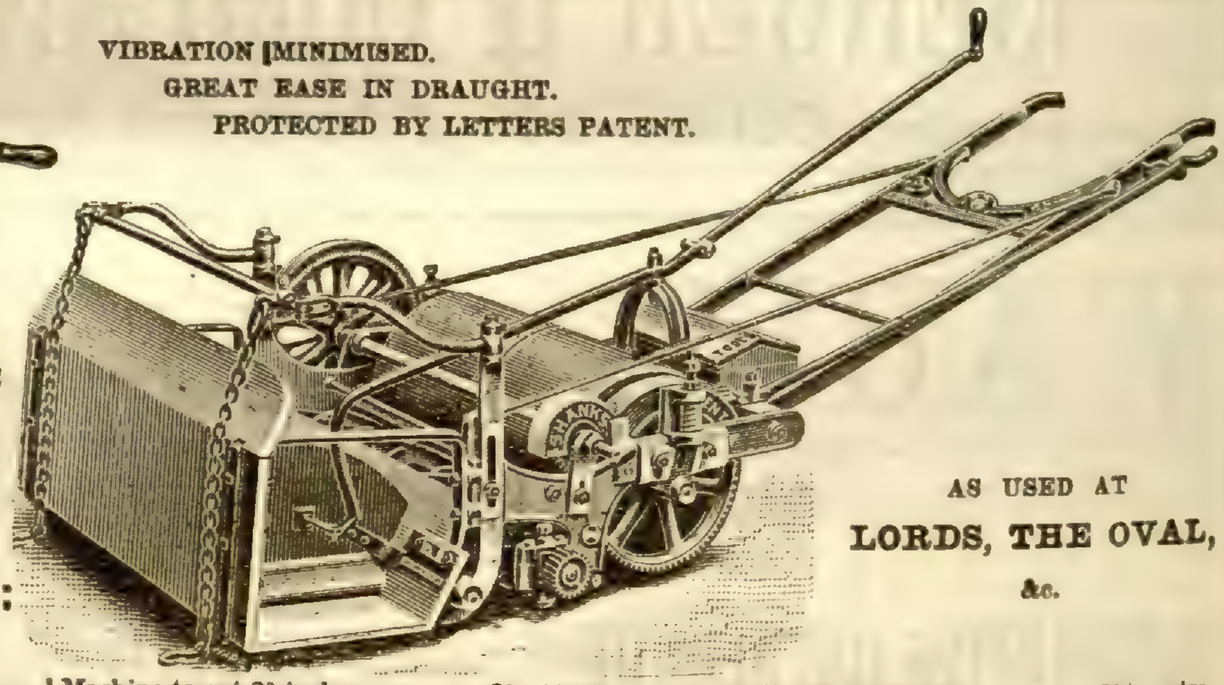

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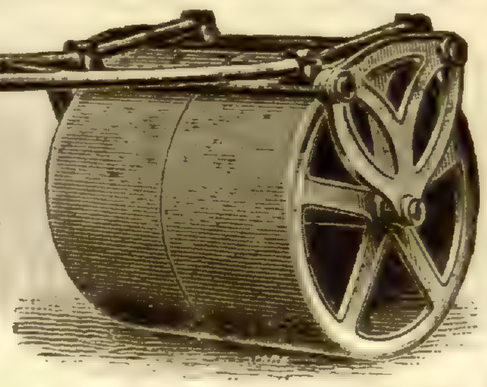

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THE

Gardeners' Chronicle.

SATURDAY, MARCH 16, 1895.

THE FORESTS OF JAPAN.*

IN the autumn of 1892 Professor Sargent, the Director of the Arnold Arboretum, made a tour through parts of Japan with the object of observing and noting the forest flora of that country. During part of the journey he was accompanied by Mr. J. H. Veitch, whose narrative was given in our columns. Professor Sargent's fuller account was published at intervals in our high-toned American contemporary, *Garden and Forest*, from which it is now reprinted, with the original illustrations, and a sufficient index. The work is beautifully got up, paper, type, and illustrations being all of superior quality.

The introduction touches briefly on the history and peculiarities of the arboreal vegetation of Japan. After all deductions are made for the introduction of Chinese and Corean species, not truly native to Japan, the Japanese region, for its area, is still unsurpassed in the number of trees which inhabit its forests. Particularly is this so in Yezo, where, we are told, that forty-six species and varieties of trees grow on one hill in the vicinity of Sapporo, the capital, alone, and within a range of five miles other species grow, bringing up the list to sixty-two species and varieties in an area a few miles square. Professor Sargent, following in the track of the late Professor Gray, institutes comparisons between the forest flora of Japan and that of the north-east United States. We need not enter into that subject here, as it is one which, however interesting to naturalists, has relatively minor importance to cultivators. It is, however, interesting to know that in spite of the numerical richness in the forms, the deciduous trees of Japan do not equal in beauty and size those of eastern America. The following extract from the introduction serves to give a good general idea of the forests of central Japan:—

"In the foreground, Lake Yumoto, famous for its thermal springs, nestles, 5000 feet above the sea, among the Nikkō Mountains. The forests, which rise from the shores of the lake, are principally composed of Hemlock (Tsuga diversifolia), among which are Birch (Betula Ermani), Abies and Picea, Pterocarya, Cercidiphyllum, and the Mountain Ash. In the dense shade by the shores of the lake grow dwarf forms of the Indian Azalea, Elliottia paniculata, our Canadian Bunch Berry (Cornus canadensis), great masses of Rhododendron Metternichii, which in these forests replaces Rhododendron Catawbiense of the Appalachian Mountains, the dwarf Ilex rugosa, Clethra canescens—here at the upper limits of its distribution, Panax horrida, and the dwarf Blueberries which inhabit mountain-slopes in all northern countries, as well as the ubiquitous Bamboos.

"The undergrowth which covers the ground beneath the forests in the two regions is so unlike

* *Forest Flora of Japan: Notes on the Forest Flora of Japan.* By Charles Sprague Sargent. (Boston and New York: Houghton, Mifflin & Co. 4to, pp. 93, t. 26.)

that it must at once attract the attention of the most careless observer. In all the Appalachian region of North America this is composed of a great number of shrubs, chiefly of various species of Vaccinium and Gaylussaccia, of Epigæa, wild Roses, Kalmias, dwarf Pyrus and Lycopodiums; in Japan the forest-floor is covered, even high on the mountains, and in the extreme north, with a continuous, almost impenetrable, mass of dwarf Bamboos of several species, which makes travelling in the woods, except over long-beaten paths and up the beds of streams, practically impossible. These Bamboos, which vary in height from 3 to 6 feet in different parts of the country, make the forest-floor monotonous and uninteresting, and prevent the growth of nearly all other under-shrubs, except the most vigorous species. Shrubs, therefore, are mostly driven to the borders of roads and other open places, or to the banks of streams and lakes, where they can obtain sufficient light to enable them to rise above the Bamboos; and it is the abundance of the Bamboo, no doubt, which has developed the climbing habit of many Japanese plants, which are obliged to ascend the trees in search of sun and light, for the Japanese forest is filled with climbing shrubs, which flourish with tropical luxuriance.

"The wild Grape grows in the damp forests of Yezo with a vigour and to a size which the American species do not often attain, even in the semi-tropical climate of the southern Mississippi valley. Actinidia arguta climbs into the tops of the tallest trees, and nothing is so un-American or so attracts the attention of the American traveller in Japan as the trunks of trees clothed to the height of 60 or 80 feet with splendid masses of the climbing Hydrangeas (H. petiolaris and Schizophragma), or with the lustrous evergreen foliage of the climbing Euonymus. Wistaria is represented, it is true, in eastern America, but here it is not common, or one of the chief features of vegetation, as it is in Japan; and the Ivy, a southern plant only in Japan, and nowhere very common, helps to remind the traveller that he is in the Old and not in the New World."

After the introduction, the various families yielding trees are detailed, beginning with the Magnoliæ, and ending with the Conifers. As the botanical characters of these trees are fairly well understood, the remarks made by the Professor relate principally to their quality from a horticultural point of view. In this manner the beauties of Magnolia hypoleuca, M. Kobus, and M. salicifolia are descanted upon, as well as that of representatives of the genera Michelia, Illicium, Kadsura, and Schizandra.

Cercidiphyllum japonicum, an ally of the Magnolia, is one of the largest and most interesting deciduous trees of Japan, and one which more than any other of its inhabitants gives to the forests of Yezo their peculiar appearance and character. It often rises to the height of 100 feet, and develops clusters of stems 8 or 10 feet through. Sometimes it forms a single trunk 3 or 4 feet in diameter, and free of branches for 50 feet above the ground; but more commonly it sends up a number of stems, which are united together for several feet into a stout trunk, and then gradually diverge. An illustration of trunk is given, which at 3 feet above the ground girthed 21 feet 6 inches. As the genus Actinidia is at the present moment attracting some attention, it may be interesting to transcribe what Prof. Sargent says of it:—

"The genus Actinidia, woody climbers of the Himalayas and Eastern Asia, appears in Japan in three species, of which two at least are exceedingly common and conspicuous features of the mountain vegetation. Of these, the largest and most common, especially at the north, is Actinidia arguta; little need be said of this handsome plant, as it is now common and well established in our gardens, where it grows with great vigour and rapidity, and where it is one of the best plants of its class. We have heard a good deal of the value of the fruit of this plant, which is depressed-globular, an inch across, and greenish-yellow; it is eaten in Japan, but the flavour is insipid, and its merits appear to have been exaggerated. It was offered for sale in the streets of Hakodate in great quantities, but, of course, green and hard, as the Japanese use all their fruit before it ripens.

"Actinidia polygama, although it inhabits Manchuria and Saghalin, and is common in the forests of Hokkaido, is more abundant in those which cover the mountains of Central Japan; it is a slenderer plant than Actinidia arguta, with elliptical, acute, slightly serrate, long-stalked leaves. The fruit is an inch and a half long, half an inch broad in the middle, and narrowed at both ends; it is canary-yellow, rather translucent, soft and juicy, with an extremely disagreeable flavour. Actinidia polygama does not, like Actinidia arguta, climb into the tops of tall trees; its weaker stems tumble about and form great tangles, sometimes 20 feet or more across, and 15 or 20 feet high. The most remarkable thing about this plant is, that in summer the leaves toward the ends of the branches become pale yellow, either over their entire surface, or only above the middle, not because they are drying up or ripening, but apparently from an insufficient supply of chlorophyll. The effect that the plants produce at this time is curious and interesting, and when seen from a distance growing on a mountain-side, or on the banks of a stream, they appear like huge bushes covered with pale yellow flowers. This fine plant is still little known in cultivation, but if it flourishes in New England like Actinidia arguta it will be a valuable addition to our shrubberies.

"Actinidia Kolomikta, which is found also in Manchuria and Northern China, is much less common in Japan than the other species. I saw it only on the rocky cliffs of a hill near Sapporo, where it was growing with Rhododendrons and Menziesia, and where it was a delicate, slender Vine, with stems only a few feet in length. Unfortunately, there were no seeds to be obtained, and I am doubtful if this species has ever been introduced into our gardens, although the name often appears in nurserymen's catalogues."

The temptation to make further extract, say from the chapter relating to the Maple is great, but fairness to the author, no less than considerations of our own space, forbid us at present from giving further citation. We say at present, because later on we do not think we shall be proof against the temptation to make our readers more fully acquainted with the merits of this work, a work which all interested in hardy trees will delight to place on their shelves.

American Notes.

(From Our Own Correspondent.)

NEW YORK BOTANICAL GARDEN.

At last we seem to be nearing the realisation of a Botanical Garden for the city of New York—and high time, too. The Bill passed in 1891, which incorporated the body which is to carry out the scheme stipulated, that 250,000 dols. was to be collected within seven years of its passage. Of this sum, only 50,000 dols. now remain to be secured; and as the body has only lately been able to set about the work in real earnest, things promise well. The original Bill was not found practical, and the time up to the present has mainly been occupied in getting amendments passed. Now, however, all is well, and a recent meeting of the corporation has started the matter in a way that promises a speedy materialisation. Ornamental horticulture and general decorative gardening are to receive as much attention as the pure scientific side, and that is good, since horticulture in and around the city stands sadly in need of some incentive for its development. Professor N. L. Britton, Professor of Botany at Columbia College, is the secretary.

Society of American Florists.

At present horticulture stands for fruit growing for market, and our "florists" are market growers—those who grow large stocks of one or two things for the purpose of supplying the retail demand for cut flowers. The body known as the Society of American Florists, which chiefly represent the interests of plant-lovers, but especially of those engaged commercially in plant production has been for a long time trying to get a charter from the Federal Government, and after the Bill had passed safely through all stages, it has been vetoed by the President, and it would seem to be on account of the confusion which exists as to the meaning of the words. The President's remarks are "A conclusive objection to the Bill is found in the fact that it fails to carry out the purpose and objects of those interested in its passage. The promoters of the Bill are florists, who undoubtedly seek to advance floriculture. The declared object of the proposed incorporation is, however, stated in the Bill to be the elevation and advancement of horticulture in *all* its branches, to increase and diffuse the knowledge thereof, and for kindred purposes in the interest of horticulture. It is entirely clear that the interests of florists would be badly served by a corporation confined to the furtherance of garden culture.'

CHINESE PRIMROSE
"THE LADY."

This beautiful variety forms a new "break" in the Chinese Primrose, and its history is as interesting as its beauty is striking. The history of the aboriginal Chinese Primrose, and of its introduction to our gardens, has more than once been given in our columns. Mention has also been made of the efforts, hitherto almost fruitless, to induce the plant to cross with some of the cultivated forms. Better luck, it appears, attended the efforts of the late Mr. C. Green, of Reigate, long known as a first-class gardener and plant-lover. He, it is said, raised the first cross, which passed into the hands of Messrs. H. Cannell & Sons, who "have selected and re-selected it for four years, till it is now considerably better than it was in Mr. Green's hands. The illustration (fig. 43) shows the general character of the plant. The flower-stalks are deep purplish-crimson; the flowers are of a delicate porcelain-white, and are borne in tiers one above another. It is already a great favourite with ladies, whence its name. Messrs. Cannell tell us that the flowers last longer than others of the kind when cut, which is another recommendation.

Florists' Flowers.

THE YELLOW-GROUND PICOTEE.

I have always had in my mind's eye the beautiful varieties of yellow-ground Picotees raised by Mr. R. Smith, of Witney, Oxon, some thirty-five years or more ago. As regards the quality of the blooms, it was excellent; but in respect to the constitution of the plants, it was so poor that nothing could be done with them. I could not get them to grow with the most careful greenhouse culture. I do not know what became of Smith and his plants after 1860, but I fancy it must have been this strain from which the late Mr. Standish, of Ascot, produced a very fine and distinct yellow ground he named Ascot Yellow, and for which he obtained a First-class Certificate from the Royal Horticultural Society. I had plants of it, and gave them very careful attention, but failed again to get anything like good results, and they disappeared in a few years. It is very curious to notice this difference of constitutional vigour in the different races of plants in the yellow ground section—or the white ground either, for that matter. The late Mr. Dodwell, who gave the show varieties of the Carnation and Picotee careful attention, came to the conclusion that a single decade was about the average life of a variety of Carnation or Picotee. Certainly some of them pass very rapidly out of existence, or so degenerate in quality as to be scarcely worth notice. On the other hand, some of the best white ground varieties have held their own for nearly half a century. Admiral Curzon stands high on the list, and was raised about fifty years ago.

James Douglas, raised by Mr. Simonite twenty years ago, stands to-day at the head of the list as a purple-flake. Brunette, heavy red Picotee, is at the head of its class, and has a record of a quarter of a century. We are now, I believe, getting a more vigorous type of yellow-ground Picotee. I have worked steadily, trying to improve this class; and the list of varieties published from returns made by certain members of the Carnation and Picotee Society give a list of twenty-nine varieties, twenty-four of which have been raised by me, the original source from whence they were derived being Prince of Orange. This variety I have cultivated from the same strain for a period of thirty years. The superior seedlings, now in the tenth generation, have done away with it as an exhibition flower.

One excellent trait in the character of the new yellow-ground Picotees is their hardiness for culture out-of-doors. Planted in the autumn, they pass through the winter very successfully, and, if planted in good soil, produce better flowers and stronger plants than those grown in pots. I tried them first in a vine-border which had been specially prepared to grow Vines well; and the mixture of bone-dust and mortar rubbish gave a vigour to some of the yellow-ground varieties I had never seen before. A great deal of success or failure in cultivating the yellow-ground Picotee depends upon the character of the soil in which the plants are grown.

The Carnation accommodates itself to surrounding circumstances and conditions of soil more readily than any other plant known to me, except, perhaps, the Chrysanthemum; but to continue them in good health and in a flourishing condition for several years, perhaps for any number of years, some consideration must be given to the condition under which the plants grow naturally. They are found growing upon old walls, where they derive what sustenance they can obtain from mortar pulverised by the action of the air and weather for ages, and mixed with humus from the decay of vegetable substances. The stems produced under these conditions are tough and wiry. We know where the first yellow variety came from to England, but as it is nearly, if not quite 300 years ago, none know how it was produced. Doubtless, as a colour variation from the ordinary variety, the Turkish gardeners from whence it came, would probably try to improve it. The Carnation was evidently a well-known flower in Turkey in the early years of its culture. Lady Mary Wortley Montague, in her charming letters from Constantinople, mentions it briefly. Writing in 1715, from Pera, she says, "I am now sitting this present fourth of January (O.S.), with the windows open, enjoying

Fig. 43.—Primula, "The Lady": flowers white, stalks brownish-purple. (see p. 326.)

the warm shine of the sun . . . and my chamber is set out with Carnations, Roses, and Jonquils fresh from my garden." Doubtless, the seed was sown in the open garden, and all colours would be produced amongst them, the climate being favourable to the continued health of the plants. This matter of climate has to be well considered, damp accompanied by frost is the most destructive. A dry frost such as we lately experienced does not do any harm. I got up from writing this paper to go and examine the plants which passed through frosts hovering night after night about a zero temperature. The sun was shining brightly, and the thermometer had risen at mid-day to 37° (Feb. 16), and the plants are now in exactly the same condition as they were before the frost. I covered the frame-lights with straw after they had been exposed unprotected to 27° of frost. The plants on the vine-border already alluded to also seem safe, but the leaves are not quite so rigid as those in the frames. Firmness in planting is very material to the success of yellow-ground Picotees, either those grown in pots, or such as are trusted to the vicissitudes of our climate in the open border. In the latter case they have not only to be planted firmly at first, but must be pressed down, and even re-planted a second time when the soil is loosened by frosts. When a severe frost comes after the ground has been thoroughly soaked by rain or melted snow, the surface is raised by the expansion of the water in the soil, and when the thaw comes, some of the plants will be found lying on the surface, thrown up by the expansion and toppled over by the thaw. The usefulness of a mulching of some light decayed frame-manure is very apparent during these changes, which are very common some seasons. I believe, even for the out-of-doors plants, these severe frosts will not be injurious. Early in March is a good time to re-pot the yellow-ground Picotees, and they are treated very much the same as the other classes. I do not care to turn them out of doors right away from the potting-bench, they are rather put into a frame and protected by the lights until the end of April; but this protection should not extend further than what may be necessary to shelter them from heavy rains or snows, which would be injurious to all newly-potted plants. The yellow-ground Picotees are also well adapted for forcing. I do not recommend them for winter-flowering, but to obtain a display of flowers in May or June; for this purpose, single plants in 6-inch pots are best. For flowering about the end of July in the ordinary course, they are potted, two or three plants, in 8 and 9-inch pots. A little fibrous peat mixed with the soil is beneficial. *J. Douglas.*

Amateurs' Column.

HARDY FLOWERS FOR AMATEURS AND VILLA GARDENS (*continued from p.* 243).—In previous papers I have referred at some length to the beauty and value of annuals, both hardy and half-hardy, as being most valuable in the embellishment of the villa garden. I now come to the important class known as biennial, which form an important factor in the floral arrangements of the suburban gardener, and which are deserving of the special care of the florist. They are regarded as those plants which must be sown one year to bloom the next; and there are many of our gay perennial plants that may be treated as biennials, for they will bloom freely the year after they are sown. Many of the old florists used to propagate such things as Cinerarias, Hollyhocks, and Verbenas from cuttings and offsets, which required a considerable amount of care to keep them through the winter, and secure good-blooming plants at the time they were required. But now we have an entire change in the modes of propagation, and many plants which we thought could only be produced true from offsets and cuttings, we now entirely depend on seed for their increase. Take the Hollyhock, for instance. I well remember when I was employed in the nurseries of the late E. G. Henderson & Son, of Wellington Road fame, during the year that Prince Albert died, what care was necessary to work up a stock of young Hollyhocks from cuttings of named sorts. Now, however, by saving seed of the best-framed flowers, and these properly hybridised, we obtain seedlings quite equal to the best-named sorts of former times. Besides, the trouble of raising a stock of plants from seed is so very much less than raising them from cuttings. Many of our very best florist flowers can be raised from seed, and by encouraging a quick development they will all bloom with great freedom the year after sowing the seed.

Dianthus.—Amongst the most beautiful of all the biennials, I should mention the Dianthus Heddewigi chinensis of various sorts, or commonly known as the Indian Pink. For beauty in colouring, and diversity of working, there is no genus of plants to surpass the Dianthuses. During the last 10 or 15 years the florist has been busy in improving these already-popular flowers, and his labours have been eminently successful, for we have flowers not only of fine form, large in size, but also per ect in contour. They are specially adapted to small gardens, and for those who have not the command of artificial heat, they are perfectly hardy, and if sown early they will bloom by midsummer the same year, and continue blooming until they are checked by the frost. Although regarded as a biennial, it may be treated as an annual, and the same plants, if taken care of, will last for years. The secret of a good display of bloom is to sow the seed early, and to transplant the seedlings as soon as they are ready in their blooming quarters. Let the situation be an open one, and the ground well dug and manured. The plants average from 12 to 18 inches high. Amongst the most beautiful varieties we may mention the following, which may be obtained from most respectable seedsmen for a few pence: Dianthus chinensis diadematus flore-pleno—these are remarkable for the brilliancy, diversity, and size of their flowers, which are double; D. chinensis Heddewigi laciniatus—the flowers are large and strong, with finely-cut or laciniated edges; D. chinensis Heddewigi laciniatus, fl.-pl., fine double flowers. The above rank amongst our most beautiful flowers, and are also invaluable for cutting purposes.

Scabious.—This is a useful hardy biennial, which also blooms freely the same year that it is sown. It is known as Sweet Scabious or Scabious atro-purpurea, though many villa-gardeners and amateurs generally have very little knowledge of it. Perhaps one reason for it being so neglected, is the preference there has been for bedding plants with bright colours, which caused these hardy subjects to be thrust into the background. Now that people are tired of the monotonous lines of scarlet, yellow, and blue, they are turning their attention to these grand old plants of our forefathers. The Scabious is a fine bloomer, and its honey-sweet flowers are much sought after by the bees. The seeds germinate with the greatest certainty when sown on a slight hot-bed or under a bell-glass, but the plants must be pricked off and gradually hardened as soon as possible.

Sweet William.—This is a well-known hardy biennial, that produces large heads of rich and beautifully-coloured flowers, which make an imposing display. The seed should be sown in the early spring in the open ground, and when the seedlings are large enough to handle, they should be transplanted into rows 6 inches from each other, and the plants 3 inches apart in the rows. They may be planted in their blooming quarters during the autumn or following spring. The Sweet William will be found adapted for the mixed border, where it can be grown in clumps, or it will make an excellent bed when grown by itself. This is one of the plants which the hybridist has taken special pains with during the last few years, and now we have perfect flowers, with clearly-defined eyes, and the colours the most imposing and gorgeous.

Digitalis, or Foxglove.—A plant which is being increasingly cultivated every year in front lines in shrubberies and woodland walks. The seed should be sown early in the spring, and the stronger the plants become the first year, the finer will be the display of flowers the year following. All the Foxgloves have been very much improved during the last few years by hybridisation and selection, and now we have the flowers beautifully mottled and spotted, and a great diversity of shades of colour. The seeds of all the above should be sown not later than the month of May in order to ensure a good display of bloom the following year. Also be careful not to sow too thickly, and transplant as soon as the seedlings are ready to handle. Hundreds of plants are destroyed or rendered worthless by thick sowing, and afterwards allowing the plants to remain too long before either thinning or transplanting takes place. *R.*

(*To be continued.*)

Orchid Notes and Gleanings.

CATASETUMS.

In the following note we give a condensed descriptive note of the fine series of varieties of Catasetum figured in the last number of *Lindenia*, and several of which have been shown in London. It is supposed that most of them are natural hybrids between C. macrocarpum and C. Bungerothi; but whether or no, their striking appearance and brilliant colouring will recommend them to all lovers of Orchids. Independently of their beauty, their extremely-marked poly-morphism, which, till the secret was revealed by Darwin, Rolfe, and others, seemed to surpass one's powers of belief, and their interesting life-history and manners and customs give them an interest beyond that of most Orchids. The cultivation of these plants, moreover, offers no difficulty. For the illustration (fig. 44, p. 329) we are indebted to M. Lucien Linden.

Catasetum Lindeni, Cogniaux, *Lindenia*, t. cdliii.

Flowers as large as those of C. Bungerothi; sepals and petals yellow, thickly spotted with numerous purplish spots and bars. Lip yellow, greenish externally, base spotted like the sepals. Column yellowish, spotted. The plant presents some of the characters of C. Bungerothi and some of those of C. macrocarpum, and is stated to grow in company with those species; hence M. Cogniaux is disposed to consider it as a natural hybrid (fig. 44).

Catasetum Luciani, Cogniaux, in *Lindenia*, t. cdliv.
=C. splendens var. Luciani, Rolfe, in *Orch. Revue*, ii., 336.

This is also considered to be a natural hybrid between C. Bungerothi and C. macrocarpum. The sepals and petals are lanceolate-acuminate, purplish on the exterior, greenish within, spotted with purple; lip semi-orbicular, greenish-white.

Catasetum splendens, Cogniaux, var. album, L. Linden et Cogniaux, in *Lindenia*, t. cdlv.

Sepals and petals greenish-white; lip white, reniform, denticulate at the margin.

Catasetum splendens, Cogniaux, var. atropurpureum, *Lindenia*, t. cdlvi.

Sepals oblong, spatulate-acuminate; petals oval oblong acuminate. Lip very fleshy, orbicular, and like the petals and sepals of a deep blackish-purple; opening of the spur of the lip and column yellow.

Catasetum splendens, Cogniaux, var. Alicia, L. Linden et Cogniaux.

Flowers larger than in the type; sepals and petals purplish-lilac, spotted and barred; lip white, sub-orbiculate-cordate, toothed at the margin.

Catasetum mirabile, Cogniaux, *Lindenia*, t. cdlviii.

Flowers very large, sepals and petals oblong-lanceolate, greenish-yellow, purple-spotted and barred near the base; lip reniform, bright yellow, with a large purplish blotch on each side near the base, edge denticulate (see fig. 44).

Catasetum Bungerothi, N. E. Brown, var. aurantiacum, Cogniaux, *Lindenia*, t. cdlix.

Sepals and petals yellowish-white; lip broad, somewhat triangular, denticulate at the edge, yellow; mouth of the spur marked with faint orange stripes, column yellowish.

Catasetum imperiale, Linden et Cogniaux, *Lindenia*, t. cdlx.

Sepals and petals ovate-acute, white, spotted at the base with purple; lip sub-orbicular-cordate, with a large central reddish-purple blotch, edged by a narrow band of white (fig. 44).

Orchids at the Grange, Southgate.

All over the country, and especially in the neighbourhood of our large towns, the amateur cultivators of Orchids are on the increase, and in many a suburban garden, where Orchids would not have been

thought of as objects of cultivation a few years ago, small houses are devoted to them. There are several reasons for Orchid culture being a favourite pursuit, and one of the weightiest is, that some of the plants are in flower at most seasons, and that, too, without forcing. One of the more interesting of the recently-begun Orchid collections in the suburbs of London is that of J. Bradshaw, Esq., The Grange, Southgate, and one that is likely to improve as time goes on, and increase in extent. Much care has been shown in its establishment, and proper provision made for obtaining successful results from the genera selected. These at the present consist chiefly of Cattleyas, Lælias, and Odontoglossums, and others of the cool-house section. For the last-named, a very well-planned house, some 60 feet in length, is in course of construction. This house will afford space for the present collection of these plants and numerous new comers. In the range at present existing, a spacious intermediate-house has the basement planted with foliage plants and Ferns, the space in front of the central stage made effective with a rustic group, the centre of which is composed of the beautiful shrubby Begonia subpeltata A. Malet, with silvery markings on the dark rose-tinted leaves, and whose flowers at this season are also very attractive. Beside it are graceful plants of Asparagus plumosus and other species, Ficus stipularis, Ferns, &c., a pleasing group that has the merit of giving off salutary moisture, and of filling up an ungainly space beneath the stage.

In the fine group of Orchids in flower situated at the entrance, the centre is formed of a handsome and curious Dendrobium of the nigro-hirsute class, and which was received direct from Burma with others, probably new species, by Mr. Bradshaw. It seems to have some of the features of all of its class, but to be like none in every respect. Its large snow-white flowers have the base of the lip veined with chrome-yellow, not orange-red, as in D. Jamesianum. In form it is D. infundibulum; in size equal to D. formosum, and in habit of growth short and thick, like the dwarf forms of D. Draconis (eburneum). The rest of the display is made up of good examples of Dendrobium Wardianum, some fine masses of Cymbidium Lowianum, Cœlogyne cristata, some very pretty Cattleya Trianæ, forms of Lycaste Skinneri, Masdevallia Chimæra, M. tovarensis, a very beautiful example of Cattleya Schilleriana, Odontoglossum Oerstedii, Cypripedium × Calypso, and other Cypripediums. Of the plants in this division it may be said that they are all in a healthy condition, especially the Cattleyas and Lælias, which are showing remarkably well for flower; indeed, the fine display of flower in proportion to the space devoted to the plants affords an excellent return for the attention paid to the plants by the gardener, Mr. Whiffen. Among the cool-house species, Odontoglossums, which here chiefly represent the class, are in a marvellously good condition. Many of these are now in flower, and a great number of strong spikes in all stages were noted. Some of the opening flowers are being watched with much curiosity, especially one example, whose large buds reveal great brown blotches. Among those at present in bloom are some pretty O. crispum and O. Pescatorei. A good yellow-tinted O. Andersonianum, which has two fine flower-spikes, some O. Rossii majus, O. maculatum, &c. Along with these are grown some handsome Amaryllis, the bright scarlet and white of whose flowers have a good effect by contrast, and a number of hanging-baskets, filled with Lachenalia tricolor, and which are now sending their flowers through the moss in all directions. The good effect of these Lachenalias would be improved if the best variety of L. aurea were grown in some instances with the commoner L. tricolor, and also in baskets by themselves. There are some fine shrubs at The Grange, and beyond getting some of the tips of the shoots damaged, they have passed through the severe winter well.

Fig. 44.—CATASETUM MIRABILE; C. LINDENI; C. IMPERIALE. (see p. 328.)

THE "FLORAS" OF THE FRENCH COLONIES."

A paper by M. E. L. Bureau, published in the *Comptes Rendus de l'Académie des Sciences*, February 4, 1895, speaks of investigations proposed or undertaken of the floras of the French Colonies, and of countries under the French Protectorate, and of the preparation of descriptive works on the same general lines as the colonial Floras prepared at Kew. The importance of such work can hardly be over-estimated, and the following is an abstract of M. Bureau's announcement concerning it:—"The present extension of the French colonies is a matter of great importance, but to realise the advantages of it to the full, the natural productions of the countries must be thoroughly and scientifically investigated. The studies in botanical geography made in Algeria by M. Cosson have guided expenditure and minimised losses, and similar investigations should be undertaken in all our French colonies; their floras especially should receive attention. It is only in the great herbaria at the Museum that the necessary researches can be satisfactorily made, and the direction of these studies has been entrusted to me. I have divided the work between certain botanists, and it is our intention to publish volumes, written in French, and without illustrations, which can be consulted by all, and serve later on for each of our colonies the same purpose that the *Flora of the Environs of Paris* does for that region. The Académie des Sciences first began this work. *The Flora of French Polynesia, the Society Isles, Marquesas, Pomotou, Gambier, and Wallis*, was issued in 1893. M. Drake based his studies on the collections of Dupetit and many others. A *Flora of Réunion* is in the press, but unfortunately the author had not the use of the herbaria which are at the Museum.

M. Pierre, Director of the Botanic Garden at Saigon, issued the *Flore forestière de la Cochinchine*

but in a costly form; but no one is more competent than M. Pierre to furnish a compact Flora of Cochin China and Cambodia, since, as well as his own collections, he has access to those made by previous investigators. As regards the vegetation of Siam, available documents are insufficient, and include principally the collections of Schomburgk. The flora of Tonkin is being studied by M. Franchet. In 1886 I laid before the Académie a review of the first collections sent by Balansa from the north of the Delta, and also those gathered in the south by l'Abbé Bon. Since then Balansa has made us acquainted with the flora of Mont Bavi, but the mountainous northern regions, and almost all Annam, remain unknown. For this country the "Flora" should be preceded by the publication of a preliminary account or catalogue.

French possessions in India proper are too few and too scattered to render a general flora necessary. A catalogue of the plants of Pondicherry has been begun by M. Lóreillé, who may now consult the herbaria in the Museum which were gathered by Perrottet and Lépine. M. Cosson's bequest ensures us a flora of Algeria and Tunis; Dr. Bonnet and M. Baratte are now working there. Material and botanists to furnish it are plentiful in the north of Africa. In 1882, M. Vallot published the beginning of a *Catalogue of the Plants of Senegal*, following the herbaria of Perrottet, all collected on the side and valley of the river. Since then we have received interesting collections from Haut-Senegal and Fonta-Djallon. We have but little from the Soudan, and nothing from Dahomey. Gaboon and the Congo are being carefully studied by M. Hud, who finds, at the Museum, the herbaria of M. Aubrey-Lecomte and many others. M. Baillon has contributed an account of the plants of Madagascar to M. Grandidier's great work, eight parts of whose large atlas have already appeared. His materials were the collections of Bernier, Boivin, Richard, Pervillé, &c., and the more recent ones of MM. Grandidier, Humblot, Hildebrandt, Scott Elliot, Douliot, &c. No herbarium is so rich in Madagascan plants as that at the Museum. Each importation includes some new species. The study of the Comoro Isles is not commenced, but made possible, thanks to the researches of M. Humblot. As regards the French Antilles, with the flora of which M. J. Poisson is engaged, we have collections made at Guadalupe by various botanists. Less well known are the dependencies of Guadalupe, Desirade, Marie-Galante, Les Saintes, Saint Barthélemy, Petite-Terre, and Saint-Martin, which require investigation.

M. Drake del Castillo, when the *Flora of Polynesia* is finished, will begin that of French Guinea. He will continue the work of the lamented Dr. Sagot, who published in the *Annales des Sciences Naturelles* the beginning of a catalogue of the plants of this colony. The collections accessible to M. Drake are those of Richard, Leprieur, &c. Lastly, M. Bureau is continuing the study of the flora of New Caledonia. The Museum possesses from this island the herbaria of many collectors. In spite of all these, new explorations are advisable into the central mountains, and to Art Island, situated to the north-west of Grande-Terre.

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CATTLEYA ELDORADO and its several varieties are well worthy of attention. These plants are now emitting roots freely from the old roots, and the growth-buds are swelling; but it is not advisable to give the plants much water at the root before the growths have fairly started, as the last-made pseudo-bulbs are very liable to turn black from this cause. If a place can be found for them in a warm shady corner of the Mexican-house, their cultivation will present no difficulty.

THUNIAS. — T. Marshallii, T. Bensonæ, T. pulchra, T. Brymeriana, T. alba, T. candidissima, and T. Veitchiana ×, are now pushing up new growths from the base of the pseudo-bulbs, and as these plants require fresh material once a year, this season is the proper one to shake them out and repot them. The most convenient method is to plant about half-a-dozen pseudo-bulbs at about 3 inches apart into a good-sized pot half-filled with crocks, and over these a layer of turfy loam, into which the roots may penetrate about the time that the flower-buds show. Keep the young growths just below the rim of the pot, and fill up to their base with peat, loam, and moss in equal parts, adding a few handfuls of clean crocks to add to the porosity of the whole. After potting, tie each bulb to a neat stake. Place them in the lightest position available in the East Indian-house, and the nearer are the tips of the old pseudobulbs to the roof-glass the better the chance of the plants flowering well. For a time, owing to the small number of roots possessed by the plants, water must be sparingly afforded; but when the new growths lengthen, and roots become more plentiful, it may be increased in quantity, and when well established an occasional application of weak liquid manure will do good.

ZYGOPETALUM MACKAYI, AND OTHERS.—Z. Mackayi, Z. crinitum, Z. Sedenii, &c., that require repotting, should be seen to at once, repotting them in the same mixture as that recommended for Thunias, and growing them in a well-shaded position in a warm stove.

DENDROBIUMS.—D. MacCarthiæ, D. Huttonii, D. rhodostoma, D. O'Brienianum, D. triadenium, D. glomeratum, D. purpureum, and D. p. candidum, are rather particular as to the position they occupy, and the treatment afforded them. They will grow luxuriantly if placed in a hot, moist corner of the East-Indian division, where there is plenty of light, but no strong sunshine, the latter causing the leaves to become spotted. Red-spider much infests the plants, and periodical syringing of the foliage should therefore receive attention.

RE-POTTED AND TOP-DRESSED PLANTS.—In the East Indian house, where species of Aërides, Angræcum, Saccolabium, &c., have been re-potted or top-dressed, the night temperature should be maintained at 65°, and that of the day with fire-heat at 70°, a rise of several degrees more by sun-heat being allowed. During the middle hours of the day, air should be admitted whenever practicable, closing the ventilators and thoroughly damping the floors, stages, &c., early in the afternoon. Slightly syringe those Dendrobiums that are not in bloom; most of the Cypripediums will also appreciate a slight dewing overhead, but carefully avoid syringing those varieties that were mentioned in a former calendar.

THE CATTLEYA-HOUSE, AND OTHER HOUSES.—The night temperature of the first-named house should not be allowed to fall below 60°, nor the intermediate house below 58°. The day temperatures should rise from 5° to 10° above these figures, with a moderate quantity of air allowed when the weather is favourable; both divisions will now require damping down morning and afternoon. The Mexican-house should be kept at about 60° at night, rising in the daytime by sun-heat to 75° or 80°, with plenty of ventilation. Shut it up early in the afternoon with sun-heat, and thoroughly moisten the floors, &c.

VANDA TERES AND V. HOOKERIANA.—Plants of the first-named species should be placed well up to the light in this house in which position their flower-buds will, now the sun's heat is increasing, soon push out and develop large and highly-coloured blooms. These plants may be well syringed overhead at least once a day, and during bright weather even two or three times a day. Similar treatment should be afforded to V. Hookeriana, with the difference that it requires a hot sunny position in the East Indian-house to flower it successfully.

THE ODONTOGLOSSUM-HOUSE.—This division should be kept up to 50° at night—a trifle higher if the weather be mild. The plants belonging to this division should be well ventilated at all times; therefore, whenever the external air rises above 40°, open the ventilators freely. A damping down both morning and evening will suffice for the present.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

GRAFTING FRUIT TREES.—See that all materials necessary for this kind of work are in readiness before making a start, and as soon as the stocks are sufficiently advanced in growth, which will be when the buds are just breaking into leaf, grafting should be proceeded with. A couple of knives, one strong, for heading down stocks, &c., the other of smaller size, for the more delicate parts of the work, should be provided; also bast, or raffia, for binding, and well-prepared clay. If grafting-wax be used, soft yarn should be substituted for the bast. A basketful of dry, finely-sifted coal-ashes, or sand, will also be required. The stout, well-ripened shoots of last year make suitable scions; or, failing these, two-year-old wood may be used, if clean and well-furnished with dormant wood-buds.

WHIP, OR TONGUE GRAFTING.—For small stocks, or for renewing the ends or leaders on wall and espalier trees, whip, or tongue grafting is the most suitable mode, and one that is generally practised. Having cut off the stock as near the ground as convenient, take a scion of a size that nearly matches the stock, and make a clean slanting cut about 2 inches in length at the bottom end, and also make a slight shoulder at the upper part of this cut to rest on the top edge of the stock; then take a thin slice of wood from the stock, cutting upwards, corresponding in length to that made on the scion, and also make a slight incision near the top of the stock, about half an inch in depth, downwards, and going slightly inwards, and a similar but upwards-directed cut on the scion. It is essential that the inner barks of the stock and scion fit closely together, on one side at the least, and they should then be bound together firmly, but not too tightly, and afterwards finished off neatly with clay or grafting-wax. When claying the graft, first rub the clay over the point of union, so as to fill up all crevices, then take a ball of it of the required size, and work it evenly round the stock and over the parts operated on, dusting on it some ashes or sand when finishing off the job, and press the whole firmly together, making all close and secure.

RIND, OR CROWN-GRAFTING.—This mode of grafting is better suited for renovating old standard or espalier-trees, or for improving orchard-trees, by employing approved varieties of Apples, Pears, or Plums on trees of healthy but inferior varieties. It may be performed either by cutting back the branches a few feet, and putting 30 or 40 grafts on each tree, or by heading them hard back to three or four main branches, and inserting three scions on each cut-back branch. The scions may be about 6 inches in length, and ought to have a couple of buds standing clear of the clay when finished. Cut these scions slantingly from about 3 inches of its base on one side, making it slope quite through to the bark on the opposite side of the scion at the bottom. Make a downright cut through the bark of the stock down to the wood, the same length as the cut on the scion, and gently raise the edges of the bark with the handle of a budding-knife, or a piece of sharp hard wood, nearly to the bottom of the slit, then insert the scion, pushing it down as far as the cut extends, binding it round carefully and claying it. The large masses of clay should be supported by fastening broad strands of common bast around them.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

EPACRIS.—Plants that have finished flowering should have the last year's shoots cut hard back, and when the young shoots have grown about an inch long, any of the plants that require potting should be then attended to, using a compost of fibrous peat and plenty of silver-sand. Let the pots be perfectly clean, and if new ones are used, they should first be thoroughly soaked in water for two or three hours. The pots must be crocked carefully, and the crocks covered with a little of the fibrous peat. Ram the soil until quite firm, and only thinly cover the ball with the fresh soil, leaving ample space for holding water. After potting, the plants should be shaded for a time, and water withheld for a few days. Syringe lightly two or three times a day, and keep the atmosphere a little close until the plants have commenced to root into the fresh soil, when they may be gradually hardened by admitting more and more air. Towards the middle of July, plunge them out-of-doors in a bed of coal-ashes in full sunshine to thoroughly ripen. Epacris may be propagated from cuttings; but this takes a long time, and it is better to buy small plants from a nursery where they are a specialty.

CLIMBING PLANTS in the conservatory should be neatly tied-in, and all bare places covered with the young wood. Bougainvillea glabra makes a lovely climber in a conservatory, if the temperature be as

high as 55° at night. This plant should now be attended to, and all weak growths cut out. The main branches should be securely tied to the wires, and the young growths allowed to hang down carelessly. Any old plants of Asparagus plumosus which have become too large for pots should be planted in the conservatory, and trained up any bare place where they can receive support and light. Any common plants, such as Ficus repens, or Cobœa scandens, may be cut away, to make room for choicer and slower-growing climbers. Camellias should receive liberal supplies of water, and occasional applications of weak manure-water. Fumigate with Richards Compound for greenfly, which is sure to make its appearance at this season.

BULBS, &c., will come on rapidly now, and these should be taken into the conservatory when the flowers are only partly expanded; if this be done, they will last much longer. Put in a little heat a few Daffodils—Emperor, Horsfieldi, &c. They are lovely for conservatory and decorative purposes.

CROTONS AND GARDENIAS.—If cuttings of these were put in when advised on page 13, the pots should now be full of roots, and the plants should be potted into 48-sized pots, using good turfy-loam, leaf-soil, and plenty of sand, with a sprinkling of coarse bones added. Pot the plants firmly, and place them where they can receive full sun in the stove. Gardenias should be moved into 6-inch pots, with equal parts of loam, peat, leaf-soil, and plenty of clean warm sand. Look carefully over the plants for bug, and afterwards plunge in a bottom-heat of 75°. Syringe two or three times a day, and throw plenty of water about the paths and walls.

WINTER-FLOWERING PELARGONIUMS.—Cuttings of these should now be put in, choosing well-ripened wood for the purpose. Almost any light soil will do for them. Place five or six each in 5-inch pots, and stand them on a shelf in the greenhouse or heated frame. After a watering to settle the soil, they will require very little until rooted.

DEUTZIA GRACILIS.—Plants that have flowered should be cut down and kept rather dry until they break again from the base; they will then require to be re-potted. The compost should consist of strong loam, leaf-soil, a few half-inch bones, a little cow-manure, and some coarse sand. Shake a quantity of the old soil from the plants, and afford a good shift. They may be placed in a warm vinery or Peach-house, where they can be syringed frequently. After they have commenced to grow, they should be gradually inured to a lower temperature, and finally plunged in a bed of coal-ashes towards the end of June. A few cuttings should be put in each year, so as to keep up a stock of young plants. Put four or five into 3-inch pots in sandy soil; the cuttings should be taken from the base of the plant when 3 or 4 inches long.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

CAULIFLOWERS.—These, if wintered in frames, will have had, I fear, a trying time. Where they have stood well, preparation should be made now the frost has relaxed, to plant them under handlights, or on a border facing south. Those planted under handlights in the autumn may be thinned out, leaving but five under each light, and earthing them up a little. Raise the lights on bricks to keep the plants from getting drawn, and dust them occasionally with soot should mild weather occur. Keep a sharp look-out for slugs, which are sure to be troublesome after their enforced fast. If the ground where these Cauliflowers are to be planted was not manured in the autumn, do not dig in raw manure now, but use spent Mushroom-beds which will be better. Seedlings raised as previously advised will now be quite ready for pricking out or potting off; if pricked out, a gentle hotbed will be beneficial for them. Make another sowing, to supply heads about the end of July or in August, of Early London and Autumn Giant; and when dry enough outside, make a first sowing of Veitch's Autumn and Sutton's Mammoth Cauliflowers or some early varieties of Broccoli.

SEEDS.—Make sowings outside of Cabbage, Savoys, Lettuce, Leeks, Kales, also Parsley, Early Carrots, Radishes, and Spinach.

PEAS AND BEANS.—These may now be sown in quantity, and in large establishments I would recommend a sowing to be made every week, using for this general purpose one kind only, and where pea sticks are plentiful Duke of Albany cannot, in my opinion, be improved on at present. Where a few early pods of Runner Beans are required for exhibition, sow a few in pots in sweet loam and leaf soil, and place one Bean in each small pot; these may be potted on ready for transplanting when the weather is sufficiently mild. Neal's Ne Plus Ultra is sufficiently large when well grown and of a good colour.

TRIPOLI ONIONS.—These are looking very sickly after the prolonged frost, and will require looking over and pressing down into the soil, for the frost has lifted many of them out of it. Dig the ground for these if it was not done in the autumn. Bone-meal will form a good manure for ground which did not get a dressing in the autumn. Plant the Onions with a dibber in rows about 1 foot apart, and from 7 to 8 inches in the rows. A good open piece of the garden suits them best.

PITS.—Advantage should be taken of the present mild weather to afford light and air on all favourable occasions. Mats and other coverings should be removed as early in the morning as it is safe, and unless sharp frost is anticipated, the pits left uncovered until dusk. Where the haulm of Potatos (which has become exceptionally tall this season) is pressing against the glass, the latter must be covered before the outside temperature reaches freezing-point. If in frames, the frames may be raised bodily on bricks, taking care to make the opening thus created at bottom air-tight. Asparagus, Carrots, Radishes, and various other seedlings, should have air carefully afforded, and the soil kept free from weeds.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CARNATIONS WINTERED IN PITS AND FRAMES FOR PLANTING OUT (*continued.*)—When the foliage of these plants is of a good dark green colour, curly and strong from full exposure to the light and air, advantage should be taken of dry days towards the end of this month or beginning of April to plant them out in beds and borders. The land should be liberally dressed with some rich loamy soil, half-rotten manure, and sand or road-grit, and be deeply dug. If planted on borders, let the plants stand at a distance of from 1¼ to 1½ foot apart. If beds are planted, allow four rows to a bed, then miss one, which will form an alley, and so on. It is a mistake to plant thickly together in masses, as plenty of space is needed when layering the plants, more especially if the varieties are strong growers. Dwarf-habited plants and seedlings may be planted from 1 foot to 1¼ foot apart, as in the case of the latter a good many will have to be thrown away. The Carnation borders in my district present a sorry appearance, the snow having laid upon them so long that many plants have perished. It is remarkable how small an amount of water is required by the plants during the winter to keep them in health, either in pots under glass, or in outside borders, when the soil is comparatively dry and well-drained; the foliage being dark in colour, stiff, crisp, and curly; but in wet soils and after continued wet weather, the foliage is lank and flabby, and of a yellow tinge. Carnations raised from seed sown in January, if pricked-out in pots or boxes and grown on well till the end of April, and then planted out, will flower abundantly in the following August and September.

BEDDING-OUT PLANTS.—The propagation of Pelargoniums, Fuchsias, Heliotropes, Ageratums, Coleus, Iresines, Alternantheras, Dahlias, Mesembryanthemums, Verbenas, &c., should be rapidly pushed on; also the potting off of rooted cuttings of both the autumn and present season, and of seedlings. Lobelia seedlings and cuttings should be pricked out into shallow boxes as soon as large enough to handle, affording them a genial moist heat, with shade from bright sunshine for a time. The soil used in the potting of bedding plants should contain a good amount of sea-sand, where this is procurable, it being better than either silver or common pit sand, the salt which it contains being beneficial to plants, and cuttings of all sorts of plants seem to strike root freely in it. Pelargoniums will strike readily at this season in a warm house, with or without bottom-heat, provided the soil be kept rather dry. Tubers of Begonias, Cannas, and Dahlias may now be placed in a slightly warm house, and if no cuttings are required, much heat need not be afforded them. When the young sprouting shoots are a few inches long, the tubers may be cut up into pieces each with a shoot, and potted or planted out in frames. Seeds of German Asters, Ten-week Stocks, Marigolds, Zinnias, Gaillardias, and many other half-hardy annuals, may now be sown, sowing again a fortnight later for succession. Mignonette seed may now be sown in pots for planting out, sowing thinly. Eucalyptus globulus and E. citriodora, varieties a good deal in demand just now for cutting purposes, may also be sown.

CALCEOLARIAS.—These, if to be planted out in cold frames or trenches, should have a good watering, and the points pinched back preparatory to planting out in frames at the end of the month. Some rotten manure should be put under the soil before planting them out. Four inches each way is a good distance at which to plant young Calceolarias, as it allows of a good ball of roots being lifted at planting time. Calceolarias set out in trenches must be protected from sharp frosts for some time longer.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

MELONS.—These plants require all the sun possible, and must not be shaded by French Beans or other occupants of the house, or growth will be weak. The strongest may be stopped as soon as the second wire of the trellis is reached; and early fruit being the aim, the first female-bloom to show on the side-shoots should be fertilised, and one or two of the plants allowed to carry one fruit only, as some days may elapse before two fruits can be secured to swell evenly. Add fresh loam as the roots require it, making each addition as firm as possible, to induce short-jointed wood. It should be warmed before using, and the plants must be well supplied with moisture at the roots before top-dressing be performed. Keep plenty of moisture in the house, and only ventilate for a short time in the middle of the day when the sun is bright, and no cutting wind prevails. The night temperature may be kept from 68° to 70°; while on bright afternoons, 85° will not be too high, if plenty of moisture be afforded.

MELONS IN PITS AND FRAMES.—Hot-bed frames, which may have been made up a fortnight ago, should now be in a fit condition with a bottom-heat of 80° to 85° for planting. This degree of warmth will be high enough to afford the plants a good start, and not so high as to injure the roots; but to ward off danger should it rise above these figures, the hillocks on which the Melon-plants grow should have a foundation of thick turves with the grassy side turned downwards. These turves will also prevent the roots from running directly into the substance of the hot-bed. Melons require a firm root-run, and it is a common fault to afford them too much soil, and that too loose. I have found it a good plan to make a rough kind of frame of 9-inch boards, 18 inches to 2 feet square, in which to place the turves and form the hillocks. This frame confines the roots to a certain space, and enables the gardener to make the soil as firm as is necessary. In planting Melons the plants should be kept well up to the glass. For mid-season and late crops, or with such strong-growing varieties as is Blenheim Orange, one plant under each sash will suffice to fill the space. Stop the point of the stem when four strong leaves have been made, so as to induce several shoots to form; which, when grown of sufficient length, should be arranged over the surface of the bed at regular distances apart, and maintained in position by means of wooden pegs. Should early fruit be required, two or three plants may be placed on each hillock, not stopping them before six or eight leaves have formed, when the side-shoots will show fruit almost immediately after the point is removed. Loam of a heavy nature, to which no manure should be added, is best for the Melon, nor should the plants be fed in any way before the fruit is set. If the ball is well moistened before turning it out of the pot, and the soil of the hillock is also moist, but little water will be needed beyond the small amount required to settle the soil for perhaps a fortnight, the steam arising from the hotbed materials sufficing for that length of time. The plants may, however, be slightly dewed over early in the afternoon after a bright morning. A slight amount of air should be admitted at night, which will allow of the escape of a good deal of the moisture arising from fermentation, and tend to robustness in the plants. The pits or frames should be covered with double mats at night, and fresh linings of dung and leaves placed round them as the interior warmth declines, placing sheep hurdles close round these linings to prevent loss of heat.

SUPPLY OF APPLES TO THE MOTHER COUNTRY.—The English must be enormous Apple eaters. Secretary Morton says that we [United States] sent to Great Britain, between January and September, 1894, Apples for which they paid us 2,500,000 dols. *Meehans' Monthly for February.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

THURSDAY, MAR. 21—Linnean Society.

SHOWS.

SATURDAY, MAR. 16 { Show of Spring Plants and Flowers, at the Crystal Palace.

TUESDAY, MAR. 19 { Reading Horticultural Society's Spring Show.

WEDNESDAY, MAR. 20 { Royal Botanic Society's Spring Show.

SALES.

MONDAY, MAR. 18 { Gladioli, Begonias, Lilies, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, MAR. 20 { Enormous Consignment of Japanese Lilies, Begonias, Roses, &c., at Protheroe & Morris' Rooms. Clearance Sale of Orchids, Stove and Greenhouses Plants. Household Furniture and Effects, at Cock Crow Hill, Long Ditton, by Protheroe & Morris.

THURSDAY, MAR. 21 { Nursery Stock, at the Hook Hill Nurseries, Woking, by Protheroe & Morris. (Two days.) Clearance Sale of Plants, Roses, Horses, Hay, and Effects, at the Queen Elizabeth Nursery, Forest Side, Chingford, by order of Messrs. Kelman & Page, by Protheroe & Morris.

FRIDAY, MAR. 22 { Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—43°.2.

Cider.

THAT many-sided institution, the Society of Arts, has lately had brought under its consideration, and not for the first time, the subject of cider-making. Appropriately enough, the member for Hereford, Mr. RADCLIFFE COOKE, was the spokesman on this occasion. If, as we hope may be the case, the Apple growers of this country, stimulated by the necessities of the times, will rise to the level of their opportunity, it must not be forgotten that in these later times Herefordshire led the way.

To the exertions of the late Dr. BULL of Hereford, and of the Woolhope Club, inspired by him, we owe that magnificent publication, the *Herefordshire Pomona*—a veritable encyclopædia of information concerning the commoner Apples and Pears. That work, with its coloured plates, both numerous and beautiful, must, necessarily, be in the possession of but a limited number. It may be seen at the Lindley Library, and similar institutions. Many will be glad to be reminded that an abstract of the letterpress of this publication was published under the editorship of Dr. HOGG, with the title of the *Apple and the Pear as Vintage Fruits*.* To that little treatise we may confidently refer as the epitome of the information which the science of the late Dr. BULL and the co-operation of his fellow Woolhopeans got together on the subject of cider-making. In reading this volume, and in perusing the paper of Mr. RADCLIFFE COOKE, the conclusion is irresistibly borne in upon us that if success is to be obtained in the future, much more care and pains must be taken than have hitherto been expended on the trees or their produce. The happy-go-lucky "do as your fathers did" system is no longer sufficient. Let us profit by the experience and teaching of our predecessors; but let us, at least pay them the compliment of improving upon their instructions, and avail ourselves of the many advantages we have, and which they had not. The Apple and Pear trees must not only be allowed to grow and take care of themselves, they must be cultivated.

In the times when the conditions were different, it paid better to grow corn or rear stock, and the orchards were in consequence neglected. Corn-growing under present circumstances does not seem likely to prove a profitable industry, and sensible men, according to the measure of their powers, are looking to see in what directions they can employ their capital and their intelligence. Doubtless, cider-making affords one resource. Whatever advantages other countries may have over us in the matter of climate, it is pretty certain no other country can produce better Apples. The discussions which have taken place recently, and the fruit-shows, have shown this. Cider Apples and perry Pears are, it is true, different from those which yield the supplies for our tables, and they are not seen in our exhibition tents. They are not known outside the cider counties, and it may be taken for granted that from long experience the farmers in those counties grow the sorts best suited for their purpose. Upon this point, those who are not experts have no right to express an opinion. But it is at least permissible to suggest that trials should be made among the hundreds and hundreds of new or newer sorts, in order to ascertain whether some among them may not offer some superiority over the older sorts, some greater power of adaptation to different conditions. The best Sugar-beet was not discovered all at once, and although the sorts originally grown produced sugar, yet those now cultivated produce much more. So may it be with Apples and cider. All the time "we do not know" we are simply obstacles to progress, and in the future, when those come who do know, they will not pay much heed to our feelings and prejudices—we speak from a commercial point of view.

But apart from the question of the most suitable varieties for particular purposes and special local conditions, there are matters that are common to all cultivators of fruit trees, and on which those that are not cider-makers are as competent to form an opinion as are the specialists. It is the tritest of truisms to repeat that if we want to get the best results, we must feed appropriately, cultivate well, and tend diligently. Now, who that is familiar with the orchards of this country will say that these requirements are generally met? Is it not the exception to find orchards properly attended to? Where improvement is manifest, it is in market farms, where gardening methods have been but recently adopted.

Another point in which increased care is needed is in harvesting the fruit. The present system is very pretty and pictural, but it is wasteful and injurious. A bruise may, some may think, be a matter of relatively minor moment, but in these days we must never overlook the fact that germs and fungus-spores that fall harmlessly on the unbroken rind, if they gain access through a little rift, set up the—

> "Little pitted speck in garnered fruit,
> That rotting inward slowly moulders all."

and not that fruit alone, but all in contact with it may suffer in the same way.

As to the manufacture of the cider itself, it is obvious that the same minute precautions are necessary as for wine-making or brewing. The selection, isolation, and cultivation of the most suitable sorts of yeast are matters of which our forefathers knew nothing. By rule-of-thumb they no doubt made good cider, and brewed good beer, but they could hardly be certain about it, and their products were not uniform in quality. We are beginning to understand the life-history of some of these yeast ferments, and as our knowledge grows, so will increase our power of definitely effecting our purposes, and what is quite as important, of recognising our inability to cope with some conditions which must ever be unfavourable.

The manufacture of cider or perry, if it is to be increased in this country, must, it is obvious from what Mr. RADCLIFFE COOKE tells us, be conducted all through with greater care and intelligence than has hitherto been the case. We cannot have the least doubt that abundant success as regards the improvement of the quality of the liquor and its more uniform degree of excellence would result. But then comes the question. Will it pay? That is a point upon which Mr. RADCLIFFE COOKE, so far as we see, offered no evidence. By implication, of course, it is obvious that he and the National Association of Cider-makers are of opinion that it will do so. We think so too, but we should like to have some evidence whereupon to form an opinion.

In the discussion which ensued, the Chairman, Sir GEORGE BIRDWOOD, entered at length into the interesting folk-lore connected with the Apple, pleaded on philological grounds for the spelling "cyder," and for sanitary and temperance reasons advocated the moderate use of the beverage. "Read all the best literature of the world, inspired by the highest human wisdom, the criterion of which wisdom is goodwill toward man, and glory to God in the highest, and what you find—alike throughout the Bible and in the literature of Greece and Rome, and of modern Europe—is at once the strongest detestation of drunkenness and intemperance, and the heartiest praise of wine."

A SHOW-HOUSE AT MR. W. R. ARMSTRONG'S NURSERY, NEWCASTLE ON TYNE.—In our Supplementary Illustration this week of the show-house at Mr. ARMSTRONG'S nursery, a spacious structure is shown, which, with scarcely any pretension to be pleasing in form or in accessories, affords an ample area for cultivating and fittingly displaying decorative plants. The temperature maintained in this house is what may be called warm temperate, or in garden phrase that of the intermediate-house. A temperature which, if not too long indulged in, is not inimical to the ordinary inmates of the cool greenhouse, indeed is beneficial during active growth; and is conducive to the well-being of New Zealand Ferns, Chinese Palms, South African Pelargoniums, Richardias, and many others. Our readers will note plants of Kentia Belmoreana, Alsophilas, and Dicksonias, Phormium tenax variegata, foliage Begonias, Adiantum capillus-veneris, probably; Gloxinias in flower, also Lapageria, and many more besides. The back wall of the house will, in course of time, become clad with Ferns and Begonias, that appear to be secured to the surface by means of trough-like contrivances of metal. The good healthy appearance of the inmates of the house is the more remarkable, from the fact, that the surroundings are not very salubrious, a colliery with its smouldering waste heap being within a short distance, and Lord ARMSTRONG'S engineering works at Elswick, just at the foot of the hill on which the nursery is situated.

THE LINNEAN SOCIETY.—At a meeting of this Society, held at Burlington House on Thursday evening, the 7th inst., Mr. C. B. CLARKE, President, in the chair, a paper on the genus Cupressus by Dr. MAXWELL MASTERS was read in abstract, owing to the indisposition of the author. Messrs. VEITCH, of Chelsea, MOORE, of Glasnevin, and others supplied numerous illustrative specimens which were highly appreciated. Mr. G. F. SCOTT ELLIOT, who has been absent from England since September, 1893, on a botanical exploration of Mount Ruwenzori and the country to the north of the Albert Edward Nyanza, and had returned home only on the previous day, gave an acccount of his journey and of the results, geographical, geological, botanical, zoological, and political, obtained by him. He took the route from Mombasa to Uganda. The country lying north-

* Hereford: Jakeman & Carver.

A Show House at Mr. W. R. Armstrong's Nursery, Newcastle-on-Tyne.

east of the Victoria Nyanza was described as a large rolling grassy plain some 6000 feet above sea-level, and well adapted for colonisation. He went west from the Victoria Nyanza to Mount Ruwenzori, which is said to have an altitude of 18,000 feet, and spent four months in exploring that district under the great disadvantage of a dense cloud hanging over the mountain the greater part of the day, which often prevented the party from seeing more than 50 feet ahead. The sides of the mountain were clothed at the base with a thick growth of trees, resembling the Laurel of the Canary Islands; above that Bamboos to the 10,000 feet level; and above that again what the explorer could only liken to a Scotch peat moss, into which the traveller sank at every step 1 foot or more. Large trunks like those of Erica arborea of the Canary Islands, but indicating trees 80 feet high, were noticed. Among other plants noticed were a Viola, a Cardamine, a gigantic Lobelia, attaining a height of 5 or 6 feet, and a species of Hypericum resembling that found in the Canaries; indeed, the similarity of the flora to that of the Canary Islands was remarkable. Mr. Scott Elliot ascended Mount Ruwenzori to the height of 13,000 feet, finding evidence of animal life and numerous insects to a height of 7,000 feet. Above 10,000 feet his Swali porters could not sleep without injury to their health, and it was only with a reduced number of men that he was able to ascend another 3000 feet. Among the animals specially mentioned was a species of water-buck (Cobus), a new chameleon, a new snake, and several new insects. Mr. Scott Elliot's discovery that the Kagera River is navigable was regarded as important. Mr. Scott Elliot said he thought the route to Victoria Nyanza from the mouth of the Zambesi, by way of the Lakes Nyasa and Tanganyika, would most advantageously open up communication between the Upper Nile and the coast at Chindi, and thus do more for international interests than could be expected to result from a railway from Mombasa.

—— On the occasion of the evening meeting, March 21, 1895, at 8 P.M., a paper will be read by F. W. Keeble, entitled, "Observations on the Loranthaceæ of Ceylon."

Dr. Neubert, the founder of the *Deutschen Magazins* für Blumen u. Blumenkunde, died at Cannstadt, near Stuttgart, on February 19, in his eighty-seventh year.

National Chrysanthemum Society.—A fully-attended meeting of the Committee took place at Anderton's Hotel, Fleet Street, on the 11th inst., Mr. T. W. Sanders, Vice-chairman, presiding. Letters were read from Sir E. Saunders, thanking the members for again re-electing him as President of the Society; and from Mr. B. Wynne, accepting the post of chairman of the Committee. The Secretary having called attention to the fact that the subject of Mr. R. Ballantine's resignation of the post of Chairman of the Committee had been referred by the annual general meeting of members to the General Committee, to take such steps as might be deemed desirable, it was unanimously resolved that the resolution of thanks passed at the annual general meeting, be suitably engrossed on a vellum and presented to Mr. Ballantine, on some occasion to be hereafter determined upon. The Schedule Revision Sub-committee presented a report bearing upon the wording of some special prizes offered by Messrs. H. Cannell & Sons, which was adopted by a large majority. The Secretary submitted a catalogue of Chrysanthemums, containing some 3000 novelties, including those from all sources for 1890 to 1894, prepared by Mons. O. de Meulenaere, of Ghent. It was unanimously resolved that the Silver Medal of the Society be presented to M. Meulenaere, in acknowledgement of his valuable contribution to Chrysanthemum literature. The Secretary reported that the list of members comprised 75 Fellows, 598 Ordinary, and 27 Foreign, exclusive of those to be elected that evening; while as many as 114 societies were in affiliation. The meeting then proceeded to elect six members of the Floral Committee, in the place of those retiring by rotation, and the choice fell upon Messrs. G. S. Addison, W. H. Lees, and J. Wright (Temple), old members; and Messrs. C. E. Shea, J. W. Moorman, and D. B. Crane, new members. Mr. George Gordon was unanimously elected chairman of the Floral Committee, in the place of Mr. W. H. Fowler, who retired. The dates of the meetings of the general Committee for 1895-96, were agreed to as follows, viz., August 26, September 30, October 28, November 18, December 9, and January 20. The dates of the meetings of the Floral Committee: September 3, October 8, 23, and 30; November 11, 20, and 27; December 3 and 11. A hearty Vote of Thanks was passed to Mr. C. H. Payne, as editor, and to the contributors of the Year Book for their valuable services. Five new members were elected, and the Barnet and District Chrysanthemum Society and the Colchester Rose Society were admitted to affiliation. A Vote of Thanks to the Chairman closed the proceedings.

Dresden International Horticultural Exhibition.—In the city of Dresden, so famous for its beauty and fine situation, an International Horticultural Exhibition will be held from May 2 to 12, 1896. Dresden has been celebrated for nearly a century for the large number of florists, but particularly for its immense culture of Azaleas, Rhododendrons, Camellias, and Roses, for the markets of the world. The place for the exhibition is a newly-built hall for general exhibition purposes, of nearly 6000 square mètres area. Besides this, a number of smaller buildings in the park, surrounding the main building, will furnish ample room for any number of plants of all kinds. The park will also be available for out-door exhibition. The programme consists of about 500 classes, among these are 17 for Palms only, 15 for Orchids, 8 for Anthuriums, 3 for Nepenthes, 20 for Azaleas, 15 for Rhododendrons, 5 for Camellias, 29 for Roses, and 14 for Evergreens. There is also a great number of competitions for new and rare plants. In consequence of the numerous foreigners who visit Dresden, also of the considerable means at the service of the Horticultural Society "Flora," it is reasonable to expect not only a great success, but also a large number of visitors. The exhibition, under the protection of the King of Saxony, is supported by the best circles in the horticultural world. Valuable prizes and medals will be awarded to the exhibitors. The programme may be had from Mr. Laemmerhirt, Dresden, N. Glacisstr. 4.

Wood Notes.—A short time since a consignment of Queensland timber, consisting of blocks and planks of several of the chief hard woods of the colony, most suitable for street-paving purposes, arrived in England from Brisbane, and have just been placed in the Queensland court of the Imperial Institute for examination by all interested in such matters. The samples are of spotted and blue gum, ironbark, blackbutt, bloodwood, tallow-wood, and Crow's Ash, and they have already been inspected and reported on by exceptionally experienced dealers and experts.

Devon and Exeter Gardeners' Association.—On the occasion of the meeting on March 6, "Foliage Plants and their Culture," was the subject under discussion, the essayist for the evening being Mr. G. Camp, gardener to E. Byrom, Esq., of Culver, near Exeter. The large centre table of the Council Chamber of the Guildhall, where the meetings are held, was occupied by a representative collection of plants illustrative of the lecture, and contained some healthy and well-grown specimens of Crotons, Dracænas, Aralias, Caladiums, Sarracenias, and other foliage plants The essayist, in an admirable paper, gave a well-arranged summary of the country of origin, circumstances of introduction, and general treatment of the plants named, showing how by ordinary care and attention a conservatory may be made to look bright and gay in the dullest season without the aid of flowering plants. One of the main and, indeed, essential conditions of success in the cultivation of foliage plants was to keep them clean, and free from thrip, scale, mealy-bug, or any of these pests of the stove. Another important matter was to keep the atmosphere fairly moist. Crotons would stand more sunlight than was generally given to them. The compost he recommended for them was one part good rich loam, one part leaf-mould and peat in equal proportions, and one part broken charcoal and silver sand. Cuttings should be started in a brisk bottom-heat. Dracænas could be readily propagated by cutting up old plants into short lengths with three or four joints to each, and placing them in bottom-heat with peat and silver sand. He recommended the propagation of Begonias from leaves. Colocasias and Caladiums, he said, were fine subjects for grouping with Ferns, Crotons, and Aralia Veitchii; the alternation of broad highly-coloured leaves with those of the Aralia and many kinds of temperate-house Ferns, gave richness, lightness, and grace. Speaking of Palms, he mentioned many useful varieties, and also incidentally referred to the raising of the Ivory Palm at Kew from seed sent over from America. A useful discussion followed, with a vote of thanks to Mr. Camp for his excellent paper.

Early Tomatos.—Tomato seeds sown in boxes, in the greenhouse or window, and the young plants shifted into pots from time to time as they seem to require it, will make strong, vigorous plants by the time the season arrives for planting them in the garden, and will fruit much earlier than those started later. The Champion gave exceptionally good results last season, the fruit being of extra large size and very heavy. The flesh was solid, and contained remarkably few seeds. It is a strong grower in good soil. *Meehans' Monthly for February.*

Royal Horticultural Society of Ghent.—At the meeting of this body on Sunday, March 3, the following awards were made, viz, Certificates of Merit: To Odontoglossum crispum Duvivierianum, Cypripedium Leopoldianum (hybrid Leeanum superbum × insigne Wallacei); Odontoglossum crispum Chestertoni, Cypripedium Osiris, Cypripedium Minos, Cypripedium Leysenianum, and Odontoglossum heterodon, shown by M. Jules Hye; Odontoglossum Nevadense; to Viburnum tinus fol. aur. macul. and Anthurium Scherzerianum Souvenir de Jean Van Geert, shown by M. De Smet-Duvivier; to Abutilon Sawitzi and Anthurium hybridum, from seed, shown by M. Arthur De Smet; to Azalea Th. Vervaene, a trained plant, shown by M. Joseph Vervaene; and to a lot of Primulas obtained from seed, shown by M. J. Lorge de Jette. Certificates of Merit for good Culture were as follows: To Odontoglossum Alexandræ, shown by M. De Smet-Duvivier; to a lot of five Odontoglossum Alexandræ various, Cypripedium Elliottianum, and to Cypripedium Boxalli atratum superbum, shown by M. Jules Hye; to Vriesea Wioti and Vriesea brachystachys major, shown by M. C. Petrick. A Botanical Certificate was granted Mr. C. Petrick, for a plant of Echinostachys Pinelianus.

Effects of the Weather.—In the *Western Morning News* of the 6th inst., we read:—"About 4½ tons of Scilly flowers were despatched from Penzance yesterday for the London and Midland markets." This is only about a quarter of the quantity which was being sent about the same time last year.

Commercial Fibres: Their Origin and Distribution.—A series of Cantor lectures on Commercial Fibres will be delivered before the Society of Arts, John Street, Adelphi, W.C., by Dr. D. Morris, M.A., C.M.G., on Monday next, at 8 P.M. The subsequent lectures will be on March 25, and April 1. [For syllabus, see *Journal, Society of Arts*, March 1, et seq.]

Museum d'Histoire Naturelle, Paris.—A new departure has taken place in this famous establishment. A meeting of the pro-

fessors and assistants has been held, under the presidency of Mr. Milne Edwards, whereat it was decided that periodic meetings of a similar kind should be held, and a *Bulletin* published. The object of these meetings is to promote co-operation between the several departments, and to multiply the points of contact between specialists who each in their department contribute to the advancement of science. The relations between the correspondents, collectors, and travellers for the museum, and the officials will, it is hoped, be cemented. At the meeting, an account of the work done in each department will be given, and collectors will thus be enabled to appreciate the value of their collections, become witnesses of the use made of them, and better enabled to judge of the requirements of science. At the some time, they will contribute information as to the localities, and the conditions under which the collections were made. Six secretaries were nominated, M. Poisson undertaking the duties on the part of the botanical department.

Penetration of Living Tissues. — Some time ago, G. J. Peirce showed how the haustoria of different parasitic plants penetrate the living tissues of the host plants (*Ph. J.* [3], xxiv., 345), and he has more recently shown that the same power exists in the roots of the Pea, Bean, Turnip, and White Mustard (*Bot. Zeit.*, lii., 169), seeds of the two latter enclosed between halved potato-tubers forcing their roots through the substance of the Potato, and even piercing the external cork layer in twelve days. No root-hairs were developed, and no corroded starch-grains were found, but the passage made by the root was surrounded by torn, brown-walled, dead cells, and it was concluded that the penetration must be due to mechanical pressure and not to the action of a diastatic ferment. The external tissues of branches of an Impatiens, leaves of Echeveria and of an Aloe, a leaf-stalk of Rhubarb, and a stem of Euphorbia, were also penetrated by the roots of seedling Peas. The editor of *Natural Science* recalls an instance recorded by Rendle (*Journ. Bot.*, 1893, 193), in which shoots had grown inwards from the base of the eyes of a Potato-tuber, penetrating its substance and giving rise to thread-like roots and small tubers, the latter eventually bursting the skin of the mother-tuber by their growth. The layer of cells lining the channels and cavities formed in the old Potato lost their contents, and their walls became corky, while layers of cork-cells were formed on the surface of the young shoots and tubers. *The Pharmaceutical Journal and Transactions.*

To Classical Scholars.—Wanted a provisional system of nomenclature for garden use applicable to imperfectly-known plants. It must be founded on Greek or Latin roots, preferably Latin; and it must be so constructed as not to clash with the ordinary specific Latin names given by botanists. For instance, numerous supposed natural hybrids, and, more inexcusably, many known artificial hybrids, now receive Latin names, indistinguishable as to their form from those which are used to designate known species. The consequence is unnecessary confusion and an extremely overloaded synonymy. For artificial hybrids and garden varieties generally there is much to be said for the use of vernacular names.

Vine Mildew.—M. Louis Sipière communicates to the French Academy of Sciences a mode of treatment more easily employed, less offensive, and more economical than the use of sulphur. M. Sipière avails himself of lysol (a preparation of carbolic acid), by reason of its germicide properties. A solution of 5 parts in 1000 of water—that is to say, of 5 grammes of lysol in a litre of water, or 500 grammes in a hectolitre—is most efficacious in destroying insects, as well as fungus spores, and is much cheaper than the Bordeaux Mixture. Three applications should be made, in the course of the summer, in spring, and early summer.

Stock-taking: February.—Even the figures in the returns just issued have a frozen-out appearance; where "increase" ought to be recorded, there are white, or blank, columns; the month is a failure, for imports show a falling off, as compared with the same month last year, equal to 17·2 per cent., the only increase recorded, and that but small, being in Tobacco, and in the sample post. In live-stock and in food of all kinds, there are reductions in quantities and values. But there are two things to be borne in mind here; one is, that February of last year was a particularly busy month, the imports then being in excess of those for the same month in 1893; and the terrible weather at home and abroad has sealed up many a port, where ships remained ice-bound; so that, after all, the two terms are not comparable. The following extracts from the "summary" table of imports possess an added interest just now:—

Imports.	1894.	1895.	Difference.
Total value of imports	£ 33,984,085	£ 28,134,489	£ —5,849,596
(A.) Articles of food and drink — duty free	10,637,571	8,665,372	—1,972,199
(B.) Articles of food and drink—dutiable	1,818,615	1,628,354	—190,261
Raw materials for textile manufactures	8,705,635	6,751,169	—1,954,466
Raw materials for sundry industries and manufactures ...	2,438,774	1,875,018	—563,753
(A.) Miscellaneous articles	1,355,532	769,201	—586,331
(B) Parcel Post ...	63,662	65,279	+1,617

Having been cut adrift from building operations for nearly two months, it is easy to account for the falling off in the imports of timber. The import of tea for home consumption from all parts of the tea-growing world is in excess of that for February, 1894—the excess (and more) being due to arrivals from China; money is wanted there at this important juncture. Some merchants here have been calculating the result of the present war on the future of China Tea supply. It may not be amiss to notice the enormous decrease in the importation of German sugar during the past month. The following selections from the general mass of import returns possesses its usual interest:—

Imports.	1894.	1895.	Difference.
Fruit, raw:—			
Apples ... ... bush.	186,332	311,062	+124,730
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	4	85	+81
Pears ... ... ,,	2,609	2,529	—80
Grapes ... ... ,,	499	383	—116
Unenumerated ... ,,	21,342	27,589	+6,247
Onions ... ... ,,	424,559	391,172	33,387
Potatos ... ... cwt.	17,604	56,363	+38,759
Vegetables, raw, unenumerated ... ... value	£ 42,435	£ 54,499	£ +12,064

Here it is certainly well worth calling the attention of the reader to the fact that no notice has been taken in the Board of Trade returns for February of the large imports of colonial fruit last month, duly recorded in the pages of this journal.

The Exports

for the month show a decline at the rate of 4·5 per cent., the amount for last month being £15,968,395, as against £17,679,449—a decrease in value of £1,711,054, the falling off for the two months being £1,638,698. Coals have largely fallen off, so have the usual stuffs forwarded to the East Indies and China; but woollens to the United States show a large increase. It ought not to be forgotten, moreover, that values, apart from quantities, show a heavy depreciation under several heads. Whilst it cannot be denied that all classes are heavily affected by the present condition of trade, that is no reason for ceasing to believe that the tide will soon turn in our favour.

The Snake Firs.—In the number of *Garden and Forest* for Jan. 30, 1895, is an illustration of what the Germans call Snake Firs. The branches are long, lanky, lithe, comparatively little subdivided, and twining in and among the surrounding herbage like so many snakes. By compensation the leaves are larger than usual. The branching, in fact, resembles that of the Araucaria imbricata or that of Biota pendula, or of Retinospora filifera, but in an exaggerated degree. In Germany this peculiarity occurs in the common Spruce (Picea excelsa var. viminalis and var. monstrosa), and has been made the subject of memoirs by Caspary, Schübeler, and others. A specimen may be seen at Kew, and here and there in the gardens of those interested in plants, but it must be admitted that for the many it is more curious than beautiful. A good illustration used to exist in Mr. Cranston's nursery at Hereford. It is interesting to find the same variation occurring in Massachusetts in Picea nigra (Mariana). Is it a reversion to some former condition? It can hardly be an adaptation to new conditions, because it occurs in the midst of other trees growing under the same circumstances.

Artificial Manures. — We are gradually accumulating more exact knowledge as to the properties of manures, and their varied action at different stages of the plant's growth. Most of the artificial manures advertised are good in their way and under certain circumstances, but they are often preposterously dear. Experience is the best guide for the farmer and gardener in these matters. Before incurring serious outlay, experiment should be made in the garden or in the farm on a small scale. A few square yards set apart as a "research station," or trial-ground, would tell the farmer and gardener more that he needs to know in his particular conditions than any chemical analysis, which must of necessity be general only. In every case the trials should be comparative. There should be one or two plots treated without manure at all, others dressed in the ordinary way, and others treated with the manure whose qualities it is desired to test. The Agricultural and Horticultural Association, Creek Road, Deptford, has issued a very useful pamphlet, showing the general character of the manures desirable for particular crops, the method of using it, and the cost per acre or per ton. A coloured table is mentioned as being issued with the pamphlet, but this we have not seen.

The Surveyors' Institution.—The next ordinary general meeting will be held on Monday, March 18, when a paper will be read by Mr. E. M. Leman, on "Agricultural Credit Banks." The chair to be taken at 8 o'clock.

The Charles Collins Fund.—The executive committee beg leave to tender their sincere thanks to those who have so generously responded to their appeal for subscriptions to the above fund, and to say that they propose to close it on Wednesday, March 20, after which immediate steps will be taken to decide as to the most appropriate manner of administering it for the benefit of the widow and children. In the meantime they would feel exceedingly obliged if those who kindly promised to contribute to the fund would be good enough to remit the amount of their subscription to the Honorary Treasurer, George Gordon, Esq., Endsleigh, Priory Road, Kew; or to the undersigned, on or before March 20, in order that the fund may be finally closed by that date. The total amount received or promised up to date is £62 19*s*. Signed, on behalf of the executive, T. W. Sanders (Hon. Sec.), 57, Cressingham Road, Lewisham, S.E.

Additional Rose Show Fixtures.—A show will be held at York, on June 19, 20, and 21; Cowes (Isle of Wight), on June 25; Lee, on July 3 and 4; Redhill, on July 10.

Vegetable Assimilation and Respiration.—Mr. F. F. Blackman, Demonstrator of Botany in the University of Cambridge, has devised a new method for investigating the carbonic acid exchanges of plants. He says (*Proceedings of the Royal Society*, lvii., p. 192), with truth, that all the processes

hitherto available for the estimation of carbon dioxide in its biological relations are open to serious objections, either on the score of the amount of time involved in their performance, or of their inadaptability to the estimation of small quantities of carbon dioxide when slowly evolved. And he claims to have succeeded in devising an apparatus that combines a high degree of chemical accuracy with special adaptability to biological research. Should Mr. Blackman's discovery prove to be all that he claims for it, examiners in botany will have cause to be grateful to him, as it will greatly simplify the "marking" of answers relating to questions on the

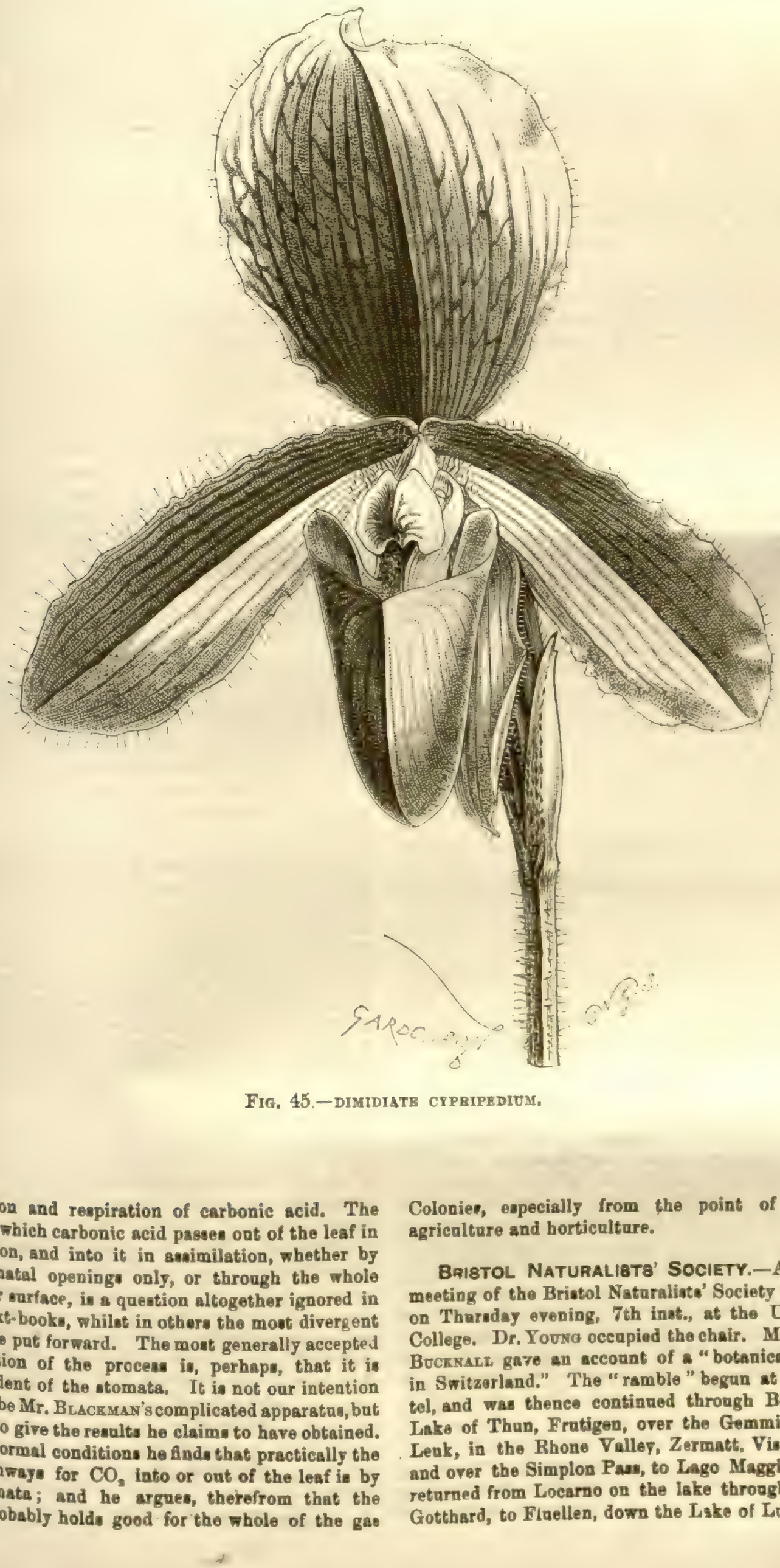


Fig. 45.—DIMIDIATE CYPRIPEDIUM.

absorption and respiration of carbonic acid. The path by which carbonic acid passes out of the leaf in respiration, and into it in assimilation, whether by the stomatal openings only, or through the whole cuticular surface, is a question altogether ignored in some text-books, whilst in others the most divergent views are put forward. The most generally accepted explanation of the process is, perhaps, that it is independent of the stomata. It is not our intention to describe Mr. Blackman's complicated apparatus, but merely to give the results he claims to have obtained. Under normal conditions he finds that practically the sole pathways for CO_2 into or out of the leaf is by the stomata; and he argues, therefrom that the same probably holds good for the whole of the gas exchange of the plant. Under abnormal conditions, such as the blocking of the stomata or intercellular spaces, he admits the possibility of the passage of CO_2 through the cuticle of osmosis. He also asserts that mature isolated green leaves, fully illuminated, assimilate the whole of their respiratory carbonic acid, and allow none to escape from them.

Dr. Morris, C.M.G. — The number of the *Colonies and India* for March 2, contains a portrait of Dr. Morris, the Assistant Director of the Royal Gardens, Kew, accompanied by a sympathetic account of his labours for the promotion of the welfare of the Colonies, especially from the point of view of agriculture and horticulture.

Bristol Naturalists' Society.—A general meeting of the Bristol Naturalists' Society was held on Thursday evening, 7th inst., at the University College. Dr. Young occupied the chair. Mr. Cedric Bucknall gave an account of a "botanical ramble in Switzerland." The "ramble" begun at Neuchatel, and was thence continued through Berne, the Lake of Thun, Frutigen, over the Gemmi Pass to Leuk, in the Rhone Valley, Zermatt, Visp, Brieg, and over the Simplon Pass, to Lago Maggiore. He returned from Locarno on the lake through the St. Gotthard, to Fluellen, down the Lake of Lucerne to the foot of Pilatus, and thence to Meyringen, to Grindelwald, over the Wengern Alp to Lauterbrunnen, to Interlaken, and so back through the Lake of Thun to Berne once more. Besides the interest and beauty of the varied scenery, the tour enabled Mr. Bucknall to collect over 200 specimens of plants. A hearty vote of thanks was passed to Mr. Bucknall and Mr. Richards.

SPORTS.

The question of the origin of these erratic productions often arises. For our own part, we are convinced that one reason for their production may be found in the separation or unmixing of previously-combined characteristics. A cross, of whatever degree, is simply a combination of different characters and different modes of growth. Modern researches into the mode of growth of the nucleus of the cell show how the new plant results from the combination of the particles of one nucleus, the male, with the corresponding segments of another, or female nucleus. And the combination of particles is not hap-hazard, but in definite numerical proportion. Now, if the combination is imperfect or unstable, the result would be the production of a "sport." The flower represented in fig. 45 came from the collection of Sir F. Wigan, at Sheen. It is a form of Cypripedium Dauthieri ×, which is the result of a cross directly or indirectly of C. barbatum and C. villosum. The figure shows that one-half of the scape, bract, flower-segments, lip, and even the staminode partakes of the characters of C. villosum, whilst the other half shows the form and coloration of C. barbatum. We have figured similar variations in Calanthes, Chrysanthemums, Roses, and other plants.

HOME CORRESPONDENCE.

Isle of Wight.—This garden of England has suffered to a large extent from frost. Brussels Sprouts and all green crops, Wallflowers, Strawberries, Laurels, Laurustinus, Roses, Teas especially, are in many instances killed, and others much injured. The amount of damage will be better estimated in a month or six weeks' time; but so much has been done, that many of our usual Rose exhibitors will be severely handicapped at the forthcoming shows. *S. Heaton.*

Apple Canker.—In crediting me with the authorship of the view that the fungus, Nectria ditissima, is the direct cause of canker, your correspondent, "E. M." (p. 242), does me an honour to which I have no sort of claim. But he rather spoils the compliment by reading into my article (p. 72) a meaning widely different from that which I intended to convey. Perhaps I may therefore be permitted to reply briefly to his criticisms. "E. M." charges me with ignoring altogether "the cultural conditions of trees;" but if he will re-read the opening sentence of the article in question, I think he will admit that he cannot substantiate the charge, for I there state that "every endeavour should be made to remove any unsuitable conditions of growth that may predispose to, and thus act as indirect causes of, canker." It is true that I did not specify and describe at length the cultural conditions essential to the prevention of the malady; to do so would have been simply to waste space, for every reader of the *Gardeners' Chronicle* (even the "scientist!") is already fully aware of the prime importance of removing unsuitable conditions, and of doing everything possible to promote sturdy growth. If I ignored cultural conditions, I would never again venture into print, or dare to face an audience of practical men. Again, "E. M." says, "according to Mr. Greaves, if an affected tree is not ridded of the fungus, by the external application of some wash, after paring the branches and so forth, the canker will certainly kill this particular tree." It seems to me that this is rather a curious construction to put upon my assertion that an infected scion "may produce a tree whose every branch and twig is ramified by mycelial threads," and that a tree in such a parlous state must sooner or later succumb. I certainly did not mean to imply that ameliorative measures, of the nature indicated by "E. M," will

not, if taken in time, postpone, or altogether avert, destruction. I can heartily endorse all that your correspondent says with regard to the advantage of lifting out of wet or unsuitable soil, and so forth; but I would further urge that it is desirable to attack the fungus itself, in addition to (not instead of) improving the general conditions. With trees, as with men, healthy individuals are not so susceptible of "catching" infectious disorders, as are the weakly, ill-nourished, or, on the other hand, over-fed. In my opinion, susceptibility in the case of canker depends largely, if not entirely, upon a soft or unripened condition of the tissue, such tissues affording an easier entrance to the fungus, and allowing it, when once it has effected an entrance, to spread with greater rapidity. "E. M." does not seem inclined to allow that the fungus is the direct cause of canker. I would therefore, in conclusion, ask him whether he has ever seen a genuine case of canker where Nectria ditissima was absent? and also whether he can account for the fact that the fungus is invariably present previous to the appearance of the characteristic open sores? *C. W. Herbert Greaves.*

CLEMATIS INDIVISA LOBATA.—In reply to "D," I may mention that we have a large plant of the said climbing species, growing on a back wall of a greenhouse, and that it is much admired for the profusion with which its beautiful white flowers are produced. But my experience of the plant is that it is a rampant grower, as I always cut ours back to the old wood every season after it has done flowering, and it makes new wood to the extent of about 12 feet in length, and freely flowers upon the new wood all the way up to the points of the shoots. *J. B.*

PROFITABLE WOOD MANAGEMENT.—Every now and then we see letters on this subject in the *Field* and the *Gard. Chron.*, telling us that woods can, under proper management, be made to pay, but we never hear of woods that actually do pay; at least, I never do, and I go about a good deal among landowners, who know more about it than most of the persons who preach on this subject. If Mr. Forbes will tell us of one single estate in the south of England not possessing some exceptional advantage of situation, where the woods are actually paying all expenses on the average of recent years, and leaving any return for rent, taxes, rates, and the capital expended on planting them, I for one shall be very glad to go and take a lesson. I had a visit recently from the representative of one of our largest and best nurserymen, who told me that wherever he went he heard the same complaints of the disease among Larch, and the impossibility of getting anything like a remunerative price for timber, unless of specially fine quality, and very near a market. A case recently came before an assessment committee in a midland county, where it was proved that a large area of woodlands which are, and have been for several generations, a good deal better managed than common, and which are not eaten up by ground game, were practically worthless to the proprietor, except for sport and ornament, and I hear on all sides, and know from my own experience, that both bark, underwood, and ordinary timber have been for the last two years a drug in the market. How can you expect people to plant, except for sporting and ornament, as long as they know that the selected timber of the whole world, grown by Nature on virgin soils, free from tithe, rates, and taxes, and imported by protected shipping, will be allowed to swamp our home markets? Speaking from experience, I should consider it as absolute gambling to plant with a view to profit on ordinary land as long as the present conditions prevail, and, though there is no doubt that some day, when it is too late, the country will come to its senses, yet I am sure we shall see a great deal less planting in the next ten years than formerly. *H. J. Elwes, Colesborne.*

EDUCATION OF GARDENERS.—I am afraid from "W. G.'s" letter (pp. 274 5)—to which a sharp attack of influenza has prevented my replying till now—that there are one or two important points in my original article which I did not sufficiently emphasise. In the first place, I certainly meant to indicate what ought to be feasible without a college training, if we only have efficient primary schools and continuation-classes. Secondly, I maintained that, if this be the case, children ought to have mastered the "three R.'s" by the age of nine, and not twelve or fourteen, as "W. G." says. Thirdly, I tried to urge strongly that if parents really wish their children to become good gardeners and to secure ultimately important well-paid posts, they should not expect them to bring any "grist to the mill to help support the household," until they are at least 14 years of age. Fourthly, it was because I anticipated such an objection as "W.G.'s," as to private gardens perhaps 3 miles from a town, that I spoke specially of suburban or rural districts where gardening is a leading industry. Where there are many nursery-gardens, or one or two large establishments employing a good number of young men, there need be no difficulty in starting an assisted class, especially if some of the seniors are not above trying to add to their theoretical knowledge. One omission in my paper I have to thank "W. G." for pointing out. His reference to the counter-attractions of cards, draughts, chess, &c., shows me that I certainly ought to have pointed out the necessity for self-denial on the part of young gardeners themselves when they are masters of their own leisure. I have had pupils in my evening classes who have walked considerable distances and taken railway journeys several evenings in each week for one, two, or three hours' work in the class-room or laboratory, after ten or more hours manual labour in the workshop. This, of course, means resolution and determination to improve oneself. I wish young gardeners beginning life would read the biographies of men like Lindley, Loudon and Paxton, and then they would realise the meaning of honest hard-work and its reward; but I am so convinced that there are many to whom the opportunity to learn is wanting, rather than the will, that I made increased facilities the main gist of my paper. I am, of course, glad of the action of the Education Department to which you refer in your leading article this week; but if we are to have efficient grounding in scientific principles and continuation-classes, we must certainly supplement our already over-taxed primary schoolmasters. One word, in conclusion, as to "W. G."s conclusion that high-class education will not make our gardeners better workmen. My contention is, that though no amount of lecturing or book-learning will make a man a more skilful handicraftsman, yet by making him a more intelligent workman, i.e., one who understands the principles upon which he works, high-class education most certainly does make him a better workman in the completest sense of the term. *G. S. Boulger*, 18, *Ladbroke Grove, W.*

CRYPTOGAMS IN SOUTH DEVON.—A short stay in these parts has been sufficient to show that they must be a paradise for the Cryptogamic botanist, if the neighbourhood of Teignmouth may be taken as a sample. It was notorious for the variety of its Ferns; these, however, are now scarce, having been dug up for sale. But lichens, mosses, and fungi, Hepaticæ and Algæ, abound, and are not likely to be eradicated. So many of the lanes have stone walls on one or both sides, and as the soil is very wet, there is always a damp surface, generally a dripping surface, for mosses, &c., to grow on. The hollows amongst the hills are mostly boggy swamps, and must be full of Jungermanniæ and Confervæ. The microscopist ought also to find it a grand collecting-ground for Desmids and Diatoms. *W. T. T.*

THE LATE SEVERE FROSTS.—It is now rather more than forty years (May, 1854) since I sent a communication to the *Gardeners' Chronicle* respecting some severe spring frosts; and as the late frost has been unusually severe, I thought that a few remarks respecting it from this neighbourhood might again interest your readers. Crowborough Hill, on account of its considerable elevation above the level of the sea, has been very generally considered to be the coldest part of this county, and it was not until I commenced meteorological observations here, rather more than twenty years since, that any proof to the contrary was obtainable. The most important feature in the climate is the comparatively mild temperature which prevails at night, and this has been fully exemplified during the late frost, which has been much more severe in many other parts of the county, situated at a less elevation above the level of the sea. A rather sudden decrease of temperature occurred here on the night of Jan. 21, when it fell to 27°.1, which proved to be the commencement of the great frost. From this date, with the exceptions of January 24, February 22 and 24, frost occurred on every night to the end of February. It was most severe on the morning of February 7, when my minimum thermometer, in a Stevenson's screen, recorded a temperature of 12°.8; but on the same date the temperature fell to 4° below zero at Buxted Park, to 4° at Tunbridge Wells, to zero at Kidbrooke Park, near East Grinstead; to 8°.3 at Forest Lodge, Maresfield; and to 3° at Horsham. The lowest temperature which I have ever observed in this county was 4° below zero, on the morning of January 20, 1838; from which time to the past month of February I have never recorded, nor, to the best of my knowledge and belief, has a temperature below zero been recorded in this county, except as the temperature of radiation from the surface of grass or snow. Upon reference to my journal, which contains an almost consecutive register of the weather since 1842, I find that the mean temperature of February, 1895, was lower than that of any month, in any year, during the last fifty years. Had my observations of the late frost been taken at Uckfield, the mean temperature of February would probably have been found much lower than at Crowborough; thus, at Buxted Park, near Uckfield, which is situated rather more than a mile from my former observatory, and at about the same height above the level of the sea, the average night temperature of February was 19°.2, while on Crowborough Hill it was not lower than 22°.7. This difference of 3°.5 is of far greater significance than these figures would indicate, in respect to the injurious effects which the frost will have had upon plant life, more especially upon evergreens, and the extent of which cannot at present be known. But there is another and very simple way of estimating the severity of a frost, viz, by adding up the degrees of frost which occur every cold night throughout a month; and by these degrees are meant the number recorded each night below 32° — the freezing-point of Fahrenheit's scale. I mention this because I have been so frequently asked of late, "What is meant by degrees of frost?" I have adopted this method for many years, but, for the sake of not occupying too much of your space, I will only give the following instances wherein the number exceeded 200° in any calendar month, as at these dates occurred the most severe frosts during the last half-century:—

Year.	Degrees of Frost.	Mean Temperature.
February, 1845	208	31°.1
February, 1855	224	30°.8
January, 1867	255	33°.2
January, 1881	2.9	30°.2
December, 1890	222	28°.2
February, 1895	258	27°.1

C. Leeson Prince, F.R.Met.S., The Observatory, Crowborough, Sussex, March 11.

COLOUR OF FRUIT.—The colour which is generally found in the fruit of Apples and Pears grown here and exhibited by my firm with success in competitions, has often led gardeners and amateurs to suspect there is some "dodge" or trick in our preparation of it for the exhibition-table. It is evident by the letters that have appeared that the sources of colour and finish arise both from the soil and the sun, beyond which exposing the fruit to light and air by stripping the leaves off is admittedly a further source. In practice we find that in the autumn (especially late autumn), our fruit takes on most colour, when we get showers and wind, with a fall of dew in early morning, followed by bright sunlight; we also attribute the colour in some degree to the quantity of porous stones in our soil, which is on the lower greensand formation, and some cultivators place these large flat (flaky) stones beneath the trees to retain the warmth on the surface-soil, and refract it during the day. I am convinced that warmth and moisture alone will not colour fruit, as we have both in abundance in the orchard-houses; but to get high colour in perfection, outside exposure is necessary, and the fruit will then colour in a few days, even if off the trees, proving that soil (or sap-flow) is not a factor in the operation, which, of course, is a result of chemical changes in Nature's laboratory. It is the custom in Kent to leave Wellingtons, Winter Quoinings, and other late Apples on the orchard-trees very late, even into frosty nights, to get good colour, and in that case the fruits of the Weald of Kent (clay lands) are superior in colour and weight to those grown on the stone shaller (greensand) formations, leading one to the conclusion that the soil assists where there is iron or lime contained in it, which elements, combined with the sun, rain, wind, and atmospheric changes, and even aspect, go to form that beautiful colour which is such a feature in exhibition fruit. So much is this esteemed that in some gardens the largest and most beautiful fruits are used for decoration on the dinner-table. Again, it is not health and vigour that give colour, as the most brilliant fruits often hang on branches affected with canker, or stunted pyramids which have been

budded, and which have a huge swelling above the bud-union, and even on pyramids where the main stem is cankered almost through, or where trees are barked by rabbits. In these cases the fruit ripens earlier than the bulk, but always of high flavour and brilliant colour. *George Bunyard, Maidstone.*

SOCIETIES.

ROYAL HORTICULTURAL.

March 12.—The meeting on Tuesday last in the Drill Hall, James Street, Westminster, was the first in the present year held in anything like favourable weather. There was a good and interesting exhibit of Orchids, and spring flowers of various descriptions were exhibited for the first time, but in less profusion than usual at the first March meeting. Fruit was only represented by two exhibits, one of these consisting of a few plants of an excellent new Strawberry.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. S. A. de Graaff (visitor), J. Fraser, J. Laing, C. T. Druery, H. B. May, H. Herbst, R. Dean, Geo. Stevens, R. Owen, R. B. Lowe, J. H. Fitt, C. J. Salter, W. C. Leach, J. Jennings, J. W. Bain, C. Jefferies, Geo. Gordon, H. Briscoe-Ironside, C. E. Shea, J. D. Pawle, C. E. Pearson, H. H. D'Ombrain, E. Beckett, H. J. Jones, G. H. Engleheart, J. Walker, E. Mawley, C. Turner, and Geo. Paul.

A bright display of spring flowering plants was made by Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., Cinerarias, Narcissus, Ericas, Genistas, Cyclamens, Primulas, Lachenalias, Lilacs, and other well-known plants were included, also a few plants of Begonia Gloire de Sceaux in a pan (Silver Banksian Medal).

A bunch of a single Violet named Princess Beatrice, exhibited by Mr. G. Nobbs, Royal Gardens, Osborne, received an Award of Merit. The flowers were very large, being about 1¼ inch across; colour very bright, and the perfume strong.

Mr. Peter Blair, gr. to the Duke of Sutherland, Trentham, Staffs., showed a group of Eucharis Stevensii in flower. This is a variety with more funnel-shaped flowers than the type, and rather smaller, but very pretty (Award of Merit).

Some varieties of Rosa polyantha in pots were exhibited from the nurseries of Messrs. Paul & Son, Cheshunt. Carmine Pillar is a large single flower, of exceedingly bright colour, with silvery centre; and grandiflora is a showy white one. Cannas Mrs. Yaeker, Madame de Grève, Comte de Bouchard, and Dr. Masters were likewise included. The latter is a new feathered variety of canary-yellow, and with a flame of scarlet in centre of petals.

A Ghent Azalea named John Weathers was recommended an Award of Merit. The flowers are very pretty, pink-flesh in colour, except the upper centre petal, which is bright yellow, with a line of pink through its centre. The sprays were exhibited by Earl Cowper, Panshanger, Hertford (gr., Mr. J. Fitt). Earl Cowper also exhibited a vase of Calla æthiopica, the flowers of excellent size and quality.

Messrs. P. Barr & Son staged their first display for the season of Narcissus and other hardy flowers. Amongst the varieties of Narcissus were Incomparabilis Cynosure, Horsfieldii, Emperor, Empress, Burbidgei, poeticus ornatus, odorus, rugilobus, &c.; a quantity of Elwes' Giant Snowdrop, Galanthus Elwesi, was shown; and a new and larger variety of this species, under the name of G. Elwesi unguiculatus, which was half as high again as the species, and bore flowers of larger size. Some Iris reticulata and blooms of Anemone fulgens completed the exhibit (Silver Banksian Medal).

Messrs. James Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, staged a group of excellent varieties of Amaryllis, two of which were recommended Awards of Merit. These were Mrs. Montefiore, a very large open flower, mostly white, but flaked slightly with red; and Prince Edward, an intense dark crimson self, of very great substance. Others were of the same excellent character. A grand lot of Iris reticulata var. Krelagei was also from Messrs. Veitch (Silver Banksian Medal).

Messrs. F. Sander & Co. again staged some bulbs in flower of the bright Hæmanthus Kalbreyerii.

Messrs. B. S. Williams & Son, Upper Holloway, London, N., had some finely-grown plants of Boronia megastigma.

Messrs. Wm. Paul & Son, Waltham Cross Nurseries, Herts, staged a comprehensive collection of Camellia flowers, and some young well-grown Camellia plants in flower. But for the annual exhibits of Messrs. W. Paul & Sons, the Camellia would hardly be seen at all at these meetings. The decorative usefulness of Clematis indivisa lobata was illustrated by a few plants, well-flowered; and Messrs. Paul had also near upon three dozen plants in flower of their new China Rose, Duke of York, recommended as a good winter bloomer, and as a useful bedding Rose (Silver-gilt Flora Medal).

A Cultural Commendation was awarded to Lady Bowman, Joldwynds (gr., Mr. F. Cornish), for an exceptionally well-grown plant of Shortia galacifolia. A few seedlings of a Primula resembling P. Alice Wilson in colour of the flowers were also shown from her garden.

Mr. Geo. Bolas, Wirksworth, Derbyshire, showed some cut Daffodil blooms, mounted on a board, interspersed with sprays of Ivy. A plant of Chrysanthemum Stresa, bearing a good flower (yellow), was sent by Mr. H. Briscoe-Ironside, Sussex.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. O'Brien (Secretary), T. B. Haywood, S. Courtauld, De B. Crawshay, H. M. Pollett, F. Sander, H. J. Chapman, J. Douglas, F. Hardy, C. J. Lucas, C. Pilcher, J. Gabriel, T. W. Bond, W. H. White, E. Hill, and W. Cobb.

There was a very fine show of Orchids, and the adjudged best of the new plants was Mr. Cypher's plant of the magnificent Dendrobium × Apollo grandiflorum (nobile pulcherrimum ♀, splendidissimum grandiflorum ♂). Of it, judges agreed that it was the best of its class, and it is difficult to see where a further improvement either in the size or colour of its flowers could be looked for. The original D. × Apollo was described in the *Gardeners' Chronicle*, March 9, p. 294, but this variety is a great stride in advance of it. It is a most perfect flower, over 4 inches across. Sepals and petals white, heavily tipped with rose-purple, disc of the broad labellum purplish-maroon, surrounded by a sulphur-yellow band, and tipped with rose-purple (First-class Certificate). Mr. Cypher also showed plants of D. × Ainsworthii, Cypher's var.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), secured a tardy First-class Certificate for Sophronitis grandiflora (that species never having been so honoured before), with a marvellous specimen, grown from a single piece, and which now bore some sixty splendid scarlet flowers. A Silver Banksian Medal was also awarded for the plant as a mark of continued good culture. Sir Trevor Lawrence also showed Cirrhopetalum picturatum, Dendrobium nobile Murrlinianum, Epiphronitis × Veitchii, in fine flower; Masdevallia coccinea (iguea × coccinea) (Award of Merit); Cypripedium × Laurebel, Ornithidium Lawrenceanum, Eulophiella Elisabethæ, Masdevallia melanoxantha, M. × Shuttrayana, M. Schroderæ, Pleurothallis Roezlii, with four spikes; Cochlioda vulcanica grandiflora, Epidendrum × Endresio-Wallisii, and a pretty group of the Burford hybrid Calanthes (Silver Banksian Medal).

Messrs. F. Sander & Co., St. Albans, staged a very effective group of rare Orchids, among which the most remarkable was Cypripedium × Fowlerianum (Harrisianum superbum × bellatulum), and which is the first to beat the true C. Harrisianum superbum for the richness of its dark purple and nearly black tints, which in this case are those of a model flower (Award of Merit).

There were also in Messrs. Sander's group fine plants of Cattleya Trianæi delicata, C. Schilleriana, Lælio-Cattleya × albanensis superba, the pretty Maxillaria sanguinea, Lælia × Oweniana, Pescatorea Lehmannii, Cypripedium × selligerum majus, and other Cypripediums; fine examples of Phaius × Marthæ, P. Cooksonii, and P. × amabilis, Vanda teres Aurora, a silvery-white form; and a representative collection of Dendrobiums of the season, by far the best of which was a fine white mauve and crimson form of D. nobile, from their importation from the Lang Tang Hills, India (Silver Flora Medal).

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, staged a neat group of new or rare hybrid Orchids, of which Lælio-Cattleya × Myra (C. Trianæi ♀, L. flava ♂), was the most singular and novel. Its flowers are about the size of those of Lælia xanthina, but show the broad ovate-acuminate petals of L. flava. The colour is creamy-white, and the flower has on the lip a sulphur-yellow disc; a very pretty and pleasing flower (Award of Merit). Dendrobium × cuosmum virginale (D. × endocharis × ♀, D. nobile intermedium ♂), a pretty white flower with purple base to the lip, and a great advance on the original form (Award of Merit); Phaio-Calanthe × irrorata rosea, a handsome rose-coloured flower (Award of Merit); Chysis × Chelsonii, Dendrobium × Cybele nobilius (Fundlayanum ♀ nobile nobilius ♂), in which the flowers are coloured like D. nobile nobilius; D. × Editheæ (aureum ♀, nobile nobilius ♂); the pretty D. × Ainsworthii intertextum, a charming wax-like white form, with a faint yellow tint on the petals, and pale-primrose lip, with purple disc. Messrs. Veitch also showed several examples of the best form of Cymbidium × eburneo-Lowianum, and some hybrid Cypripediums (Silver Banksian Medal).

E. Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire, showed a group of five splendid Dendrobiums, which secured a Silver Banksian Medal, as well as a Cultural Commendation, for the specimens of D. × splendidissimum grandiflorum, which was grandly flowered on pseudobulbs, 3 feet to 4 feet. D. × Cassiope Ashworthii, a fine improvement, received an Award of Merit; and Mr. Ashworth's D. × splendidissimum Leeanum, showed that distinct form in the best condition in which it has yet appeared.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed Odontoglossum Hardyanum, a hybrid, with cream-coloured flowers as large as those of O. crispum, but with dense brown spotting, which resembles the markings on O. Andersonianum, but they are larger, the lip is long, narrow, and pointed, and in some of the features the flower resembles O. Wilckeanum—a very pretty and puzzling form. Mr. Hardy also showed Cattleya Percivaliana magnifica (Award of Merit), a very bright and large flower, and all the more worthy, for that really good things are rare among C. Percivaliana; Cymbidium × eburneo-Lowieanum, Odontoglossum mulus var. and several varieties of Dendrobiums.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., had an effective group of Orchids, in which ten fine specimens of Cœlogyne cristata alba formed a striking feature. With them were Cymbidium Devonianum, Odontoglossum aspersum, Dendrobium Wardianum, Lycaste fulvescens, Angræcum citratum, Cypripedium Chamberlainianum, C. × Williamsii, C. × Measuresianum, C. × Morganiæ, &c. (Silver Banksian Medal).

Thos. Statter, Esq, Stand Hall, Whitefield, Manchester (gr. Mr. R. Johnson), showed Cypripedium × Phœbe (lævigatum × bellatulum), a pretty purple-tinted flower, which will doubtless improve; C. × selligerum atro-rubens, and Dendrobium nobile nobilius.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), showed three forms of Cattleya Trianæi, one of which was a very showy and finely-coloured form of good size and shape. Earl Cowper, Panshanger (gr., Mr. J. Fitt), showed Cypripedium × Sallierii, Fitt's variety. Sir Frederick Wigan, Clare Lawn, East Sheen (grower, Mr. W. H. Young), showed a noble example of Platyclinis glumacea, which secured a Cultural Commendation; also Cypripedium × Godseffianum superbum and C. × Carnusianum superbum, a very bright and prettily-marked variety.

Thos. Craven, Esq, Ashted, Ashton-on-Mersey (gr., Mr. H. Higson), staged a noble example of Dendrobium Wardianum album, with over sixty flowers, and pseudobulbs of remarkable length.

Messrs. Hugh Low & Co., Clapton, had a very effective group, in which the central figure was a plant of the beautiful Cypripedium × William Lloyd (illustrated in the *Gardeners' Chronicle*, p. 77, vol. xvi, 1894). Also in Messrs. Low's group were fine examples of Miltonia Roezlii, Cypripedium Chamberlainianum, and other Cypripediums, Saccolabium bellinum, Dendrobium Phalænopsis Schroderianum, D. Brymerianum, and a large plant of a singular Oncidium allied to O. lamelligerum (Silver Banksian Medal).

A. J. Hollington, Esq., Forty Hill (gr., Mr. Ayling), sent Cypripedium × Ruth Ayling (niveum ♀, Argus ♂), white, with purple spots, and resembling a small C. × Gravesiæ.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), showed a pretty Cochlioda vulcanica grandiflora, cut spikes of Dendrobium undulatum, Cœlogyne sparsa (Botanical Certificate), Phaius tuberculosus, and Cattleya Trianæi (Vote of Thanks).

Mr. McArthur, the Nurseries, Maida Vale, staged a small group of Orchids, containing Cypripedium × Figaro, a pretty hybrid; Cattleya Trianæi "The Countess," with purple tips to the petals; Odontoglossum luteo-purpureum magnificum, some good Dendrobium Wardianum, Cœlogyne cris-

tata alba, Odontoglossum crispum, &c. (Vote of Thanks).

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed Odontoglossum × mulus atratum, a very dark-coloured and peculiar form.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed Cypripedium × Crossianum aureum and C. × refulgens (Curtisii × hirsutissimum). D. M. Grimsdale, Esq, Kent Lodge, Uxbridge, showed Odontoglossum Pescatorei and O. crispum guttatum. J. Forster Alcock, Esq., Berkhamsted, showed Cymbidium maidum, Brassavola Martiana, Cypripedium × Harrisianum superbum, and Dendrobium undulatum (Botanical Certificate).

Walter C. Clark, Esq., Sefton Park, Liverpool (gr., Mr. T. Jones), sent a Cypripedium said to be C. × Leeanum superbum × Stonei. Walter Cobb, Esq., Dulcote, Tunbridge Wells, showed a very bright form of Dendrobium Phalænopsis Schroderianum. Baron Sir H. Schroder sent a set of grand cut examples of Odontoglossums, one spotted crispum being a great beauty.

Hamar Bass, Esq., M.P., Byrkley, Burton-on-Trent (gr., Mr. Jas. Hamilton), showed three beautifully-flowered plants of the fine Eulophiella Elisabethæ, and received a Cultural Commendation, the plant having previously received a First-class Certificate.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. G. Norman, Jas. Smith, H. Balderson, F. Q. Lane, G. Wythes, James Hudson, G. H. Sage, T. Glen, John A. Laing, Alex. Dean, G. T. Miles, J. Wright, J. McIndoe, Jos. Cheal, Jas. H. Veitch, H. J. Pearson, T. J. Saltmarsh, J. Willard, W. Weeks, and W. Farr.

Mr. J. R. Stevens, Clayton Nursery, Hassocks, Sussex, exhibited some plants carrying excellent ripe fruits of the new Strawberry figured by us on p. 271, March 2, and since named Stevens' Wonder.

Mr. Geo. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, exhibited a dish of ripe Figs—St. John—they had been grown in 10-inch pots (Vote of thanks).

There being no other exhibits before the committee, Mr. A. Dean spoke to the value of the services rendered to the committee by the late Mr. Geo. Taber, and proposed the following resolution, which was seconded and carried unanimously, that "The members of the Fruit and Vegetable Committee having learned with deep regret of the death of their esteemed and capable colleague, Mr. Geo. Taber, of Rivenhall, desire to give to that expression of regret the fullest publicity, and also requests that the purport of this resolution may be embodied in the minutes of the Committee's proceedings."

Lecture on "Tomatos and their Diseases."

In the afternoon a paper was read by the Assistant-Secretary from Mr. Collenette, of Guernsey, in which the essayist described the importance of the Tomato crop in Guernsey, and after noticing several of the commoner forms of the disease, and pests to which the plants are liable, particular emphasis was laid upon a certain fungoid disease which is at present believed to be new in England, but although a good practical description of the disease and its effects was given, sufficient technical details were not at hand to lead to any conclusive decision. Mr. Collenette also sent a number of lantern slides illustrating the disease, but means were not available to use these. The whole matter was referred to the Scientific Committee, who it is expected will examine and clear up the question as to the nature and identification of the disease.

THE NATIONAL DAHLIA.

March 7.—The annual general meeting of this Society took place at the Horticultural Club, Hotel Windsor, on the above date, Mr. E. Mawley, chairman of the committee, presiding. Present: Messrs. J. Cheal, H. Turner, W. T. Frost, J. T. West, J. J. Hewett, G. Humphries, R. Dean, A. Ocock, T. Vagg, and the Hon. Sec., Mr. T. W. Girdlestone. The report, read by the Secretary, set forth that "The ideal Dahlia season is still to seek, that of 1894 cannot be said to have been an easy one for cultivators. The details of the numbers of the Show and Fancy Dahlias staged will be gathered from the analysis made by Mr. E. Mawley. The Society has to deplore the loss of one of the Patronesses in the death of Lady Henry Grosvenor, who took keen interest in the raising of Seedling Cactus Dahlias.

The financial statement submitted by Mr. E. Mawley showed that subscriptions had reached £52 7*s.*; donations, £25 14*s.*; contributions from the Crystal Palace Company, £50; advertisements in the schedule of prizes, £13 14*s.*; thus making with the balance in hand at the beginning of the year, £151 4*s.* 2*d.*, an increase upon the income in 1893. On the other side there had been paid in prizes £133 12*s.*, showing an increase of £14 10*s.* over that of 1893, but nearly one-half of this was for prize-money unpaid in 1893. Printing came to £15 3*s.* 11*d.*; postages, &c., were £1 19*s.* 9*d.*; leaving a small balance to be carried forward.

The secretary having reported that the annual exhibition would take place at the Crystal Palace on Sept. 6 and 7, the report and cash statement were adopted. The president, the Rev. Charles Fellowes, was re-elected, also the vice-president, with one or two additions; the names of Mr. J. Wyatt, of Salisbury, and Mr. Stephen Walker, of Thame, were added to the committee. Mr. T. W. Girdlestone was re-elected hon. secretary, and Mr. E. Mawley hon. treasurer, both being warmly thanked for their past services.

The list of true Cactus Dahlias annually published with the report was reduced by the striking out of Baron Schroder, Cannell's Favourite, Chancellor, Duke of Clarence, Josephine, Lady Skelmersdale, Lancelot, Marchioness of Bute, Panthea, Princess Christian, St. Catherine and Sir Roger; and the following new varieties were added: Major Hoskins, Harmony, Mrs. Barnes, Henry Depresle, Irene Cannell, Mrs. F. Fell, Gloriosa, and Earl of Pembroke. The schedule of prizes was revised, and, in view of the fact that the society is only just able to pay its way, it was deemed expedient to reduce the prize-money in some of the classes. It was resolved that for the future all Cactus Dahlias shown for Certificates of Merit should be exhibited as cut from the plant, so that the judges might gain some idea of its value also as a garden decorative variety. Special prizes from Messrs. Dobbie & Co., Rothesay, for single Cactus Dahlias, were accepted with thanks. A vote of thanks was passed to the Chairman, for presiding.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

March 11.—The annual meeting of this Society was held on the above date, at the Caledonian Hotel, Robert Street, Adelphi Terrace, Strand, W.C., when Mr. George Gordon presided. The meeting was well attended by the members. Mr. W. Marshall, one of the founders in 1865, was also present. The report of the past year is the most satisfactory one yet issued, showing a marked increase in membership and in funds. The present number of benefit members is 547, which is a net gain on the year of about 50. Six members died during the year, one of whom had only joined the Society a fortnight previously, the cause of death being certified as influenza. The amount paid in sickness was £117 7*s.* 8*d*, a considerable increase on the previous year. Against this, however, the sum of £821 16*s.* 3*d.* was received in subscriptions to the Benefit Fund, which, with the annual payments to the Benevolent Fund from both honorary and benefit members, to the management fund from the latter chiefly, and to the convalescent fund, in which is included the special Jubilee Gift of £50 from Messrs. Hurst & Sons, were sufficient for £1000 to be invested in Trustees' stocks, with a balance of £135 in the Treasurer's hands. This is the third year in succession wherein £1000 has been invested. No further proof than this is needed of the sound working condition and undoubted stability of the Society. The total invested monies now amount to £9700, the interest upon which amounted in the past year to £267 10*s.* 5*d.* Between this sum and the total payments from each separate fund, there is a singular comparison, these amounting to £267 13*s.* 7*d.*, which shows that all the subscriptions and donations have been placed to the reserve, swelling it up to the total above given. The claims upon the Benevolent Fund have not been heavy, the chief item being a grant of £10 to the widow of the late Mr. Charles Collins, a member whose death has been recorded in the horticultural papers. The Convalescent Fund, a purely voluntary one, has likewise proved of essential service in affording help to members when recovering from sickness.

In moving the adoption of the report and balance-sheet, the chairman dwelt very fully on the several benefits accruing to the members from the various funds, making most favourable comparisons between the "United" and mixed benefit societies, giving instances that had come under his personal observation, wherein gardeners who were members of the latter stood at a great disadvantage compared with their brethren in the "United." The oldest members of this Society who joined at its enrolment under the Friendly Societies' Acts in 1865, have as much as £80 standing to their credit. This, be it noted, represents thirty years' subscriptions, out of which the due proportion of sick-pay has been deducted, but to which 3 per cent. interest has been added from year to year, thus showing a gain of £20 approximately. Each member at the same time is qualified for assistance from the benefit, the benevolent, and the convalescent funds. All gardeners should take note of these very prominent features, and ponder well before they decide to join any other societies. There is also a most notable provision in the rules relating to lapsed or non-paying members. In the by far largest majority of benefit societies, those members who fall into arrears and finally cease to pay at all, are deprived of all future benefits. This is not so in the "United;" the balance standing to each lapsed member's credit, when his account is closed, can be claimed by him when he arrives at the age of sixty years, or it is paid to his nominee should he die at an earlier age. One such instance occurred a few years ago, when nearly £30 was paid to the nominee at the death of the member who had for several years ceased to pay anything.

At the close of the ordinary business, election of officers, &c., the meeting was made special for the purpose of increasing the sick pay allowance of 10*s.* 6*d.* per week to 12*s.*, and the 16*s.* per week to 18*s.* This proposal was made by the Treasurer (Mr. J. Hudson), and carried by a large majority, subject of course, to the approval of the Registrar of Friendly Societies. This increase in the sick pay the committee feel fully persuaded can be safely allowed, and it should be an additional inducement for gardeners to join its ranks. A unanimous vote of thanks to the chairman closed the meeting.

LAW NOTES.

Charles Samuel Robinson, described as an agent, was charged at the Sessions House, Newington, Surrey, before Sir Forrest Fulton, on 13th inst., with obtaining by false pretences from Mr. Henry Thomas Higgins, the sum of £73 14*s.*, the monies of Messrs. Cooper, Taber & Co, Ltd. Mr. J. P. Grain appeared for the prosecution, and the prisoner, who pleaded guilty, was represented by Mr. Kershaw. Mr. Grain said the prosecutors in this case were Messrs. Cooper, Taber & Co., who carried on a large business as wholesale seed merchants at 9, Southwark Street. The practice of these and other large seed-growers was to communicate with farmers in the country and if the farmers had any suitable land for growing Turnip seed and other seed of that description, the traders would send the seed, fixing the price upon which the produce was to be returned to them, and the price which the farmer was to be paid. The prosecutors had had some dealing with a family of Robinsons in the neighbourhood of Pinchbeck, near Spalding. In 1892 they received a letter from the prisoner, saying "Do you want any seed [grown] this year?" Seed was sent in August, 1892, and the price of the product was fixed at 14*s* 6*d*. per bushel. The seed was sown in the ordinary way, and when it was ripe, in July, 1893, a communication was made by the prisoner, that he was in a "cleft stick," that is to say, he had not got the 20 acres of land on which to sow it; that he had to borrow land from another farmer; that he had made the best bargain he could with another farmer. After negotiations, the prosecutor said, "Very well; we must satisfy our customers, and we must take the seed — 268 bushels — at the price you say namely, £1 per bushel," the man who grew the seed having demanded that sum. The result was that a cheque was sent, including the sum of £73 14*s.*—the difference between 14*s.* 6*d.* a bushel for 268 bushels. Nothing further was heard of the matter till 1894, when by a mere chance Mr. Obell, with whom the prosecutors had some dealings about another matter, made a statement, and said it was absolutely untrue that he (Mr. Obell) had demanded the extra sum from the prisoner. It was true that he had grown the Turnip seed at 13*s.* 9*d.*, and the whole story by which prisoner received £73 14*s.* was an absolute fabrication on his part. They learned this in 1894.

Sir Forrest Fulton: Why was the case so long in coming to trial?

Mr. Grain: Because they were making enquiries. The prisoner in a way denied it, but information was sworn in January, and the prisoner was arrested on the 15th February.

Mr. Kershaw said this was a somewhat unusual case. With this exception, the prisoner before this transaction, bore a most excellent character. The offence was committed in 1893, and since then the prisoner had continued to bear a most excellent character, having been in honest employment. There were several witnesses present as to character, and he (Counsel), had in his hand a large number of testimonials from various gentlemen.

Mr. Kershaw said the contract was made for 14*s.* 6*d.* per bushel for the produce. During that time it appeared that the market price of the seed rose very considerably; he would suggest that the prisoner, being pressed for money, was tempted by the fact that the market price had risen, and that that was what led him into that solitary offence.

Sir Forrest Fulton: You mean that he thought that as Messrs. Cooper, Taber & Co. would make a much larger profit, he was right to share it.

Mr. Kershaw said the prisoner was tempted.

Sir Forrest Fulton said he should be reluctant to send the man to prison. He yielded to temptation, and as there was nothing against him before, he did not think it was necessary to send him to prison. He had already been a month in custody, and he would be released on his own recognisances in £100, with two other sureties of £100 each, with forty-eight hours' notice to the police.

Sir Forrest Fulton said that if he had any reason to suppose that this was a common offence, he might not have been disposed to be so lenient. He had to consider the deterrent effect of punishment, and if he was satisfied that a crime was prevalent and increasing, and that an example was required, he considered that in passing judgment. He had every reason to believe that this was an isolated case.

Mr. Grain said it was very necessary for persons in this trade to keep up their reputation for the character of their seed; and the prosecution had taken up the present case as an example.

Sir Forrest Fulton: In the event of any similar case being brought up at this or any other Court, this course would never be adopted, because then it would be shown that the leniency of this Court had been thrown away.

Subsequently it was announced that the requisite bail had signed for Robinson, and his Lordship directed that he should be placed in the dock again before being discharged. This was accordingly done, and Robinson having signed the bail-book himself, his Lordship addressing him said: he would be allowed to go now, although he must clearly understand that his sureties could bring him back to that court at any time for this offence, to which he had pleaded guilty, if they found him guilty of any other dishonesty. *From our own Reporter.*

TUBEROUS BEGONIAS.

Now that the above plants have become so popular, both in the greenhouse and flower garden, a few remarks as to their management at this season and onwards will, perhaps, not be out of place. Tubers that have been lying by all the winter should be taken out at once and carefully looked over for any that may have succumbed. In the case of those which were employed in the beds, a very good way of starting them is to put a 2-inch layer of rough leaf-mould and Cocoa-nut fibre refuse into the bottom of some cutting-boxes, laying the tubers on this, and covering them with the same mixture to the depth of 1 inch, placing the boxes in a moist house with a temperature of 55° to 60°, care being taken that water does not touch the centre of the tubers, or rot is sure to set in. Some people place their tubers upside down to be sure of keeping water out of the crowns; and if this plan be adopted, the tubers should be examined in about a fortnight after placing them in boxes, when the majority will be found to have started into growth and should be turned the right side upwards, and covered again. New roots will soon be emitted after this is done. Commence potting according to their requirements, using a compost consisting of two parts good turfy loam, one part half-decayed leaf-mould, and one part dried cow-dung, the last two being passed through a sieve; enough good rough sand should be added as will suffice to make the whole porous. The Begonias if kept in the above degree of warmth will grow luxuriantly. About the middle of May transfer them to cold frames, which should be kept rather close for a few days to avoid any check to growth, increasing the amount of air afforded till the end of the month, when the lights may be taken off at night, placing them over the plants in the morning, with plenty of air and moisture supplied through the day. The middle or the end of June is quite early enough to plant out Begonias. In preparing the beds there should be road-sweepings, old hotbed or Mushroom-bed manure, leaf-mould, and sand worked into the soil. In dry weather abundance of water is required by the plants, and if a small quantity of soot be sprinkled between the plants before affording water, they will be greatly assisted. Begonias should never lack water from the time growth has commenced; still, discretion should be used at all times.

In the case of those chosen for flowering in the greenhouse, assuming they have been resting in the pots they were flowered in last summer, one of the best ways to commence is to prick a little of the surface soil from around the tuber, so as to form a gradual slope from its apex to the sides of the pot, which will leave the tubers partially exposed, a point of great importance till growth has fairly commenced, when the danger from rot is lessened. Water may then be afforded somewhat sparingly at first, and it should be poured round the sides of the pots, and on no account allowed to reach the summit of the tuber. Too much importance cannot be attached to this point, for at the summit of the tuber and in the position occupied by the main flowering stem last year, will be found a large hollow receptacle, to which, if the water gains access, and is not noticed in time, failure will ensue. Shake it out and re-pot the tubers as soon as growth has well commenced, putting them into smaller pots, as a shift will be necessary about the end of the month of May; using for both pottings the same kind of soil as that advised for the bedders, or properly speaking, the ones set aside for planting out. Double and single-flowered Begonias do equally well planted in beds, and it is not generally known that some of the named varieties which produce "grand flowers" are deficient in constitution, therefore they are not easy of increase; hence, the rather high prices that are charged for them. But there are, nevertheless, plenty of varieties which are both vigorous and good, and it is these that afford cultivators the most satisfaction. I hope the above may help to eradicate the idea that some people have, namely, that of growing Begonias in pure cow-dung. A few days ago my attention was called to a lot of tubers which during last summer fared sumptuously on cow-dung and drainings from the farm-yard. The tubers were being divided with a view to increasing their number—a very good way too, but it should not be done before growth has commenced. Out of 300 bulbs cut through, 117 had in their centre a larva of the cockchafer (Melolontha vulgaris); some of the grubs were one year and others two years old, and I feel inclined to blame the cow-dung for their presence. Had they not been detected, I fear there would have been very little of the tubers left in a few months, as the one great object of the cockchafer during its whole life is, to devour as much as possible. *Lewis Tourin.*

Obituary.

ALEXANDER ANDERSON.—After a few days' illness, Alexander Anderson, for several years past Foreman of the Herbaceous Department at the Royal Botanic Garden, Edinburgh, died from a severe attack of pneumonia, at the age of 30 years. His death will be deeply regretted at the above garden, where he had been employed nearly ten years, and by all who knew him in his official capacity.

MARKETS.

COVENT GARDEN, March 14.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	3 0	4 0
Azaleas, doz. sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	3 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Daffodils, double, dozen bunches ...	15 0	18 0
— single, doz. bun.	24 0	30 0
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 0	2 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun. ...	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	2 6	3 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Cinerarias, per doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	7 6
Erica hyemalis, dz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ficus elastica, each	1 0	7 6
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	10 0	18 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cobs, per 100 lb. ...	20 0	25 0
Grapes, 1st quality, black, English, lb.	3 0	3 6
Pine-apples, St. Michael, each ...	2 0	6 0
Strawberries, per lb.	8 0	12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	6 0	8 0
Beans, per lb. ...	1 9	2 0
Cauliflowers, p. doz.	2 0	6 0
Cucumbers, per doz.	3 0	4 0
Mushrooms, per lb.	0 10	1 0
Onions, per bushel	2 0	2 6
Potatos, Channel Islands, per lb. ...	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 9
Seakale, p. punnet	1 9	2 0
Tomatos, Canary Islands, per lb. ...	0 3	0 6

OLD POTATOS.

Markets are still firm, and the demand keeps stocks very low. Prospect good to the finish.

NEW POTATOS.

Supply is not nearly sufficient for the demand. Prices have advanced for all sizes. *J. B. Thomas.*

SEEDS.

LONDON: *March* 13.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the favourable weather naturally causes more enquiry for field seeds. Buyers express satisfaction at finding how moderate are the prices now ruling for Clover and grasses. Tares, both spring and winter, with small available stocks, are in improved demand, at rather better prices. Haricot Beans and Blue Peas are being widely called for as substitutes for vegetables. As regards Haricots, the supplies are getting rapidly exhausted, and quotations have consequently again advanced. Canary seed is better, a large business therein being reported from Liverpool. Hempseed hardens in value. Rapeseed firm. Mustard unaltered. Scarlet Runners offer on very reasonable terms. The Board of Trade Returns give the imports of Clover and grass seeds into the United Kingdom for last month as —cwts. 42,192, value £103,113; as against—cwts. 45,447, value £124,215, for the corresponding period of 1894.

FRUITS AND VEGETABLES.

BOROUGH: *March* 12.—Quotations:—Savoys, 3*s.* to 5*s.* per tally; Brussels Sprouts, 1*s.* 6*d.* to 2*s.* per half-sieve; Carrots, 2*s.*; Turnips, 2*s.* 6*d.* to 3*s.* 6*d.*; and Parsnips, 3*s.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* to 2*s.*; Celery, 8*s.* to 14*s.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 5*s.* to 7*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.* per barrel.

STRATFORD: *March* 13.—An excellent supply of all kinds of produce has been on hand at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Savoys, 2*s.* to 8*s.* per tally; Greens, 3*s.* 6*d.* to 5*s.* per bag; Sprouts, 1*s.* 9*d.* to 2*s.* per half-sieve; Broccoli, 3*s.* to 4*s.* per sieve; do., 4*s.* 6*d.* to 6*s.* per bag; Turnips, 20*s.* to 40*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; do., Cattle-feeding, 17*s.* to 24*s.* do.; Parsnips, 1*s.* 3*d.* to 1*s.* 6*d.* per score; Mangels, 14*s.* to 16*s.* per ton; Swedes, 10*s.* to 18*s.* do.; Onions, English, 110*s.* to 130*s.* do.; Valencia, 8*s.* to 9*s.* per case; Apples, English, 9*s.* 6*d.* to 10*s.* per bushel; do., American, 15*s.* to 18*s.* per barrel; Watercress, 7*d.* to 8*d.* per dozen.

FARRINGDON: *March* 14.—Quotations:—Broccoli, 2*s.* to 2*s.* 6*d.* per sieve; Turnip-tops, 5*s.* to 6*s.* per bag; Turnips, 2*s.* to 2*s.* 6*d.* per bag; Carrots, 1*s.* 6*d.* to 2*s.* do.; Swedes, 1*s.* 3*d.* to 1*s.* 6*d.* do.; Leeks, 3*s.* per dozen; Cauliflowers, 5*s.* do.; Beetroot, 3*s.* per bag; Horseradish, 1*s.* per bundle; Seakale, 1*s.* 9*d.* per bundle; Rhubarb, 1*s.* 6*d.* per dozen bundles; Parsley, 9*d.* per lb.; Apples, Baldwins, 15*s.* per barrel; Golden Russets, 20*s.* do.; Grapes, black, 3*s.* per pound.

POTATOS.

BOROUGH: *March* 12.—Quotations ranged from 90*s.* to 130*s.* per ton.

STRATFORD: *March* 12.—Quotations:—Magnums, dark soil, 85*s.* to 95*s.*; do., light-soil, 90*s.* to 105*s.*; Bruces, 95*s.* to 110*s.*; Imperators, 90*s.* to 110*s.*; Main Crop, 100*s.* to 110*s.*; Scotch Magnums, 90*s.* to 110*s.*; do., Bruces, 90*s.* to 105*s.*; Main Crop, 100*s.* to 115*s.* per ton.

FARRINGDON: *March* 14.—Quotations:—Bruce, 85*s.* to 100*s.*; Main Crop, 100*s.* to 110*s.*; Scotch Main Crop, 105*s.* to 110*s.*; Dunbars, Main Crop, 120*s.* to 130*s.* per ton.

LONDON AVERAGES: *March* 13.—Scotch, 110*s.* to 140*s.*; Main Crops, 100*s.* to 130*s.*; Snowdrops, 100*s.* to 120*s.*; Hebrons, 100*s.* to 130*s.*; Magnums, 90*s.* to 100*s.*; Blacklands, 85*s.* to 100*s.* per ton.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending March 9.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 —	3	35	— 59	+ 333	6 —	42	5·9	22	25
1	2 —	0	40	— 90	+ 464	2 —	35	4·4	22	25
2	4 —	0	42	— 91	+ 341	2 +	45	6·2	14	26
3	5 —	0	46	— 98	+ 352	1 +	41	4·4	26	26
4	5 —	0	46	— 118	+ 434	1 +	30	4·1	18	25
5	6 —	0	44	— 126	+ 381	1 +	31	3·7	29	26
6	3 —	2	31	— 93	+ 405	3 —	32	3·7	30	29
7	4 —	0	36	— 92	+ 361	0 aver	33	4·0	21	27
8	4 —	4	32	— 141	+ 374	0 aver	34	5·6	31	33
9	2 —	10	30	— 128	+ 319	0 aver	40	5·2	33	29
10	3 —	15	27	— 182	+ 253	4 +	37	7·1	41	30
*	4 —	11	18	— 153	+ 262	1 +	42	5·8	35	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending March 9, is furnished from the Meteorological Office:—

"The *weather* during this period was rather unsettled; cloudy skies and somewhat frequent rain having been experienced generally. In the western and north-western parts of the Kingdom, however, intervals of bright sunshine were more prevalent than elsewhere, and in these regions the aggregate amounts were in excess of the mean.

"The *temperature* was again low during the earlier days of the period, but subsequently rose considerably; the average values for the week were, however, still below the mean in all districts. Over 'England, E., S., and central,' the deficit was as much as 5° or 6°, while in 'Ireland' and the greater part of 'Scotland' it was no more than 2° or 3°; and in 'Scotland, N.,' only 1°. The highest of the maxima were registered either on the 7th or 8th, when they varied from 54° in 'Scotland, E.,' and 53° in 'Ireland, S. and the Channel Islands,' to 48° in 'Scotland, W.,' and to 46° in 'England, N.E.' The lowest of the minima were recorded either on the 3rd or 4th, when the thermometer fell to 16° in 'England, S.W.,' to 18° in 'Scotland, E.,' 19° in the 'Midland Counties,' and to between 20° and 25° in nearly all other districts; in the 'Channel Islands, however, the lowest reading was 32°.

"The *rainfall* exceeded the mean somewhat in 'Ireland S.,' the 'Channel Islands,' and all the 'southern, eastern, and north-eastern parts of England;' in most other districts the fall either equalled or was a little less than the normal. In 'Scotland, N.,' however, the deficit was large.

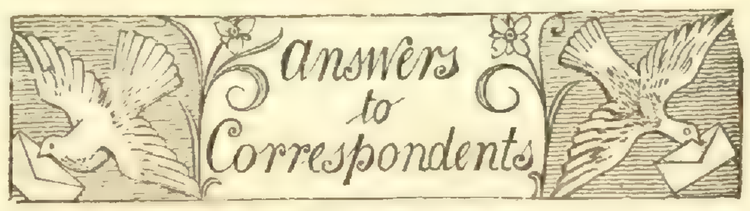
"The *bright sunshine* was less prevalent generally than during the preceding week, and exceeded the mean in 'Scotland, W., England, N.W., and over Ireland.' The percentage of the possible duration ranged from 21 to 41 in the 'Grazing' districts, and from 14 to 29 in the 'Wheat-producing' districts."

TRADE NOTICE.

MR. ALFRED OUTRAM.

MESSRS. SUTTON have recently engaged Mr. A. Outram, who is so well known to many of our readers, and who will now travel for the Reading Firm.

THE LATE MR. T. BAINES.—It was surely an unfortunate omission at the recent meeting of the Royal Horticultural Society that no reference was made to the decease of this gentleman, who was so long a member of the Floral Committee. Mr. BAINES was one of the very few gardeners who have obtained the distinction of Lindley Medallist. This medal was established as a recognition of superior merit displayed in the cultivation of plants. It was well won by Mr. BAINES, but the fact that the medal has not been awarded for many years will, we hope, not be taken to imply that we have no cultivators worthy of the distinction now. In any case the matter *donne à penser*, as the French say.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot. as a rule. be named.*

BOOKS: *X. Y. Z. Rosskell's Elementary Chemistry* (Macmillan, London).—*Practical Plane Geometry*, by J. F. Heather, M.A. 2*s*. (Crosby Lockwood & Co., 7, Stationers' Hall Court, E.C).—*Perspective, for Beginners*, by G. Pyne. 2*s*. (Crosby Lockwood & Co.)

COLOURING OF FRUIT: *O. W.* The colouring of ripe or ripening fruit in the fruit-room is identical with that of decay, as seen in the leaves of deciduous trees in the autumn. We cannot see much connection between this change of colour and that of the assumption of colour in growing fruits, except that it is almost the last change of colour the fruit undergoes.

DO PLANTS EAT SOIL? *C. B. G.* If you had said, drink the soil, you would have been nearer the mark. The water which the roots absorb is a very weak solution of some of the ingredients of the soil. The root-hairs have the faculty of dissolving other ingredients, but no solid substance is absorbed by the roots, and the root-hairs, as a rule, are destitute of any apertures. The substances which form the ash of plants were originally introduced in solution—certainly not in the solid form.

FUNGUS: *J. C. S.* The supposed Peziza is a small form of Jew's Ears, Hirneola Auricula-Judæ.

MANURE FOR PEAS AND OTHER LEGUMINOUS PLANTS: *V. X.* If the land be poor in humus, dress it well with farmyard manure, superphosphate of lime 12 per cent., and sulphate of potash 12 per cent.

MUSHROOMS: *G. B.* The putrescent condition of Mushrooms probably results from some fault in cultivation, and cannot be determined from the Mushrooms themselves. *M. C. C.*

NAMES OF PLANTS: *Curious, Balham.* Illicium religiosum. You omitted name and address, and although this is not required for publication, it should have been sent.—*G. H. S.* Anthocercis viscosa.—*Burbach.* Your Odontoglossum is not a pure O. crispum, although it approaches that species nearer than hybrids of its class usually do. It is a very pretty and brightly-coloured O. Wilckeanum, which is a natural hybrid between O. crispum and O. luteo-purpureum.—*W. M. W.* Cœlogyne cristata.—*W. P.* Conoclinium ianthinum.—*J. C. S.* The lichen is some immature sorediiferous condition, which cannot be determined.—*A. J. K.* The publisher has nothing to do with the editorial department, and *vice versâ*. 1, probably Cupressus sempervirens; 2, Thuia orientalis var.; 3, Thuia (Biota) orientalis var.; 4, Sequoia sempervirens, the Redwood of California; 5, probably the Silver Fir, Abies pectinata; 6, Cassinia fulvida; 7, Cupressus Lawsoniana aurea.—*J. T. L.* 1, Dendrobium chrysanthum; 2, Asparagus crispus, A. decumbens of gardens.—*Barron.* Cacalia articulata.—*W. Apted.* Gomesa planifolia; Cattleya Trianæi delicata.—*R. H. Gibbins.* 1, Cordyline australis; 2, C. congesta; 3, Eupatorium ageratoides; 4, Phœnix sylvestris; 5, Fittonia argyroneura; 6, Francoa ramosa; 7, we cannot name Azalea indica vars.; 8, Thuia plicata.—*M. C.* Will our correspondent send another specimen, the one previously sent having been mislaid.—*T. T.* 2, Doryphora sassafras.—*R. C. B.* Martynia diandra.—*S. P.* Witsenia corymbosa.

PHAIUS GRANDIFOLIUS: *T. T.* Very curious. Three sepals and a thread indicative of a fourth. Two petals and two lips, column normal.

PLANTS FOR AN OVERSHADOWED DRY BORDER FACING SOUTH: *X. Y. Z.* Opuntia brachyarthra, O. Ficus indica, O. hystricina, O. macrorhiza, if protected from excessive moisture and frost; O. missouriensis, O. occidentalis, and O. Rafinesquii, if afforded a little protection till the lower joints become woody; O. vulgaris would also survive in your seaside garden. Hardy Sedums, viz., S. acre, S. a. aureum, S. album, S. albo-roseum, S. dasyphyllum, S. Ewersii, S. Fabaria, S. kamschaticum, and S. spurium. Sempervivum arachnoideum, S. calcareum, S. hirtum, S. soboliferum, and S. montanum; Arenaria balearica, Dianthus cæsius, Erinus alpinus, Saxifraga longifolia, and Silene Schafta. Most of the above might be treated as rock plants, and would indeed have the best appearance if planted on small mounds of rocks with plenty of soil between. The Ice plant might be planted out in some parts; it would furnish the ground during the summer, as would the brilliant Portulaccas and Mesembryanthemum tricolor, the last three being raised from seed sown at the end of this month in pots and pricked off. Calochortus might be tried in the front of the border, also bulbous Iris, I. xiphion and I. hispanica. Helianthemums in variety would succeed if attended to in the matter of water and planted near the front. As covering for the wall, Euonymus japonicus, green and variegated-leaved varieties, would succeed if well-syringed occasionally, and not allowed to lack water at the root. When these plants are neatly trained close to the face of the wall, they have a very nice appearance. Ivies in variety might also succeed in the same position.

SPARMANNIA AFRICANA: *Africa.* It belongs to Tiliaceæ. It is a very straggling greenhouse plant, of easy culture, and succeeds in a sandy loamy soil. It can be best kept within bounds by cultivating it in pots, and not affording it large shifts. It is then fairly floriferous; whereas, with a free root-run it runs much to wood.

COMMUNICATIONS RECEIVED.—Alex. Haggart.—The Fine Art Society.—Wrinch & Sons.—J. S. & Son.—Chd. B.—L. B., New York.—F. A. B.—G. W.—G. R.—N. E. Br.—Dr. Franceschi, Santa Barbara.—W. P. B. S.—E. T. C.—W. A.—T. T. —H. C. & Sons.—T. T.—Sir G. B.—Sir C. S.—C. Junge.—W. W.—J. H. M., South Carolina.—W. H. W.—W. G. S.—H. C. F., shortly.—W. W. (next week).—W. H.—M. W.—J. A.—W. D.—H. C. P.—Udo D.—C. de B.—J.—W. H. W.

PHOTOGRAPHS RECEIVED (with thanks).—A. D.—H. W. W. —A. P.—Wrench & Sons.—W. G.—H. E.—T. W. S.—G. Worrell.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

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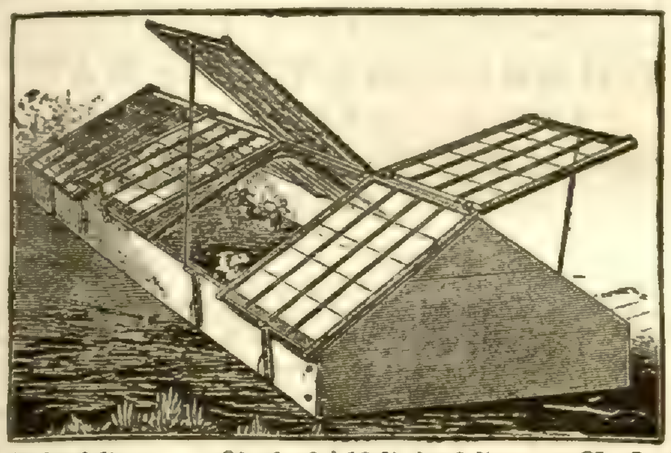

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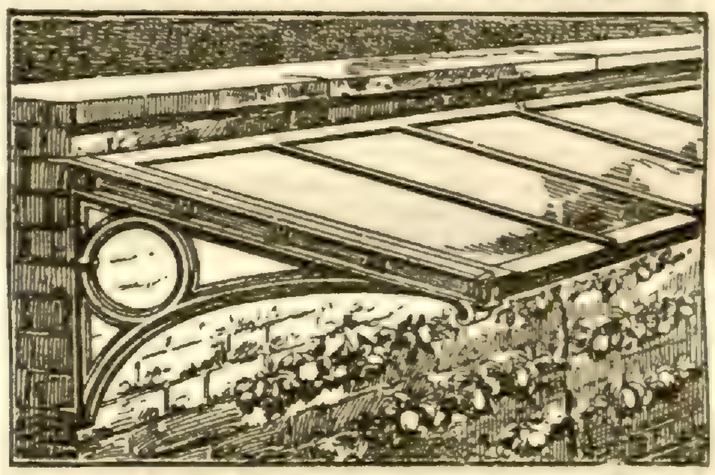

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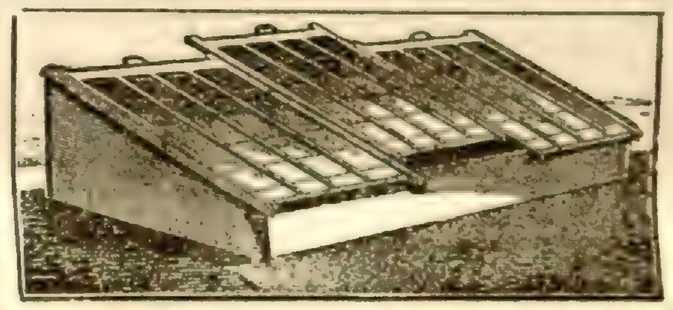

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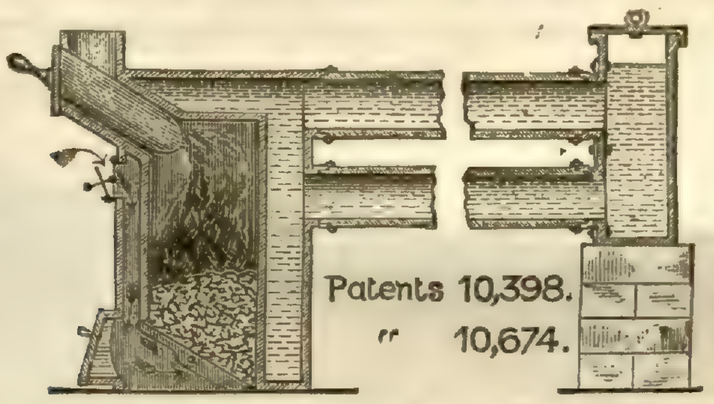

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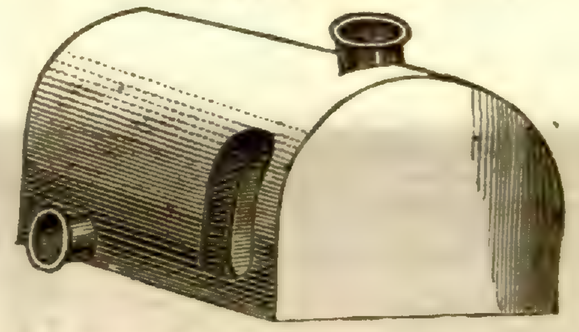

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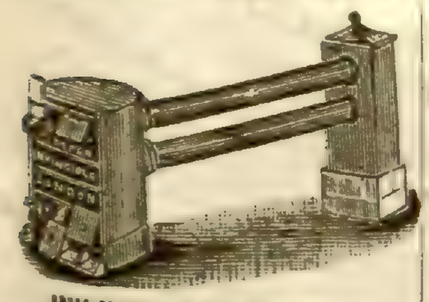

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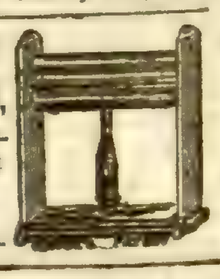

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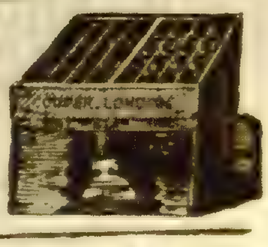

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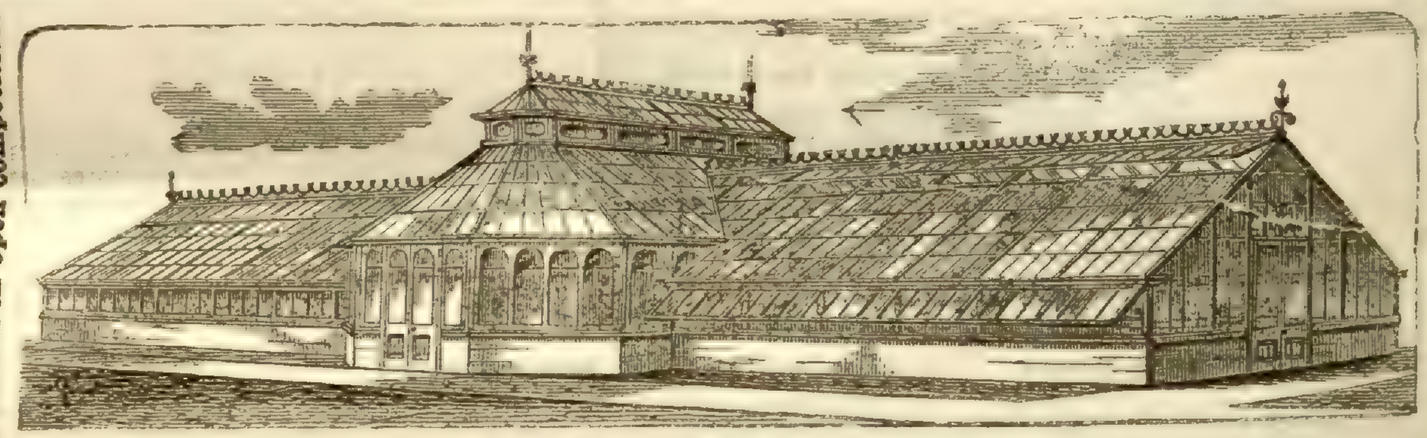

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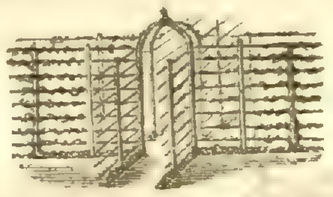

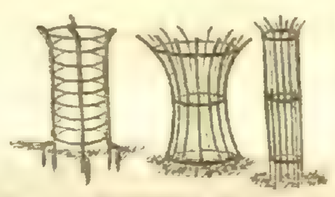

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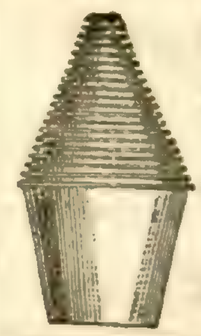

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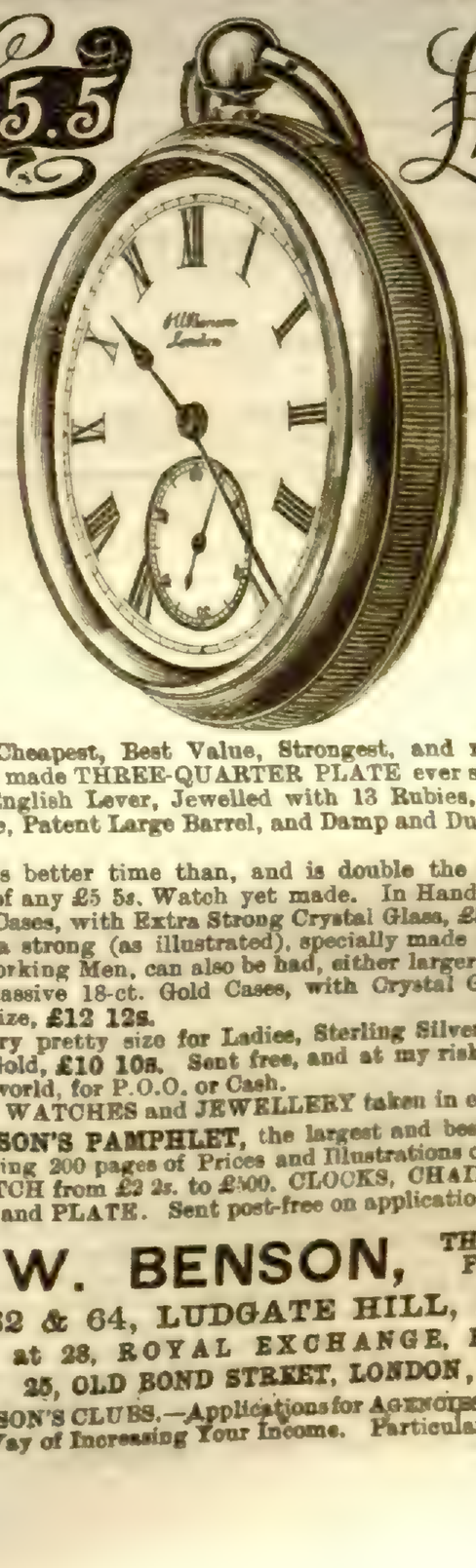

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Mr. James E. Skilling, late Gardener to Lieut.-Col. Turnor, Pinkney Park, Malmesbury, as Gardener and Bailiff to Sir Archdale Palmer, Wanlip Hall, Leicester.

Mr. J. F. Morgan, late Gardener at Gosfield, as Gardener and Orchid Grower to Henry Smith, Esq., Summerhill, Staffs.

Mr. Alfred Cheeseman, as Gardener to James Kennedy Esdaile, Esq., Hazelwood, Horsted Keynes, Sussex.

Mr. C. Parfitt, late Gardener at Fairnihurst, Putney, as Head Gardener to E. Terry, Esq., Priory Lodge, Barnes.

Mr. James Wood, for the last two years Gardener at Oak House, Northenden, Manchester, as Gardener to Ernest Frank, Esq., Withington Hall, Chelford, Cheshire. He will enter upon his duties on March 18.

Mr. Geo. Tibbles, formerly Head Gardener to the late E. G. Wrigley, Esq., Victoria House, Dukinfield, Cheshire, as Head Gardener to J. W. Radcliffe, Esq., Werneth Park, Oldham, Lancashire.

Mr. William Lewis, for seven and a half years Gardener and Bailiff to the late Mrs. Wykeham Martin, Leeds Castle, Kent, has succeeded Thos. Skinner, as Gardener to Thos. Oliverson, Esq., East Sutton Park, Staplehurst, Kent.

Mr. J. Child, for nearly four years Head Gardener at Gore Court, Sittingbourne, Kent, as Head Gardener to Lady Ampthill, Ampthill Park, Beds.

Mr. R. Davidson, for several years Foreman under Mr. J. Hunter, at the Gardens, Lambton Castle, Durham, as Gardener to the Earl and Countess of Cadogan, Culford Hall, Bury St. Edmunds.

CATALOGUES RECEIVED.

Hogg & Robert, 22, Mary Street, Dublin—Farm Seeds.

W. P. Laird & Sinclair, Dundee and Cupar, N.B.—Farm Seeds.

Barr & Son, 12 and 13, King Street, Covent Garden, London—Hardy Herbaceous Perennials and Alpines.

Fotheringham & King, Corn Exchange, Dumfries, N.B.—Farm Seeds.

Dobie & Mason, 22, Oak Street, Manchester—Farm Seeds.

Wm. Cutbush & Son, Highgate Nurseries, London, N.—Hardy Herbaceous and Bulbous Plants.

V. Fournier, Apartado, 444, Mexico City—Mexican Plants and Seeds.

Pitcher & Manda, United States Nursery, Short Hills, New Jersey, U.S.A.—New Plants.

Cooper, Taber, & Co. (Limited), 90, Southwark Street, London, S.E.—Agricultural Seeds.

John Perkins & Son, 52, Market Square, Northampton—Agricultural Seeds.

Ellwanger & Barry, Mount Hope Nurseries, Rochester, New York—Fruit Trees, Hardy Trees, Flowering Shrubs, Roses, &c.

C. Cundy, 9, King Street, Sudbury, Suffolk—Vegetable and Flower Seeds.

Collins Bros. & Gabriel, 39, Waterloo Road, London, S.E.—Bedding Plants, Chrysanthemums, Climbers, and Bulbs.

J. Carter & Co., 237, 238, and 97, High Holborn, London—Grass Seeds and Manures, Flower Seeds, &c.

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To Gardeners Seeking Employment.

A PROFITABLE AGENCY is offered for an Article required by all Nurserymen and Gardeners.—Address, A. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a thoroughly trustworthy middle-aged Man as GARDENER (SINGLE-HANDED).—Wages £1; married, no children. Wife as Laundress; £14 per annum. Six-roomed cottage on premises, rent free.—Apply by letter, L. LAMBOURN, Clevelands, Teddington.

WANTED, a GARDENER (Working), inside and out, must be thoroughly experienced in forcing Tomatos, Cucumbers, Chrysanthemums, and cut Flowers for Market, Soft-wood and Stove Plants.—State wages, age, experience and references, to J. HAIRSINE, Wentworth House, Aldborough, Hull.

WANTED, a GARDENER, where two are kept.—Married man about 40, without family. Countryman preferred.—Address, GARDENER, care of Hall-porter, Midland Hotel, St. Pancras.

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WANTED, good SINGLE-HANDED GARDENER, married, to Manage Vegetable and Flower-garden, small Stove, Greenhouse and Conservatory, 2 Cows and Poultry. Lad kept, and further assistance given.—H. W. J., North Cray Rectory, Footscray.

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WANTED, a THIRD GARDENER, Single or married, where four are kept.—Must understand Inside and Outside work, and be able to mow.—State age, wages required, length of character, to A. P., Greenford Green, Harrow, Middlesex.

WANTED, NURSERY MANAGER.—A competent MAN to take charge of a small Nursery; must have a good knowledge of the cultivation of Fruit Trees, Roses, Shrubs, &c.—Apply, giving references and salary expected, to G. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED IMMEDIATELY, a WORKING FOREMAN (chiefly Outdoors), knowledge of Carnations, Pansies, and General Bedding Stuff, Tomatos, &c., required, and to take Market.—Address, full particulars, to RICKCLOTH, Ashton Keynes Nurseries, Park Lane, Tottenham, Middlesex.

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WANTED, a thoroughly experienced Man as FOREMAN, in the Herbaceous Department; none but those well up in the work need apply.—State age, experience, wages required, with copies of testimonials, to W. WARD, Canford Gardens, Wimborne.

WANTED, for Outdoor Department.—FOREMAN, thoroughly experienced and energetic. Well up in Roses, Fruits, Coniferæ, &c.—State age, wages, and experience, to E. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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WANTED at ONCE, a Young MAN for a Market Nursery, where Tomatos, Cucumbers, Chrysanthemums, &c., are grown, must be experienced in all branches. State age, wages required, and references.—H. LEE, Manager, Victoria Nurseries, Sleaford.

Gardener and Laundress.

WANTED, a MARRIED COUPLE; Husband as GARDENER, and Wife as LAUNDRESS. Must be thoroughly competent and highly recommended. Good wages and a comfortable house. A Lad kept to assist in the Garden. A couple without children preferred.—Apply by letter, stating age, experience, &c., to P. E. S., East Sheen, Surrey.

WANTED, a respectable, energetic COUPLE, man as useful plain Gardener, understanding Cows, assist to milk if required. Assistance given. Wife good Laundress; joint wages 23s. to 25s. per week. Cottage with garden and all materials for Laundry, including fuel found. No extras; very comfortable home for reliable people. Only those answering the above requirements need apply.—Q. C., Mr. Muddle, 86, Western Road, Hove, Brighton.

WANTED, TWO JOURNEYMEN for the Houses.—Quick at Tying, Watering, and Potting. Well up in growing all sorts of plants under glass; from Nurseries preferred. Wages 18s. per week.—Apply, with reference, to ISAAC MATTHEWS & SON, The Nurseries, Milton, Stoke-on-Trent.

WANTED, IMMEDIATELY, young MAN who thoroughly understands growing of Grapes, Tomatos, and Cucumbers.—Apply, with references, to H. WALKER, Carnatic Gardens, Filey, Yorks.

WANTED, a JOURNEYMAN, for the Houses. Wages 15s. per week, 1s. Sundays, bothy, &c.—W. SHERWIN, Locks Park Gardens, near Derby.

WANTED, an energetic young MAN, accustomed to Grow Cucumbers, Chrysanthemums, and Tomatos for Market.—Age, experience, and wages required, to E. H. JENKINS, Hampton Hill, Middlesex.

WANTED, an active young MAN about 18, in the Houses. Used to Ferns and Cucumbers.—W. A. SHERWOOD, Mill Road, Hampton Hill, Middlesex.

WANTED, a young MAN, from a Market Nursery, mostly for Inside, Tomatos, Cucumbers, Cut Flowers, Wreaths, and Pot Plants. Wages 18s. Permanency to a suitable man.—JOHN TURNER, Wetherby, Yorkshire.

WANTED, a young MAN, for the Houses.—Wages 14s. per week, bothy, milk, and vegetables.—W. C. SIMS, Bovingdon, Hemel Hempstead.

WANTED, a MAN to assist Gardener and help in House; one able to wait at table occasionally preferred. Married, not over 30. Personal character only accepted.—A. B., Messrs. Pottle & Son, Royal Exchange.

A VACANCY occurs in a first-class private place for an IMPROVER, Inside and Out. Gardener's son preferred. Wages 11s., bothy, &c.—J. ARNOLD, Hamwood, Dunboyde, co. Meath.

WANTED, an APPRENTICE to the Plant and Cut Flower Growing. Good opening.—W. AND J. BROWN, Peterboro'.

WANTED, a strong LAD who can use a scythe, understands mowing machines, and is willing to make himself generally useful. Good personal character required. Wages to commence at £12, and all found.—Apply, by letter only, to H. KEMBALL-COOK, Esq., Stanmore Park, Middlesex.

WANTED, an energetic young MAN as SALESMAN and maker-up of wreaths, &c. One used to a Market preferred; provinces.—HORTUS, 41, Wellington Street, Strand, W.C.

WANTED, a SALESMAN.—Plants, Fruit, and Vegetables, to go with Van. Must be good Fruit and Vegetable Grower. Cottage found.—The Nurseries, Smeeth, Ashford, Kent.

WANT PLACES.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

JOHN R. BOX, Croydon, has now upon his Register several able and well-qualified HEAD GARDENERS, FOREMEN, JOURNEYMEN, and SINGLE-HANDED GARDENERS, men of highest character; and will be pleased to give employers particulars.

GARDENER (Head).—Advertiser, who has been Farming on his own account for the last five years, desires to treat with any Nobleman or Gentleman requiring the services of a thorough competent and industrious man. Is well versed in the Early Forcing of Fruits, Flowers, and Vegetables, and is a good Orchid Grower. Eight and seven and a half years in two last places, the latter with Sir A. B. Walker, Bart., Osmaston Manor, Ashbourne. Testimonials of the highest order.—WM. SHIRWIN, Woodhead, Kniveton, Ashbourne, Derbyshire.

GARDENER (Head); age 32, married when suited.—Mr. J. LOCKHART, Gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington, can with every confidence recommend Edward Joseph, who has been with him four years as General Foreman; experienced in all branches of Gardening. Highest references.

GARDENER (Head).—Age 44; married; first-class practical experience in all branches. Energetic and strong; twenty years as Head. Highly recommended.—GARDENER, 2, Lawn View, Sidmouth.

GARDENER (Head).—Age 30; with eighteen years' practical experience, conversant in the general routine of a good garden. Married. Excellent characters.—G., 43, Highfield Street, Market Harborough.

GARDENER (Head), where two or three are kept.—J. CROWN would be pleased to recommend his Foreman, aged 29, to anyone requiring a thoroughly practical and trustworthy man; well up in all branches of the profession; fifteen years' experience; total abstainer.—6, Grove Terrace, Board School Road, Woking.

GARDENER (Head).—Married, no family. Good all-round man of long experience and good character. Knowledge of Land and Stock; wife first-class laundress; also thoroughly understands Dairy and Poultry.—P., East Sheen, S.W.

£5 will be given to any one getting Advertiser a situation as HEAD GARDENER.—Age 27, married; twelve years' experience.—B. K., 41, Wellington Street, Strand, W.C.

GARDENER (Head).—Age 37, married, small family; good experience and long character. Wages with house, 24s.—GARDENER, 29, Jasmine Grove, Penge, S.E.

GARDENER (Head), where two or more are kept. Thoroughly practical in all branches. Well up in Orchid growing. Good character.—A. RAIKES, Yeabridge, South Pitherton, Somerset.

GARDENER (Head); age 32.—Sir THOMAS BAYLEY, Bart., wishes to recommend W. Burley, who has been here for five years as Foreman, to any Lady or Gentleman requiring the services of a Gardener. First-class experience in all branches, including Orchids.—W. BURLEY, Hatherop Castle, Fairford, Glos.

GARDENER (Head), age 44, married.—Mr. G. H. PEAKE, who is changing his residence, strongly recommends his Head Gardener, William Atkinson, who has been with him and his predecessors for twenty years as Head.—Reply to WILLIAM ATKINSON, Head Gardener, Westholme, Sleaford.

GARDENER (Head), Age 31.—MAJOR GAMBIER, Parry Highnam Court, Gloucester, wishes to recommend H. Cook to any Lady or Gentleman requiring the services of a steady, trustworthy, and practical Man, experienced in all branches; eleven years in present situation; excellent testimonials as to character and ability; abstainer.

GARDENER (Head).—Age 30; married; has had practical experience in several good Establishments. Can be well recommended; total abstainer.—F.—Strathbroke House, Upper Grosvenor Road, Tunbridge Wells.

GARDENER (Head), or FOREMAN in the Houses.—Knowledge of Plant-growing, &c. Age 31; abstainer.—E. CORDING, Ruscombe, near Twyford, Berks.

GARDENER (Head), and ORCHID-GROWER.—Age 35; married. Successful grower of Orchids, Grapes, Stove, Greenhouse, and Hardy Plants, Fruits, Flowers, and Vegetables. Reliable manager. Excellent character.—GARDENER, Lett's Library, Crouch Hill, N.

£5 OFFERED for information leading to good appointment as HEAD GARDENER.—First-class experience and references.—J. G. BROWN, 153, Tyers Street, Vauxhall, London, S.E.

GARDENER (Head).—Single; desires re-engagement with any Lady or Gentleman requiring the services of a thoroughly experienced energetic young man. Good characters. Highly recommended. Particulars please.—R. B., 41, Wellington Street, Strand, W.C.

GARDENER (Head), where two or more are kept.—Age 27; thirteen years' experience in all branches. Can be well recommended. Married when suited.—J. HYGARE, Ashbourne House, Grove Vale, East Dulwich.

GARDENER (Head), age 35.—Advertiser begs to offer his services to any Lady or Gentleman requiring a really practical and scientific man. Life experience in leading establishments. Thoroughly competent in all branches of the profession, and very highly recommended.—Z. B., 41, Wellington Street, Strand, W.C.

GARDENER (Head).—Thoroughly experienced in all branches; age 30; married, no family. Total abstainer. Excellent references.—SEARLE, Park House, Holly Park, Crouch Hill, Middlesex.

GARDENER (Head Working), where one or two are kept.—Age 33, married, two children. Well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Garden. Good character, five years in present situation, eight previous.—A. SMITH, Church Hill, Pulborough, Sussex.

GARDENER (Head Working).—Age 30; fourteen years' experience in good Gardens, including Kew. Certificates and testimonials.—C. WILKINSON, Bradwell Grove, Burford, Oxon.

GARDENER (Head Working).—Age 30; fifteen years' practical experience in large establishments; excellent testimonials.—GARDENER, Avenue Lodge, Selly Park, Birmingham.

GARDENER (Head Working), where two or more are kept.—Age 27, married, no family: fourteen years' experience in Vines, Stove, Orchids, Melons, Peaches, Tomatos, Cucumbers, Chrysanthemums, Kitchen Gardening, &c. Excellent characters from present and previous places. Would go abroad.—W. LOVELL, 15, Market Terrace, Tiverton, Devon.

GARDENER (Head Working), married.—A Lady wishes to recommend her gardener. Thoroughly experienced in indoor and outdoor work. Eight years' character.—Mr. THOMAS NOWELL, Mrs. Savory, Park Hall, Evesham.

GARDENER (Head Working).—Age 28; married when suited; good all-round man. Well recommended from present and previous places; state wages.—J. H. V., 41, Wellington Street, Strand, W.C.

GARDENER (Head Working).—Middle-aged; married; no family. Life experience in all branches. Well recommended. Land and Stock.—W. REEVES, 37, Kidderpore Avenue, Hampstead, N.W.

GARDENER (Head Working); age 29.—R. JONES, Barford Hill Gardens, Warwick, would be pleased to recommend his late Foreman as above. Well up in all branches of Gardening.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (Head Working); age 32, Single.—JOSEPH FORSEY would be pleased to recommend his Foreman to any Lady or Gentleman requiring the services of a good practical man. Well up in Orchids, Carnations and Plants. Five years in present situation.—JOSEPH FORSEY, Stanford Hall Gardens, Loughborough

GARDENER (Head Working); age 29.—Mr. TEGG, Bearwood Gardens, Wokingham, wishes to recommend W. Hammond to any Lady or Gentleman requiring a steady trustworthy man as above. Thoroughly experienced in all branches. Six years General Foreman in present situation.

GARDENER (Head Working, or good Single-Handed).—Age 32, married; life experience, Inside and Out, with Land and Stock. Four years' good character.—GEORGE PETERS, Church Lane Cottages, Northcray, Kent.

GARDENER (Head Working).—Age 35, married, no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (Head Working).—Age 29; where two or more are kept. Well up in all branches. Excellent characters.—T. ATTWOOD, 14, Rectory Road, Parson's Green, Fulham.

GARDENER (Head Working), where one or more are kept.—Age 34, married; thoroughly experienced in all branches. Understands Poultry and Stock if required. Good references.—F. COUSENS, Woburn, Maidenhead.

GARDENER (Head Working).—Age 43, married, no family; thoroughly good, practical, and competent Gardener. Experience in Grapes, Peaches, Pines, Melons, Tomatos, Cucumbers, all Stove and Greenhouse Plants, Orchids, Chrysanthemums, Kitchen and Flower Garden, Early and Late Forcing. Good character.—J. D., 20, Priory Road, Tunbridge.

GARDENER (Head Working, where two are kept; or Second of four).—Age 26, married, no family; fourteen years' experience in all branches. Three years' personal character from last employer.—E. DREWETT, The Elms, Acton Hill, W.

GARDENER (Head Working).—Age 36, two children; thoroughly experienced in all branches. Eight years with present employer. A death cause of leaving.—RANDALL, The Park, Addlestone, Surrey.

GARDENER (Head Working), Scotch.—Age 35; married; two in family. Life experience in all branches. Highly recommended.—GARDENER, 6, Lady Menzie's Place, Edinburgh.

GARDENER (Head Working).—Age 36, married; thoroughly practical in all branches of Gardening, also Land and Stock. Seven and a-half years' good character.—W., 7, Helvetia Street, Catford, Kent.

GARDENER (Head Working, or good Single-handed), where help is given.—Married; age 29; no family. Life experience in all branches. Wife willing to assist in house-work if required.—W. RICHES, Hartlands, Cranford, Hounslow.

GARNENER (Head Working, where two are kept, or good Single-handed).—Age 30; two years' good character from last employer, seven previous. Married when suited.—J. PLEASANCE, 11, Church Lane, Teddington.

GARDENER (Head), or FOREMAN (General), in large establishment.—C. E. MARTIN, The Hoo Gardens, Welwyn, can with confidence recommend his late General Foreman, Wm. Barham, to anyone requiring a thorough practical and trustworthy man.

GARDENER (Head, or good Single-Handed).—Age 30; married, no family. Experienced in Greenhouse Plants, Flowers, and Kitchen Garden. Good character.—G. BUNCE, Hennerton Gardens, Henley-on-Thames.

GARDENER (Head, or good Single-handed); age 30, married.—C. POPHAM, Esq., Slingsby Hall, York, recommends his Gardener as above. Thoroughly experienced in Vines, Peaches, and general routine of Garden.

GARDENER (Head or Single-handed).—Age 30, single; life experience, Inside and Out.—H. ELLIOTT, The Lodge, Manadon, near Plymouth.

GARDENER (Head, or Single-handed).—Age 27, single; thorough practical knowledge in the general routine of Gardening in good places.—State wages, E. L., Hainault Road, Chigwell.

GARDENER (Head, or Single-handed).—Age 32; thoroughly practical all-round, including Orchids. Highly recommended.—A. M., Mrs. Robbins, Kington Langley, Chippenham, Wilts.

GARDENER (Head, or Single-handed).—Age 37, married; thoroughly experienced with Grapes, Peaches, Cucumbers, Tomatos, Flowers, and Vegetables of all kinds. Good character.—GARDENER, Dragon Street, Petersfield, Hants.

GARDENER (Head, or good Single-handed).—Middle-aged; well up in all departments, including Orchids. Stock if required. Please state wages.—GARDENER, Avenue House, Belsize Park Gardens, Hampstead, N.W.

GARDENER (Head, of two or three).—Married, no family; eight years in present situation. Has had charge of Stock.—J. TOMLINSON, Rectory Gardens, Market Bosworth, Nuneaton.

GARDENER (Head, or Second); age 28; single.—A Lady wishes to recommend her late Second man, who has had about 12 years' experience in First-class Establishments. Well up to his duties. Early and Late Forcing, Vines, Peaches, &c.—GARDENER, 79, Bridge Road West, Battersea, S.W.

GARDENER (Single-handed, or otherwise).—Age 24; unmarried.—A Gentleman can recommend to any Lady or Gentleman, a good all-round man as above. Abstainer.—H. SADLER, Coton, Cambs.

GARDENER (Single-handed, or Second).—Age 28, single; life experience. Good all-round Gardener and Manager. References reliable. Two years present situation.—W. BREWSTER, 5, Gloucester Place, Cheltenham.

GARDENER (Single-Handed, or where help is given).—Age 28; single. Total abstainer; three years' good character from present situation. Life experience.—LOVE, Tilehurst Nurseries, Reading.

GARDENER (Single-handed).—Age 30, married; abstainer. Fifteen years' experience in Kitchen Garden, Flowers, Cucumbers, and Greenhouses. Good references.—H., 82, Gordon Road, Strood, Rochester, Kent.

GARDENER (Single-handed or Second).—Age 23, experienced in Vines, Tomatos, Cucumbers, Flowers, &c. Seven years character. Please state wages.—C. COOK, Vine Cottage, High Road, Whetstone.

GARDENER (Single-handed); age 28, single.—J. Walls, Old Park Hall, Walsall, can with every confidence recommend a very praiseworthy man as above. Abstainer.

GARDENER (Single-handed, or where help is given).—Age 26; two years' and two months' character.—F. TURNER, 97, Dale Street, Ordnance Place, Chatham, Kent.

GARDENER; age 32, married, no family.—Mr. ACTON can with confidence recommend his gardener as above, as steady, trustworthy, thoroughly experienced in general management of garden, greenhouses, &c.—The Glen, West End, Southampton.

GARDENER, where three are kept.—Age 27; married when suited. Thirteen years good practical experience Inside and Out. Two and a-half years present situation. Good references.—F. B., 49, Duke Street, Henley-on-Thames, Oxon.

GARDENER, or to Assist at a Nursery.—A Gentleman can recommend a young man who has been with him three years. Excellent references and good experience.—L. MOXON, Sempsford Hall, Sandy.

GARDENER.—Gentleman, giving up house, wishes to recommend his Gardener as good Single-handed or otherwise, a thorough practical man. Total abstainer; age 36, married, one child, age 6 years. Good personal reference.—W., 47, Netherhall Gardens, Hampstead.

GARDENER (Second); age 21.—A Gardener wishes to recommend a young man as above; two years' good character.—W. M., North Street House, Midhurst.

GARDENER (Second).—Mr. H. Coster, Froyle Park Gardens, Alton, will be pleased to recommend J. Chase, as above. Age 25; twelve years' experience Inside and Out.

GARDENER (Second).—Age 25; single; experienced Inside and Out, two and a half years in last situation; abstainer.—J. D., 93, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (Second), age 26.—Good practical knowledge in all departments. Could manage small collection of Orchids if required.—GARDENER, Iron Mills, Minchinhampton, Gloucester.

GARDENER (Second or Under).—Age 24, single; well experienced, Inside and Out.—A. SPEAKMAN, 8, Shaftesbury Avenue, New Barnet.

GARDENER (Second or otherwise).—Single; twelve years' experience both Inside and Out. Good references.—H. RUMGAY, Wootton Lodge, Ulceby, Lincs.

GARDENER (Second).—Age 25; ten years' practical experience chiefly under Glass. Good testimonials. Excellent character, and highly recommended by all previous employers.—A. WHITEHEAD, Burton, Rugby.

GARDENER (Second), where five or six are employed.—Age 24; North preferred, with excellent references from present and previous employers.—B., 43, Highfield Street, Market Harborough.

GARDENER (Second), Inside, or Inside and Out.—Age 22; abstainer. Over eight years present employer; two years Second.—C. MILLS, Holwood Gardens, Beckenham, Kent.

GARDENER (Second), or IMPROVER in Houses.—Age 22. Where five or six are kept; been used to general work. Two years' good character.—G. J., Lignum Cottage, Bushey Heath.

GARDENER (Under).—Age 19.—J. FAGENCE, Mickleham Hall, near Dorking, Surrey.

GARDENER (Under).—Single; good general knowledge of Gardening. Inside and Out. Good character.—G. P., 14, Tylney Road, Bromley, Kent.

GARDENER (Under).—Age 22; two years' good character from present place.—GARDENER, Mr. Mitchell, Grocer, Nutfield, Surrey.

GARDENER (Under), age 25, seeks a situation Inside and Out. State wages, &c.—W. BOURNE, Tiltwood Lodge, Crawley Down, Sussex.

GARDENER (Under).—Age 26; good knowledge of Kitchen Garden-work, or Inside and Out. Good character.—W. SANSOM, 7, Sydney Terrace, Feltham, Middlesex.

To Market Nurserymen Only.

PROPAGATOR and GROWER.—Age 27; thirteen years' experience in Soft-wooded, Ferns, Carnations, Bouvardias, Double Primulas, Stove, and the General Market, Flowering and First-class Pot Stuff. Good references.—W. P., 41, Wellington Street, Strand, W.C.

PROPAGATOR AND GROWER.—Age 35, single; twenty years' experience in the Propagation and Growing of Pot Roses, Conifers, Rhododendrons, Clematis, and general Hard Wood. Good references.—A. SALE, Church Street, Woking Station.

GRAPE or CUCUMBER GROWER.—Age 28, single; life experience. Excellent references.—G. P., Mr. Byford, Waterloo Road, Uxbridge.

TO ROSE GROWERS.—Situation wanted as ROSE GROWER. Thoroughly understands their cultivation on Seedling Briar and all other Stocks. Fourteen years' experience. Six years foreman to Mr. Turner, Slough.—F. LEY, Devon Rosery, Torquay.

To Nurserymen.

GROWER in good Nursery.—ten years' experience in Flowering and Foliage stuff. Also Vines, Cucumbers, Tomatos. Used to the general routine of a Nursery. Wreaths, Crosses, &c.; good references.—J. R., 41, Wellington Street, Strand, W.C.

GROWER.—Well up in Plants, Cut Flowers, Tomatos, Cucumbers, &c. Experienced. Married.—G. M., 125a, Brettenham Road, Upper Edmonton.

TOMATO and CUCUMBER GROWER, thoroughly experienced, requires re-engagement, good Soft-wooded Propagator, and producer of Cut Blooms; would grow on part commission. Age 35.—W. S., Mr. W. Heffer, Sydney Road, Waltham Cross.

To Florists.

MANAGER, or FIRST-HAND.—Young Man desires re-engagement. Wreaths, Crosses, Bouquets, Decorations, &c. Best of references.—FLORIST, 41, Wellington Street, Strand, W.C.

To Nurserymen.

GENERAL MANAGER or FOREMAN (Working).—Age 35, married; twenty-one years experience. Good Manager of Men, and can be highly recommended.—MOORE, 39, Great Northern Road, Derby.

To Fruit-growers.

FOREMAN, in Market Nursery, where Grapes, Cucumbers, and Tomatos are grown extensively; fifteen years' experience. Good references from one of the largest growers for Covent Garden.—A. C., Mr. H. E. Simmonds, 4, Endell Street, Long Acre, W.C.

FOREMAN, in the Houses, age 27; desires to get South. Good knowledge of Orchids. Character will bear strictest investigation.—W. MASON, Lodge Field, Tittensor, Stoke-on-Trent.

FOREMAN (General); age 27.—Mr. Pope, Ashby Hall Gardens, Lincoln, wishes to highly recommend his Foreman, Thomas Robinson. Thoroughly experienced in Fruit and Plant Houses; steady, sober, and trustworthy. Two and a half years as Foreman here.

FOREMAN, PROPAGATOR and GROWER. 20 years' experience in hard and soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—J. H. L., Dallin Road, Bexley Heath, S.E.

FOREMAN.—Age 26; twelve years' experience. Well up in Stove and Greenhouse Plants, Chrysanthemums, Cucumbers, Tomatos, &c. Good references.—H. PLUMMER, Redfern House, Teville Road, Worthing.

FOREMAN; age 26.—Mr. WARD, Longford Castle, Salisbury, can with confidence recommend J. Powley, as above. First-class experience in all branches, including Orchids. Has served in the above gardens for the past two years, also at Woolton Wood, and with Backhouse & Son, York.

FOREMAN (Inside).—Age 27; ten years' experience in Fruit and Plant Growing, including Carnations. Mr. Cleare, Toddington, Winchcombe, R.S.O., wishes to recommend his Foreman, W. French, who has been with him four years.

To Nurserymen.

FOREMAN or GROWER in Plant Nursery.—Seventeen years' experience in growing for Covent Garden, Palms, Ferns, Heaths, Genistas, and Soft-wooded Plants, also Grapes. Good references.—H. M., Mr. H. E. SIMMONDS, 4, Endell Street, Long Acre, W.C.

FOREMAN, age 27.—A. SMITH, for the past two years Foreman at Wroxton Abbey Gardens, Banbury, desires re-engagement. Thoroughly experienced, and highly recommended by present and previous employers.

FOREMAN, Inside or General; age 27.—Mr. C. Stewart, Gardener to W. B. Greenfield, Esq., can strongly recommend H. King as above. Two years in present place as Foreman, House and Table Decorator. Two years as Foreman previously.—The Gardens, Hayne's Park, Beds.

FOREMAN, age 28.—Fourteen years' practical experience in early and late forcing. Strong, willing, and active. Will be highly recommended for ability and trustworthiness.—R. LLOYD, Church Preen, Leebotwood, Shrewsbury.

FOREMAN, in good establishment, age 25, is well recommended by Mr. Lockie, late of Oakley Court, Windsor; and Mr. Groves, Temple House, Marlow.—H. A. LOCKE, 2, Wildwood Terrace, North End, Hampstead.

FOREMAN (or SECOND).—Age 24; nine years' experience in Plant and Fruit Houses, and an abstainer. Excellent testimonials from present and previous employers.—STOKES, Antony Gardens, near Devonport.

FOREMAN, Inside, in a medium-sized place, or JOURNEYMAN in first-class place. Age 24; nine years' experience. Good testimonials. Bothy.—S. G. SMALLRIDGE, Down Park, Crawley, Sussex.

FOREMAN, Inside or General, in good establishment.—Age 28; twelve years' experience in first-class places, two years in present place as Foreman, four years previously, can be highly recommended.—E. R., The Gardens, Farnham Castle, Surrey.

FOREMAN.—Age 26; eleven years' experience. The past year and eleven months at Clumber. Good references.—G. LEVIS, Little Faringdon, Lechlade, Gloucestershire.

To the Trade.

FOREMAN, GROWER, &c.—Well up in all kinds of Market-stuff. Ten and a half years' experience. Good references.—B., 81, Unett Street, Hockley, Birmingham.

FOREMAN, in good establishment.—Age 25; ten years' experience in growing Vines, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, early and late forcing. Two years in present situation as Foreman.—J. Davies, Gardener, Aberaman House, Aberdare, can highly recommend CHARLES BARRETT as above.

FOREMAN, in the Houses.—Age 25; experienced in Grapes, Tomatos, Melons, Cucumbers, Early and Late Forcing. Twelve months in present situation as Foreman. Three years previous as Second. Good testimonials. Bothy preferred.—WM. ROBERTS, Bovingdon, Herts.

FOREMAN, in Market, or good General Nursery.—Age 26; twelve years' practical experience in all branches. Excellent references.—A. LEA, Heddington Road, Nurseries, Louth, Lincolnshire.

FOREMAN, or JOURNEYMAN (First), in a good establishment.—Experience in Stove and Greenhouse Plants, Grapes, Peaches, Melons, Carnations, &c.—H. BARNETT, Walpole Street, Peterborough.

FOREMAN.—Age 24; ten years' experience among Plants, Fruits, &c. Well up in all branches, including Chrysanthemums for exhibition, House and Table Decoration. Good characters.—E. PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

FOREMAN, in a good establishment.—Age 25; ten years' good experience in all kinds of Plant and Fruit Growing. Well up in House and Table Decorating. Three years in present situation. Can be most highly recommended.—For particulars apply to Mr. E. BENNETT, Gardener to Colonel Hardy, Chilham Castle, Canterbury.

JOURNEYMAN.—Age 22; eight years' experience in Begonias, Primulas, and General Nursery Work. Good character.—S. W., 28, Sumner Road, Croydon.

JOURNEYMAN.—Mr. Prinsep, The Gardens, Buxted Park, Uckfield, will have much pleasure in recommending a young man (age 20) as above. Three and a half years' character.

JOURNEYMAN (First).—Age 24, ten years' experience in private places and nursery. Good references.—A. G., 41, Wellington Street, Strand, W.C.

JOURNEYMAN (First, or good Second).—Age 21; seven years' experience.—Mr. Roberts, Head Gardener, Broomhill, would be pleased to recommend H. King, The Gardens, Broomhill, Tunbridge Wells.

JOURNEYMAN, Inside, or Inside and Out; age 20.—Mr. Thomson, Bignell Gardens, Bicester, would be pleased to recommend young Man as above. Three and a half years' good character.—A. ANDREWS, Bignell Gardens, Bicester.

JOURNEYMAN (First), in a good establishment.—Age 25; eight years' experience in the general routine of the profession. Two years present situation, six previous. Can be highly recommended.—VAUGHAN, Brookland Hall, Welshpool.

JOURNEYMAN (Inside), age 19.—C. Brown, Gardener to R. Henty, Esq., can recommend young man as above. Five and half years' experience.—The Gardens, Langley House, Abbots Langley, Herts.

JOURNEYMAN (First), in the Houses.—Age 22; three years in present situation. Can be well recommended.—M. LANGLEY, Springfield, Westbury-on-Trym, Bristol.

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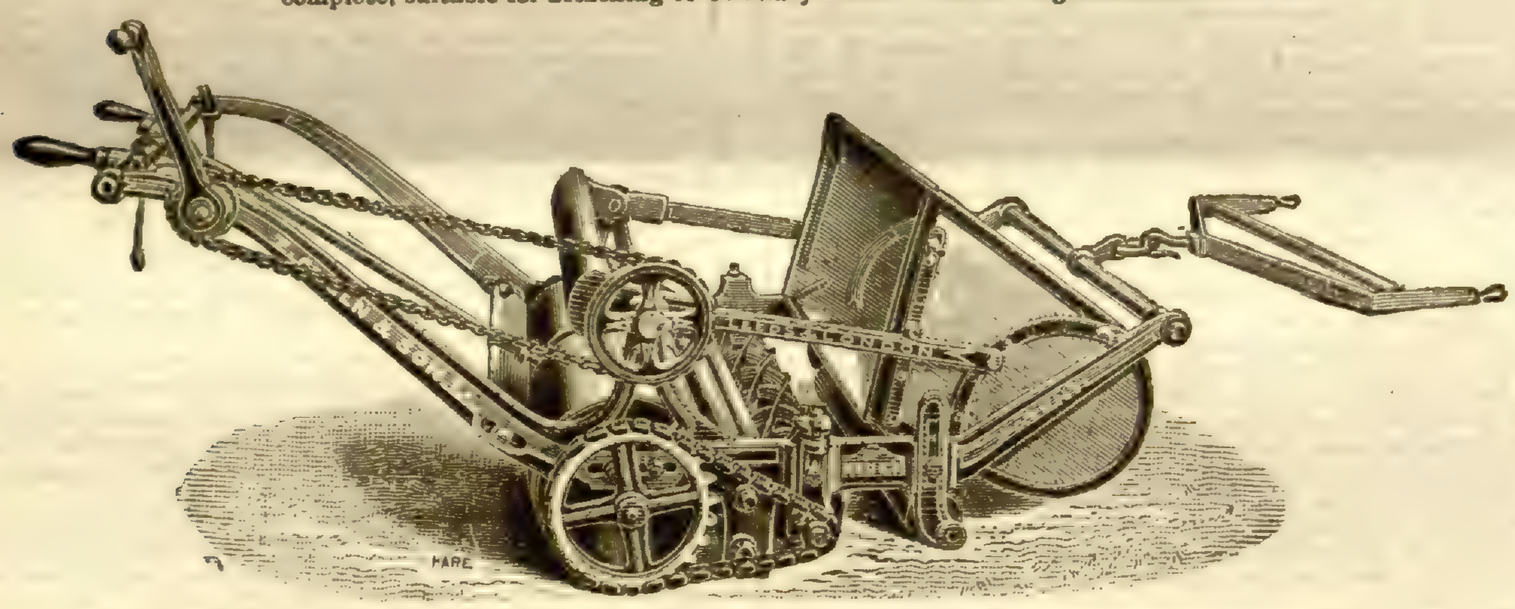

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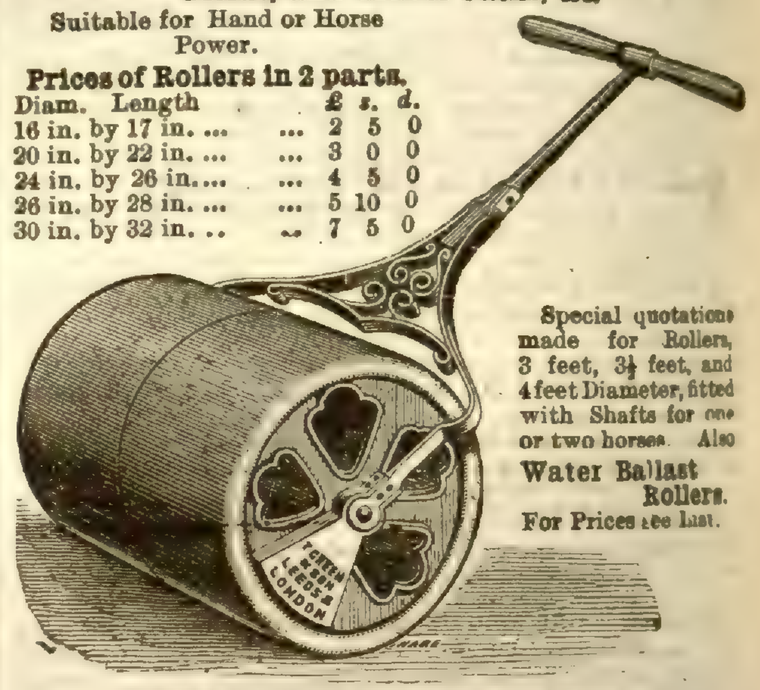

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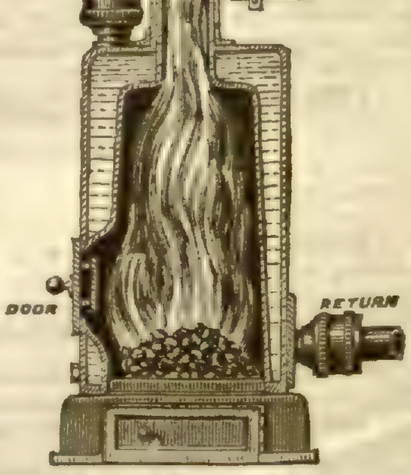

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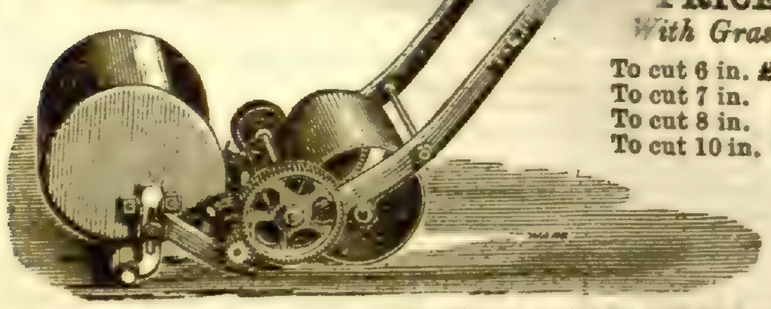

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ROSES in POTS.—A magnificent Stock of extra strong plants, established in 8-inch pots, suitable for present forcing or greenhouse culture. TEA-SCENTED and NOISETTE varieties (dwarf and climbing kinds), 30s. to 60s. per doz. HYBRID PERPETUALS, 24s. to 42s. per doz. WM. PAUL AND SON, Waltham Cross, Herts.

NOW is the TIME to PLANT GLADIOLI, DELPHINIUMS, PYRETHRUMS, GAILLARDIAS. Catalogue of KELWAY AND SON, Langport, Somerset.

WANTED, SPECIMENS of CHAMÆROPS EXCELSA, in Tubs or Pots.—State lowest price to J. BENBOW, Abbotsbury Castle Gardens, Dorchester, Dorset.

WANTED to Purchase, large ORANGE TREES, 5 to 7 feet; in bloom and fruit.—Apply by letter, G. D. TAVINER, F.R.H.S., Bayswater Hill, W.

WANTED, EUCHARIS in Pots. Must be healthy and free from Mite, in EXCHANGE for ORCHIDS.—ERICA, 41, Wellington Street, Strand, W.C.

WANTED to EXCHANGE, Cœlogyne cristata, Malmaison, and old Clove Carnations, for Calanthe, winter-flowering Begonia, Gesnera, Jasminum gracillinum.

W. HOLDER, Staunton Harold, Ashby-de-la-Zouch.

WANTED, CUTTINGS of Geraniums, Tricolors, bronze, Pinks, Jacoby. Cash, or exchange Tea Roses in pots. Price, 100 or 1000.—TEA ROSE, 41, Wellington Street, Strand, W.C.

WANTED, ASPLENIUMS, Large and Small. Price to—

H. WHITEHEAD, Heathville Nursery, Gloucester.

NEW GIANT WHITE PRIMULA. PRIMULA FIMBRIATA "SNOWBALL." Per packet, 5s., post free.

B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Turner's Crimson Rambler Rose.

CHARLES TURNER can supply extra strong plants from ground, 8 to 10 feet high. The Royal Nurseries, Slough.

Prize Cob Filberts and other Fruit Trees

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—

GEORGE WAITE, the Foreman, Calcot, near Reading.

PRIMULA CUTTINGS.—Marchioness of Exeter, 2s. 6d. per doz. Lord Beaconsfield, 2s. per doz. Ivy-leaf PELARGONIUMS, Madame Crousse and Albert Crousse, 4s. 6d. per 100. All good cuttings, sent post free for cash with order.

GEO. DRABBLE, Ketton Hall Gardens, Stamford.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.

GOLDEN, 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

FRUIT TREES.—Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, Nuts, Gooseberries, Strawberries, Currants, Figs, and all other Hardy Fruits, in all forms, of best quality, true to name, and very reasonable in price. A splendid stock to choose from. Priced Descriptive Catalogue free by post.

WM. PAUL AND SON, Waltham Cross, Herts.

B. R. DAVIS' BEGONIA CATALOGUE.—A Gem of Gems. Acknowledged to be the best Descriptive Catalogue of one of the best Gold Medal Prize Collections in cultivation, post-free.

B. R. DAVIS, Begonia Grower, Yeovil, Somerset.

P.S.—A quantity of English Oak, 8 to 15 feet; also Privet ovalifolium, all sizes, from 1 to 6 feet.

Seed Potatos.

H. & F. SHARPE'S Special Priced List of SEED POTATOS, has been posted to their Customers, but a further copy will be sent to those who have not received it if applied for. It comprises all the best kinds in cultivation, and at prices very advantageous.

SEED-GROWING ESTABLISHMENT, WISBECH.

STRAWBERRY ROYAL SOVEREIGN (LAXTON).—Well-rooted Runners, 3s. per doz., 20s. per 100; STRONG FRUITING RUNNERS, 6s. per dozen, 40s. per 100; free cash.—S. HAMILTON, Mayfield Gardens, Perth, N.B.

LARCH FIR, 2 to 3 feet; Evergreen PRIVET, 2 to 3 feet, Variegated HOLLIES, up to 4 feet; H.P. ROSES, practically uninjured by frost.

THOS. SMITH AND SONS, Nurseries, Stranraer, N.B.

TOMATO "CHALLENGER" (Collins').—STILL LEADS THE WAY, as the finest in cultivation, either for Amateurs or Growers. Awarded Four First-class Certificates. Thousands of packets sold annually. 1s. per packet. (Wholesale from Hurst & Son, IN OUR SEALED PACKETS ONLY). General Seed Catalogue of all the finest Vegetable and Flower seeds, &c., unsurpassed in quality, sent free.—COLLINS BROS., 39, Waterloo Road, London, S.E.

By Special Appointment

TO H.R.H. THE PRINCE OF WALES.

MACKENZIE AND MONCUR, Limited, HOTHOUSE BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.

LONDON OFFICE:—50, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

WEDNESDAY NEXT.

IMPORTANT DIRECT CONSIGNMENT FOR UNRESERVED SALE.

32,368 LILIUM AURATUM
4,100 ,, ALBUM
2,400 ,, RUBRUM
2,500 ,, TIGRINUM
200 ,, AURATUM RUBRO VITTATUM
125 ,, ,, WITTEI
250 ,, ,, PICTUM
960 ,, ,, MACRANTHUM
2,100 LYCORIS AUREA
800 ,, SANGUINEA
500 ,, SQUEMIGERI

Also 170 Books of Lily Flowers.

Just received in grand condition.

A CONSIGNMENT FROM CEYLON, Comprising—
2,600 Pancratiums, mixed species
3,000 Palm Seeds, mixed
900 Amaryllis and Crinums, various
70 Alocasias

A consignment from Belgium, including 300 Palms, Chamærops, Coryphas, Latanias, Kentias, Arecas, 75 Aspidistras green, Genistas, 20 Aralias, 15 Dracæna indivisa, 25 D. amabilis, Araucaria excelsa, Cocos flexuosa.

8,000 Dwarf Pearl Tuberoses, 878 Lilium Harrisii, 250 Seeds Strelitzia Augusta, and 500 Begonias (double and single), 1,000 Gloxinias, Nerine corusca and Satyrium carucum.

300 Standard, 100 Half Standard, and 500 Dwarf Roses, Sweet Briars Clematis, Passifloras, 300 Fruit Trees, including Beauty of Bath and Bismarck Apples, Pears, Peaches, &c.; Rhododendrons, 5,000 Gladioli gandavensis hybrids, 1,400 handsome Cannas of various sorts, 1,000 Dahlia tubers, comprising Cactus, Pompon, and show varieties; 32 Calochorti Plumeræ, hardy border Carnations, Iris Kæmpferi to name, English grown Lilies in great variety, hardy border Plants and Bulbs.

Together with a grand consignment of

PALM SEEDS,

received direct, including

250,000 KENTIA BELMOREANA.
240,000 ,, FOSTERIANA.
310,000 SEAFORTHIA ELEGANS.
50,000 PHŒNIX RUPICOLA.
K. CANTERBURYANA & K. MOOREI.

The seeds are in splendid condition and will be offered at 5 o'clock.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, MARCH 27th, at Twelve o'clock precisely.

On view morning of Sale, and Catalogues had.

Monday Next.

LILIUM AURATUM, RUBRUM, ALBUM, and other Imported and English-grown LILIES, a Consignment from Belgium, comprising 200 DEUTZIA GRACILIS, 70 Choice PALMS in variety, 100 DRACÆNA INDIVISA (fine plants), 300 BEGONIAS, GLADIOLI, SPIRÆAS, 50 lots of GREENHOUSE FERNS and PLANTS, 20 lots of PALMS, IRIS, HERBACEOUS PLANTS, and 500 Dwarf ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 25, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, March 26.

By order of Messrs. Sander & Co., St. Albans.

SALE of ESTABLISHED and IMPORTED ORCHIDS, comprising some of the most beautiful and popular Orchids in cultivation.

Among the ESTABLISHED ORCHIDS will be included Dendrobium fimbriatum oculatum, Burlingtonia fragrans (flowers white, deliciously scented), Cattleya dolosa, Cypripedium Chamberlainianum, Epidendrum vitellinum majus, Cœlogyne Swaniana, Dendrobium Dalhousianum, Phaius assamicus, Cypripedium Victoria Mariæ, Phaius Wallichii, Cattleya O'Brieniana, Odontoglossum Harryanum, Coryanthes leucocorys (wonderful flowers), &c.

All the plants are in splendid health, and have been specially selected for this Sale, together with many fine PLANTS in FLOWER or BUD, which will form an important feature in this Sale.

The IMPORTED ORCHIDS will include Thunia Bensoniæ (one of the finest of the genus), Dendrobium fimbriatum oculatum, Cypripedium Parishii, Dendrobium formosum giganteum, a grand importation; the beautiful Cypripedium bellatulum, Dendrobium infundibulum, the splendid D. chrysotoxum, and the fragrant D. suavissimum, D. crystallinum, and the splendid D. Findlayanum, a grand winter flowering species, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, March 26, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Woking, Surrey.

By order of the Trustees under the will of W. Jackman, deceased.

UNRESERVED SALE of the LIVE and DEAD STOCK comprising three useful Cart-horses, three Short-horned Cows (two in profit), Chaff-cutting, Winnowing, and Turnip Machines, Tumbril and light Carts, Plough, Ladders, a small Stack of good Meadow Hay, two Stacks Straw, three sets of Harness, Corn Sieves, Rick cloth, quantity of Potatos, Barrows, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the premises, the Hook Hill Nurseries, Woking, about 2½ miles from Woking Railway Station, and 20 minutes walk from Worplesdon Station, on THURSDAY NEXT, March 28, at 1 o'Clock.

May be viewed day prior and morning of Sale. Catalogues had on the premises, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

The Selwood Collection of Established Orchids.

PRELIMINARY ANNOUNCEMENT of an unusually IMPORTANT SALE, by order of the Executors of the late G. D. Owen, Esq., without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on WEDNESDAY, April 24, and FOLLOWING DAYS, on the premises, Selwood, near Rotherham, Yorkshire, the above valuable collection of Established Orchids. The collection was formed by the late Mr. Owen, with great care and judgment, regardless of expense, and, as is well known, it is celebrated for the richness of the varieties of the plants, many having secured First-Class Certificates and Awards of Merit.

Among the principal Plants the following may be specially mentioned:—

Cattleya aurea
,, Eldorado Owenii
,, Exoniensis
,, Gaskelliana alba
,, Gigas
,, Hardyana, Selwood variety, A.M.R.H.S.
,, Hardyana
,, ,, E. G. Wrigley's variety, A.M.
,, ,, Leopold II.
,, ,, Wilson variety, A.M.
,, Labiata alba
,, ,, Countess Fitzwilliam, F.C.C.R.H.S.
,, ,, Foleyana, F.C.C.R.H.S.
,, Massaiana
,, Mendeli Blunti
,, Mossiæ
,, ,, Reineckiana
,, ,, white
,, Mrs. Astor, hybrid
,, Partheniæ
,, Rex
,, Schroderæ
,, Skinnerii alba
,, Triansei alba
,, ,, Backhouseiana
,, ,, Oweniæ
,, ,, Reine des Belges
,, ,, Wagenerii
Cœlogyne cristata
,, ,, albæ
Cymbidium eburneum
,, Winnianum
Cypripedium præstans Kimballianum
,, Winnianum
Dendrobium Aspasia
,, atro-violaceum
,, Burfordense
,, Juno
,, Luna
,, nobile Amesiæ
,, ,, Ballianum
,, ,, Nobilius, fine plant and variety
,, ,, Oweniana
,, ,, Palleus
,, Phalænopsis Schroderæ
,, ,, Th. Pearl
Dendrob. Phalænop. Williamsii
,, Wardianum
,, ,, album
Epidendrums of sorts
Eulophiella Elisabethæ, showing bloom
Lælia anceps, G. D. Owen's variety, A.M.R.H.S.
,, ,, Amesiæ
,, ,, Ballantineanum
,, ,, Dawsoni
,, ,, Schroderæ
,, elegans Turnerii
,, grandis tenebrosa
,, Oweniæ
,, Oweniæ, A.M.R.H.S.
,, præstans alba, F.C.C.R.H.S., the only known plant
,, purpurata
,, ,, Backhouseiana
,, ,, Princess May
Lycaste Skinneri
,, ,, alba
Miltonia Lubbersiana
Odontoglossum album
,, Chestertoni
,, Fowlerianum
,, guttatum
,, Imperator
,, Leopardinum
,, Massarelianum
,, Owenianum, F.C.C.
,, picturatum
,, Rœblingeanum
,, Stevensii
,, Thompsonii
,, Wattianum, Hardy's variety
,, Willsianum
,, Wattsianum
,, Williamsii
,, Wilckeanum
Odontoglossum Pescatorei Lindeniæ
,, ,, Vervættii
Oncidium of sorts
Phaius Cooksoni
,, Oweniæ
,, Owenianus
Sobralia, white
,, xantholeuca

The Plants are in the best possible condition, none will be sold privately before the Sale, and the whole will be offered entirely without reserve.

Catalogues may be obtained of Mr. WATTS, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

FRIDAY NEXT, MARCH 29.

BY ORDER OF MESSRS. HUGH LOW & CO.

Dendrobium Hildebrandii. D. Speciosissimum. Dendrobium superbum giganteum.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 29, at half-past 12 o'Clock precisely, a wonderful importation of the hitherto rare

DENDROBIUM HILDEBRANDII,

introduced by us in 1893, and figured in the February number of the *Orchid Review*, 1895.

DENDROBIUM SPECIOSISSIMUM (ROLFE).

(See *Gardeners' Chronicle*, March 9.)

These we confidently expect to receive in time to be included in this Sale, when every plant to hand will be offered without reserve. At the same time will be offered—

CYPRIPEDIUM INSIGNE SANDERÆ (TRUE),

part of the original plant, from the collection of R. H. Measures, Esq., Streatham; and a grand plant with three growths of—

CYPRIPEDIUM LAWRENCEANUM HYEANUM.

Together with importations of CATTLEYA CITRINA, C. MOSSIÆ (Low's famous strain), CYCNOCHES CHLOROCHILON, CYPRIPEDIUM BELLATULUM, C. CHARLESWORTHII, DENDROBIUM FINDLEYANUM, D. FORMOSUM GIGANTEUM, D. NOBILE, D. PARISHII, D. WARDIANUM GIGANTEUM, ONCIDIUM TIGRINUM, and a splendid lot of VANDA CŒRULEA, from same localities as our recent importations, whence have flowered so many superb forms.

On view morning of Sale, and Catalogues had.

The New Yellow Arum Lily "PENTLANDI."

IMPORTANT CONSIGNMENT of 500 BULBS of this New and Beautiful YELLOW CALLA.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received advices of the despatch of this Valuable Consignment, which they will SELL by AUCTION at their Rooms at an early date. The sender writes that he came across them in their flowering season, and thus was able to select the very best and largest-flowered ones. Having collected them himself he states that buyers can put full confidence in what is offered. He calls attention to another painting of it in the *Garden* for Nov. 24.

Further particulars will appear in future advertisements.

Wednesday Next.

GREAT SALE of ENGLISH, GERMAN, and DUTCH ROSES.

1200 Choice-named Standard, Half-standard, Dwarf, Climbing, and Pot ROSES, from one of our most successful English Growers and Exhibitors, consisting of the leading sorts of Hybrid Perpetuals, Hybrid Teas, Noisettes, Choice Singles, Moss, Fruit-bearing kinds from Japan, and many best New Varieties.

A Splendid Collection of 2000 Prize-grown Roses from a celebrated and trustworthy Dresden Nurseryman, comprising a fine assortment of the newest and best sorts, just received direct.

Also

Over 1000 Well-grown Dwarf Roses, from a Dutch Grower, including a Choice Variety of good sorts to name.

A Collection of Hardy Ornamental and Evergreen TREES and SHRUBS, in variety, from Holland, including a number of choice Hybrid RHODODENDRONS, to name, AZALEA MOLLIS, of sorts, beautifully grown RETINOSPORA, &c.

A Surplus Stock of well-grown English Ornamental SHRUBS, consisting of a large variety of EVERGREENS and CONIFERS, of all sorts and sizes.

500 Lots of Border Plants, comprising a Choice Collection of MICHAELMAS DAISIES, CARNATIONS, PINKS, PICOTEES, in variety; HOLLYHOCKS, PYRETHRUMS, of sorts; a great variety of Hardy PERENNIALS, DAHLIAS, BEGONIAS, GLOXINIAS, 50 lots of IRIS to name, Hardy and Greenhouse CLIMBING PLANTS, VIOLETS, rare PRIMROSES, and many Novelties.

A Selection of named Pyramid and Dwarf-trained FRUIT TREES, consisting of Apples, Pears, Plums, Peaches, Nectarines, Cherries, Apricots, &c.; also Black, Red, and White Currants, White and Red Raspberries, Strawberries, Gooseberries, &c.

A Collection of Stove and Greenhouse Plants, including a number of well-grown PALMS, &c., Pearl and South African TUBEROSES, LILIUM AURATUM from Japan, ANEMONES, ARUMS, PANCRATIUMS, TIGRIDIAS, AMARYLLIS, GLADIOLI of sorts, CYPRIPEDIUM SPECTABILE from America, DIELYTRA SPECTABILE, an assortment of Home-grown and other LILIUMS, SPIRÆA JAPONICA and PALMATA, CARNATION SEED, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 27, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

SALE of a GRAND LOT of IMPORTED and ESTABLISHED ORCHIDS, and a quantity of TERRESTRIAL ORCHIDS, LÆLIAS, &c.

MESSRS. JAMES AND BAXTER are instructed by Messrs. Arnold, Witt & Co., and Mr. P. McArthur of London, to SELL by AUCTION, as above, at their Sale Rooms, 35, Temple Street, Birmingham, importations of Vanda cœrulea, Cypripedium Charlesworthii, Saccolabium Bullinum, Dendrobium Falconeri, Vanda Roxburghii, D. Devonianum, Marmoratum, Chrysanthemum, and many other new and unnamed plants, that should prove valuable. A special feature of the Sale will be choice Burmese LILIES, Walchianum superbum, and nepalense; both have flowered in the open garden last summer; also a special lot of ORCHIDS, in Flower and Bud, from the well-known establishment of P. McArthur of Maida Vale, London.

On view morning of Sale. Catalogues free.

WANTED, CONSERVATORY or GREENHOUSE, Second-hand, in good condition, suitable for Show-house, about 30 feet by 15 feet. ¾ span preferred. Tenants fixtures.—Address, B. 581, at SHELLEYS, 38, Gracechurch Street, E.C.

TO FLORISTS.—TO BE DISPOSED OF, a VALUABLE BUSINESS. Established some years, and doing a large trade. Twelve superior Glasshouses fully stocked, and covering about an acre of ground. Prominent position. Residence adjoining. Long lease at a moderate rental.—Apply to Mr. DELL, North Finchley.

ORCHIDS! ORCHIDS!

JOHN COWAN & Co.

Are pleased to announce the arrival of large and splendid consignments of—

CATTLEYAS, LÆLIAS, DENDROBIUMS, CYPRIPEDIUMS, &c.

Inspection is earnestly invited. Descriptive and Priced CATALOGUES post free on application.

The Company have just prepared a new Descriptive and Priced CATALOGUE of their large and splendid general stock of ORCHIDS, a copy of which will be sent post-free on application to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

FLORIST'S BUSINESS for DISPOSAL, at about the cost of Fixtures and Stock.—Good residential district; very handsome premises. Bargain to a practical man.
HENRY SCRIVENER, Caterham Valley, Surrey.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

FLORIST, NURSERY, and MARKET-GARDEN BUSINESS, beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling, Piggeries, and Orchards (about 12 acres in all). Rent low. Extensive area covered with Glass, and properly heated; abundant supply of water flowing through the premises; two railway stations near. Purchase or Partner.
CLEMENT GARDINER, 14, John Street, Bristol.

FLORIST, FRUIT and JOBBING BUSINESS, doing good trade. Eighteen years' Lease. Seed and Bulb Trade could be added with advantage. Excellent Shop, and good dwelling accommodation, with about 300 feet run of Glass well stocked with Plants. Stabling for three horses. Rent £45. Part of Stabling let off at £25. Good reason for selling. Price for Stock and Goodwill £300.
T. P., 41, Wellington Street, Strand, W.C.

SURREY.—TO LET, fifteen miles from Covent Garden; ten minutes from S.E R. station, FRUIT and FLORIST'S BUSINESS, about 2 acres in extent. Twelve houses, cottage, stabling, orchard, and garden. Moderate rent; very low valuation; a bargain.—Apply to D. LUMSDEN, Purley, Surrey.

TO LET.—TWO Valuable NURSERIES, suitable for Beginners or others. Situate within easy distance of London, at low rents. £20 and £30 per annum. Capital opportunity for an energetic man. Full particulars of ROBERT PECKITT, 45, Plumstead Road, S.E.

NURSERY (Old-established) TO LET (with or without House adjoining), about 1 acre, with large Glasshouses, each 112 feet by 18 feet. Rent very low. No incoming.—ALFRED RICHARDS, Estate Agent, Tottenham.

EALING (best part).—TO LET, on 21 years' repairing Lease, a Six-roomed NEW HOUSE, with about ¼ of an acre of splendid Ground. Formerly a Nursery doing a large retail trade. No Glass. Rent £52 per annum.—Address, 4, Ripley Villas, Castle Bar Road, Ealing.

TO LET, a WALLED GARDEN, about 1½ acre, well stocked with Fruit Trees and Plants, with Vinery, Peach-house, Stove and Greenhouse, all heated from one boiler; Potting-shed, &c.; comfortable Dwelling-house, Piggeries, and Out-buildings; also 20 acres of excellent Pasture-land (partly Orchard), situate in a village, 5½ miles from Craven Arms, and 8 miles from Ludlow.—For rent and particulars, apply to Mr. WYLEY, 2, School Chambers, Shrewsbury.

GREENHOUSES (range of) comprising Two Vineries, and Palm and Forcing Houses; seen daily at Bonnington House, Edinburgh. Offers to No. 33, KEITH & CO., Advertising Agents, Edinburgh.

1,000 9-ft. lengths, 4-in. Common SOCKET-PIPE and their Connections. To be Sold Cheap to clear Stock. State requirements to BOX 100, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, 24 Dozen Strong CUCUMBER PLANTS; also quantity TOMATO PLANTS.
HUMMERSTONE AND PIDINGTON, Romford.

GUIBERT & CO., Paris (oldest firm), supply Florists direct from their Greenhouses with Choicest CUT FLOWERS. Enormous saving. Sample box, 10*s*., carriage paid.—GUIBERT & CO., 22, Rue de Dunkerque, Paris.

PRIMROSE.—Double deep dark crimson (rare old), and other varieties; also Single and Double POLYANTHUS, special varieties, for Sale. Note address.
J. T. GREIG, Sunnyside, Fyvie, Aberdeenshire.

FOR SALE, LARGE PALMS.
Apply to—
A. FRENCH, Ford Manor Gardens, Lingfield, Surrey.

1,000,000 SIR JOSEPH PAXTON STRAWBERRY PLANTS. Well rooted and true. 1*s*. 6*d*., 50; 2*s*. 6*d*., 100; 7*s*. 6*d*., 1,000; 60*s*. per 10,000. Packed and carriage paid.
TILES, Fruit Farmers, Orpington, Kent.

CORDON APPLES and PEARS.—Well-spurred fruiting trees, 5 to 7 feet. Fruiting Standard Morello CHERRIES, Victoria PLUMS, Farleigh DAMSONS, &c., ASPARAGUS, TARRAGON, and RHUBARB, for forcing.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

V. LEMOINE AND SON'S CATALOGUE OF NOVELTIES, including Begonia elegantissima alba, and other Bedding and Tuberous Begonias, Richardia Elliottiana, Crassula albiflora, new sets of Abutilons, Fuchsias, Single and Double Zonal Pelargoniums, Pentstemons, Phlox decussata, Gladiolus, Montbretias, Double Clematis, Double Lilacs, and other Plants, are Now Ready, and will be sent free to all applicants.

GLADIOLUS LEMOINEI and G. NANCEIANUS
(1*st Prizes at the Paris and Chicago Universal Expositions*)
Are not subject to disease in the climate of England.—"I have never heard that they are attacked by the dread disease, or dwindle away in the mysterious manner which is a characteristic of the Gandavensis family."—*T. C., in the "Garden," Nov.* 18, 1893. For Descriptions and Prices, apply to—
V. LEMOINE AND SON, Nancy, France.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TO BE SOLD, Cheap, Eight Large PEACH TREES, ROYAL GEORGE, 7*s*. 6*d*. to 10*s*. 6*d*. each.
THOMAS DUCK, Abbey Wood, Kent.

WREATH, CROSS, and BOUQUET BOXES, PROPAGATING TRAYS, &c.
HORTICULTURAL TIMBER MANUFACTURER.
Prices on application to—
EDWARD TAILBY, 76, Summer Row, Birmingham.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

BOX EDGING.—Sixty-six yards of fine stuff (1 yard will make four).
Offers to
P. WEATHERS, Silverhall Nursery, Isleworth.

PLANTING SEASON.—Immense Stocks of HARDY EVERGREEN and DECIDUOUS TREES and SHRUBS of all kinds, all well transplanted, and in excellent condition for removal. Rhododendrons off Loam a specialty. Priced Descriptive Catalogue free by post.
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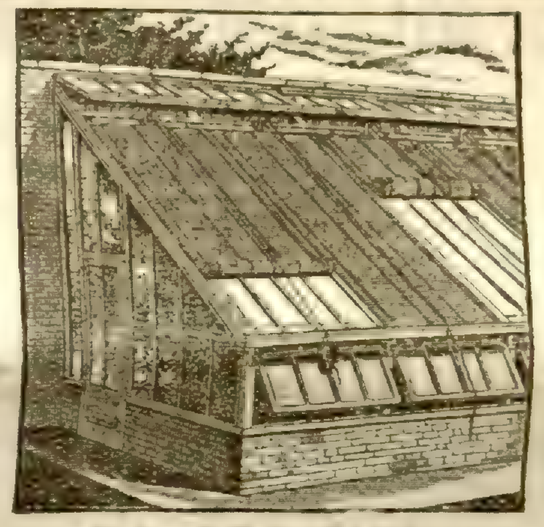

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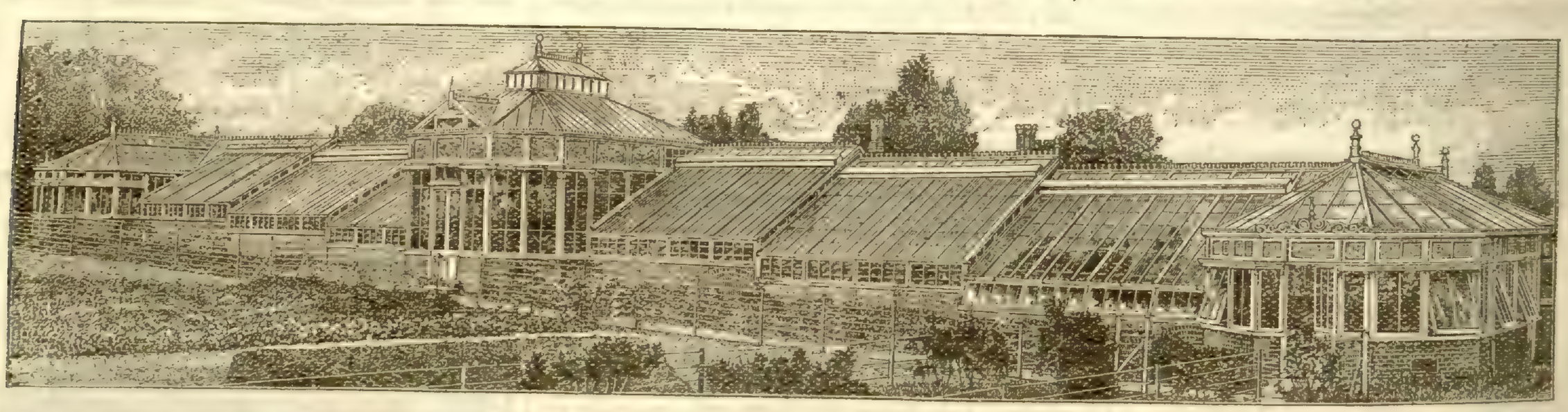

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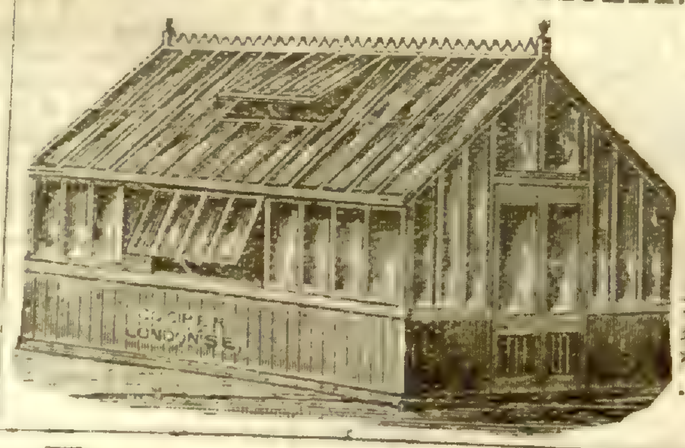

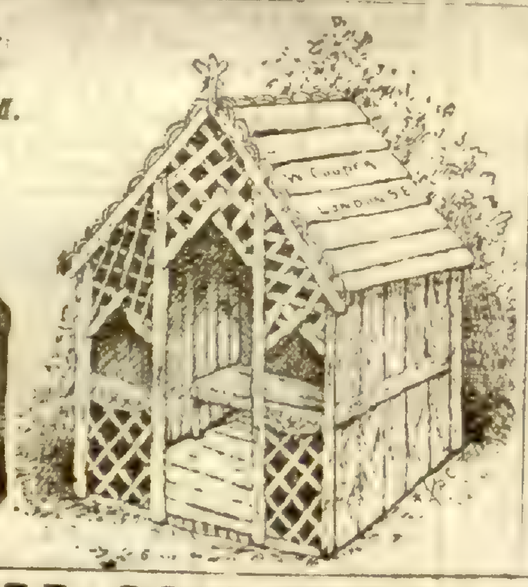

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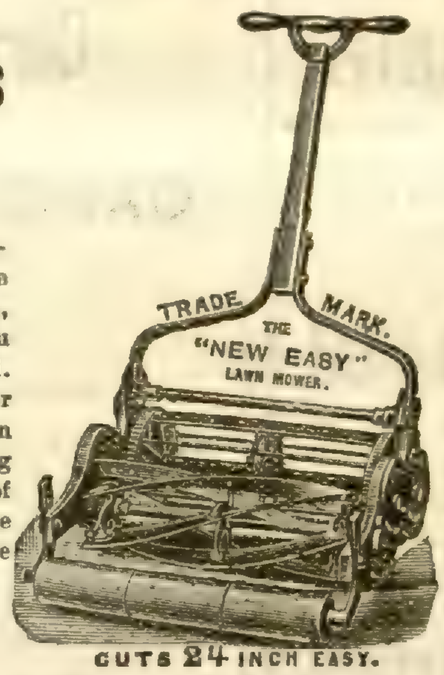

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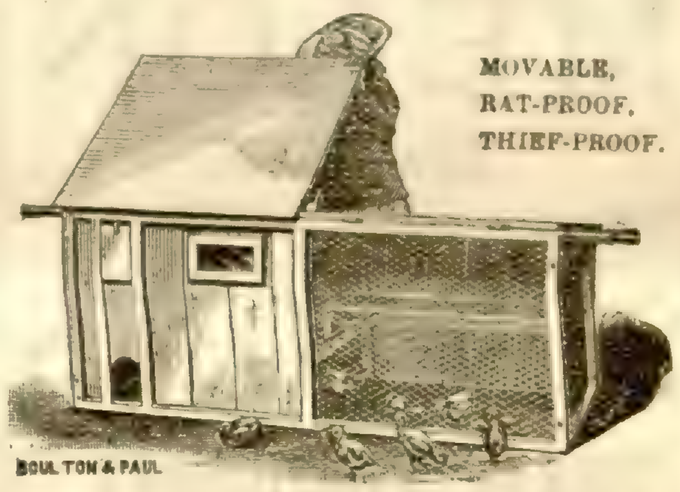

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The Memorandum and Articles of Association can be inspected, and Prospectuses, Forms of Application for Shares, and Proposal Forms, obtained on application at the Offices of the Corporation.

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67 and 68, Cheapside, E.C., at half-past 12 o'Clock precisely, a wonderful importation of

DENDROBIUM HILDEBRANDII

(ROLFE).

Introduced by us in 1893, and figured in the February number of the *Orchid Review*, 1895.

Only one single specimen plant was then received, which is now in the Collection of Baron Schroder.

The *Gardeners' Magazine*, remarking on this plant when in bloom, says:—"The flowers, individually 2½ inches across, are borne in threes and fours, with occasionally five in a cluster, the colour of the newly-open flowers being pale yellow, slightly suffused with rose, with a yellow throat to the lip, but as the flowers age they lose their rosy tint and become creamy-white, while the yellow in the throat becomes more intensified; the veins in the petals and sepals also at this period assume a bright green colour; it is an extremely floriferous and attractive species."

The plants offered are in superb condition, with a profusion of young growths, and many of the old bulbs (which are exceptionally stout and distinct) are now pushing flower-spikes.

DENDROBIUM SUPERBUM GIGANTEUM.

A grand lot of this rare and showy species from the Philippine Islands.
A large proportion will bloom during the coming months.

Dendrobium speciosissimum

(ROLFE).

See *Gardeners' Chronicle*, March 9.

These we confidently expect to receive in time to be included in this Sale, when every plant to hand will be offered without reserve, together with another grand importation of

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CYPRIPEDIUM LAWRENCEANUM HYEANUM

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This is part of the ORIGINAL plant from the well-known Collection of R. H. Measures, Esq., Streatham.

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THE

Gardeners' Chronicle.

SATURDAY, MARCH 23, 1895.

AMERICAN HORTICULTURE.

THE report on the French horticultural section at the Chicago Exhibition, prepared by M. Maurice L. de Vilmorin, and published at the Imprimerie Nationale, Paris, contains much matter of interest to our readers. The reasons which conduced to the selection of Chicago as the site of the exhibition are set forth. These may have been, on the whole, valid, but there is no question that, so far as horticulture alone was concerned, the choice was not a propitious one. Its situation far from the coast, at a long distance from the other leading cities of the Union, its extreme climate, and the general indifference of the inhabitants towards horticulture in its higher developments, all tended to fetter the progress of the horticultural department.

Naturally, much of M. de Vilmorin's work is taken up with the exhibits of his compatriots, which were much more numerous than those of our own countrymen. France occupied a space of more than 1 hectare in the exhibition of fruit trees and ornamental plants in the open air, not comprising in this estimate various scattered exhibits, or what was shown under glass. A long time was occupied with the transit of the goods to America, and long delays before they arrived at Chicago. Nevertheless, two months after the opening of the exhibition, and one month after the planting was finished, the French section presented a very satisfactory appearance. We need not, however, follow M. de Vilmorin in these details, which are only indirectly of interest to our readers, and which belong already to the domain of "antient history." It is enough to say that while the French department was well organised and well supported, the English section was small, *se réduisait à peu de choses*.

Of more interest to us now are the notices of American horticulture and of the doings of American horticulturists. The collections exhibited by Pitcher and Manda, Elwanger and Barry, Vaughan and others, are commented on in favourable terms, and the reporter then proceeds to give a sketch of the progress of horticulture in the United States during the last quarter of a century. The progress has been great and rapid, and it has been marked by the localisation of special cultures in particular places—fruits in this State, vegetables in that, and so on.

Fruit-culture, according to some statistics collected in 1889, yielded in produce, estimated at a minimum, 1500 millions of francs, ranking next after cereals. Altogether the value of horticultural products of all kinds in the States is now computed at 2655 millions of francs, with every chance of further increase, especially in the floricultural department. The demand for pot-plants and cut-flowers is enormous, and con-

stantly increasing. In these matters M. Maurice de Vilmorin has the opportunity of judging from experience, having visited the States for the first time seventeen years ago, when the taste for horticulture was not so much developed as it is now.

M. de Vilmorin's special report is divided into four sections—Fruit Culture, Vegetable Culture, the Production of Flowers; while the fourth section is devoted to a general summary.

The progress of fruit-culture is attributed in great measure to the activity of the American Pomological Society, and French fruit-preservers have reason to feel some apprehension at the rapid march of the "canning" industry, and of other means of preserving fruit practised in the States. The Americans, moreover, have known how to turn to account their native Blackberries, Cranberries, and Plums (Prunus americana, pumila, hortulana, &c.).

Nine thousand hectares (1 hectare = 2·4 acres) are devoted to Apple culture in the nurseries, each hectare containing, on the average, 37,000 Apple trees, the varieties grown varying according to locality. The drying of the Apples and the manufacture of cider are mentioned, and many details given relating to the industry in particular States, which we can only refer to, in raising Pears, Peaches, Plums, Cherries, are treated in the same manner, and the principal diseases which affect the trees are also mentioned. Much space is devoted to the Grape-vine, and other fruits of less commercial importance are not overlooked. Details are given as to the packing and transport of these fruits from vast distances, so that the subtropical fruits of Florida and the rich supplies from California are distributed in excellent condition, in the speediest manner, throughout all the States of the Union.

M. de Vilmorin deals with all this mass of varied detail in a very masterly way, summarising the principal points very clearly, continually bearing in mind those points in which France may do well to imitate her transatlantic friends, and it is needless to say that many of the hints would be as serviceable to the cultivators of Great Britain, and particularly to those of Greater Britain.

Vegetable culture is dealt with in a similar way. Produce is grown on the large scale, and conveyed by rail to long distances, and other produce is grown as it were at home in the vicinity of the great towns. Hence the difference between what is called truck-farming and market-gardening. Truck-farming, of course, depends for its success on the co-operation of the railway and canal companies. No advantage of soil or climate would avail anything if freights were unreasonably high. On the other hand, great good results to both grower and the carrier, if they can be induced to work together, and the benefit to the consumer is also proportionately enhanced.

In 1890 the value of vegetables after paying freight, commission, &c., was estimated at 382,585,775 francs. Market-gardening is, of course, carried on in a proportionate scale, most of our European vegetables being grown, and recourse being often had to European seed, in order to secure the constancy of particular varieties, which are apt to vary in America in accordance with the differences of climate.

Floriculture and decorative gardening have made and are making great progress near the great cities, but there are still vast areas where the refining influence of flowers has yet to be developed; and in the great cities it is questionable whether in many cases a love of display does not fill the coffers of the florists rather than an appreciation of the flower for the flower's sake. Unfortunately, the same may be said on this side of the Atlantic also.

In 1890 it is estimated that 49,056,000 Rose-trees (Rosiers) were grown in commercial establishments, 38,380,000 hardy trees and shrubs, 152,835,000 plants of other categories, the whole of the estimated value of 60,182,000 francs. Cut-flowers were valued for the same period at 70,876,000 francs (p. 180). The wages and salaries paid to 16,847 men, and 1,958 women, amounted to 42,418,000 francs. Of 4,659 horticultural establishments, 2,795 were established since 1870, and of these 1,797 were set up since 1880. These figures will serve to give some idea of the extent of commercial horticulture in America.

As to steam-heating, M. de Vilmorin tells us that it has some advantages as enabling the grower to meet the sudden and sometimes extreme fluctuations of temperature more readily and quickly than by the use of hot water. For small houses the hot-water system is preferable.

"The rapid progress observable in American horticulture," says M. de Vilmorin, "is attributable to the numerous societies and the exhibitions that are held by them, and to the horticultural press." In addition, the numerous experimental stations scattered all over the country under the auspices of the States government, or of the Universities, contribute very powerfully to the spread of knowledge useful to the cultivator. The Arnold Arboretum, under the superintendence of Professor Sargent, has the largest collections of hardy trees and shrubs in the world. The horticultural press, and the public gardens and cemeteries of the large towns, all come under notice, but it is obvious the subject is too large to be comprised within the assigned limits. Nevertheless, as we have said, M. de Vilmorin contrives to give a living picture of the present condition of horticulture in the States. The general conclusions arrived at by M. de Vilmorin may be summarised as follows:—

Lessons to Agriculturists.

"Horticultural industry is fertile in resources; the older growers will slightly modify the conditions of cultivation, and general cultivators will become specialists. A certain fruit comes from the south-east in great abundance; the grower in the north will devote himself to the culture of some other still finer in quality, and attaining full perfection in a cooler climate. Does some vegetable arrive in abundance from the south? The market-gardener in the north can, in the early spring, obtain it under glass at a higher cost, but of finer and fresher quality, so that he can obtain double price for it. If he prefers not to have a crop from his plants at a date when competition renders prices too low, it is still easy to raise on his land, from hot-beds and frames, a crop of some other plant, the market value of which is not depreciated. If he is obliged to relinquish growing vegetables, he can, with the same materials, force Lilies of the Valley, raise plants for sale in pots—in a word, change completely his plans of cultivation, and find, amid the innumerable horticultural industries, some one branch which can be made remunerative."

Speaking of the modern struggle against foreign competition, the collator of the statistics before us says that:—"Thus, with respect to this same difficulty the horticultural profession is more favourably placed than its elder sister, agriculture; nor is this advantage its only one. Even more than is the case with cultivation of fields, that of gardens, orchards, and flowers, allows the bringing into play of faculties and aptitudes which constitute the elements of success and profit; the spirit, not merely of observation, but of invention, taste, commercial instinct, find frequent opportunities of being exercised, developed, and their employment proves highly remunerative. It may be some new method of budding, grafting, selecting, or crossing of species, which will ensure to the horticulturist the elements of success, sometimes of fortune. . . . .

"Should not the prosperity of American horticulture cause us to think how in almost all our provinces or counties there might be installed, not in place of, but in addition to, agricultural crops, industries connected with horticulture. A small holding, which no longer yields sufficient profits when cultivated with the plough, might often contain some acres suited for vegetable-growing, in addition to those tilled with plough and spade; some acres devoted to the cultivation of cut flowers, one or two large orchards, some fields appropriate for seed-bearing plants or roots, for pricking-out Poplar-cuttings, raising shrubs for forcing, &c."

In the present depressed condition of agriculture, which affects so many interests, the only hope for cultivators lies in forsaking the old time-honoured customs, and employing the same resources and materials upon an industry likely to prove equally interesting, and far more remunerative. For horticultural products there is a large and ever-increasing demand, the prompt supply of which by home-growers may do much to prevent foreign competitors from forestalling them in their own markets.

As regards horticulture as a profitable industry, M. de Vilmorin remarks that:—"On land which scarcely supports one family when cereals are cultivated, two or three can frequently be prosperously maintained by horticulture, and how much better it would be for the physical and moral health of the population to retain around villages and towns, if not in the country, a generation which, finding cultivation on a large scale too unprofitable for the work bestowed on it, should leave the country for the town, and especially for the large cities!"

This state of things is in France already the case in some measure. Around almost every town and village are found the nursery-grounds of enterprising cultivators, who reap considerable pecuniary advantages by supplying fruit, flowers, and vegetables to the neighbouring or more distant markets. The industry is still a comparatively new one, or, rather, it has attained lately to an importance and extent of which our forefathers never dreamt. Agriculture in Britain, we may add, is crippled by severe competition and by the excessive railway tariffs; horticulture, on the other hand, is freer from these restraints, and has still a large and increasingly flourishing future before it.

New or Noteworthy Plants.

PHAIUS ROEBLINGII, *n. sp.*

Of late we have had a great influx of varieties of P. grandifolius and P. Wallichii, and the variation among them has been extraordinary, but still the botanical features have been reconcileable in each case. The specimen sent by C. G. Roebling, Esq., of Trenton, New Jersey, U.S.A., matches nothing known to me in the form of its quaintly-marked labellum and spur. A letter from Mr. H. T. Clinkaberry, the gardener at Trenton, also states that comparison with living specimens and other available material in the United States had shown wide difference, and the conclusion arrived at was that the statement of the collector who sent it from a hitherto unsearched locality in the Khasia Hills that it was new was correct. A flower of a very peculiar form of P. Wallichii from the same locality is sent with the new one, and is useful for comparison. The flower of P. Roeblingii is 5 inches across, the sepals and petals lanceolate, acute; coloured lemon-yellow at the back, and tinged with reddish Indian-yellow on the front, giving the flower the appearance observed in the bronzy-tinted Lælia tenebrosa. The spur of the lip is bright yellow, 1 inch long, but slightly curved and bifurcate at the tip. The side lobes scarcely clip the column, not distinctly convolute as in P. Blumei, Lindl., var. assamicus, Reich. f., which most nearly resembles it, except in the spur, and the front is very distinctly separated from the side lobes. The base of the lip is of a yellow hue streaked with red, and the front white with many clearly-defined bright rose veins. Neither the base of the lip nor the under side of the column is pubescent as in some other species of the same group. It is said to be a very strong grower, the pseudobulbs being 9 inches to 10 inches in height, and the leaves 4 feet long. Actual comparison with P. Wallichii and others proves, according to Mr. Clinkaberry, that flowers of the present species to be much more enduring than the latter. Despite its long journey, the flowers were very fragrant. *James O'Brien.*

MASDEVALLIA MELANOXANTHA
(*Rchb. f.*).

The plant exhibited by Messrs. F. Sander & Co., of St. Albans, at the last meeting of the Orchid Committee of the Royal Horticultural Society, being of special interest, we gladly avail ourselves of the opportunity of illustrating it (fig. 46), for so far as the description given by the late Professor Reichenbach in the *Gardeners' Chronicle*, November 6, 1875, p. 580, it is the dark form of the true plant, whereas, in every previous instance where we have found the name in gardens of late years, it has been applied to M. Mooreana, a totally different species of the M. elephanticeps section.

In the description referred to, it is stated that the type material and other specimens received later proved the species to be very variable in colour and somewhat in form. The specimen flowered by Messrs. F. Sander & Co. was dark brownish-purple and yellow, a very peculiar feature being the deep recess in the upper sepal above the column. The leaves are fleshy and bright green. It is a native of Ocaña.

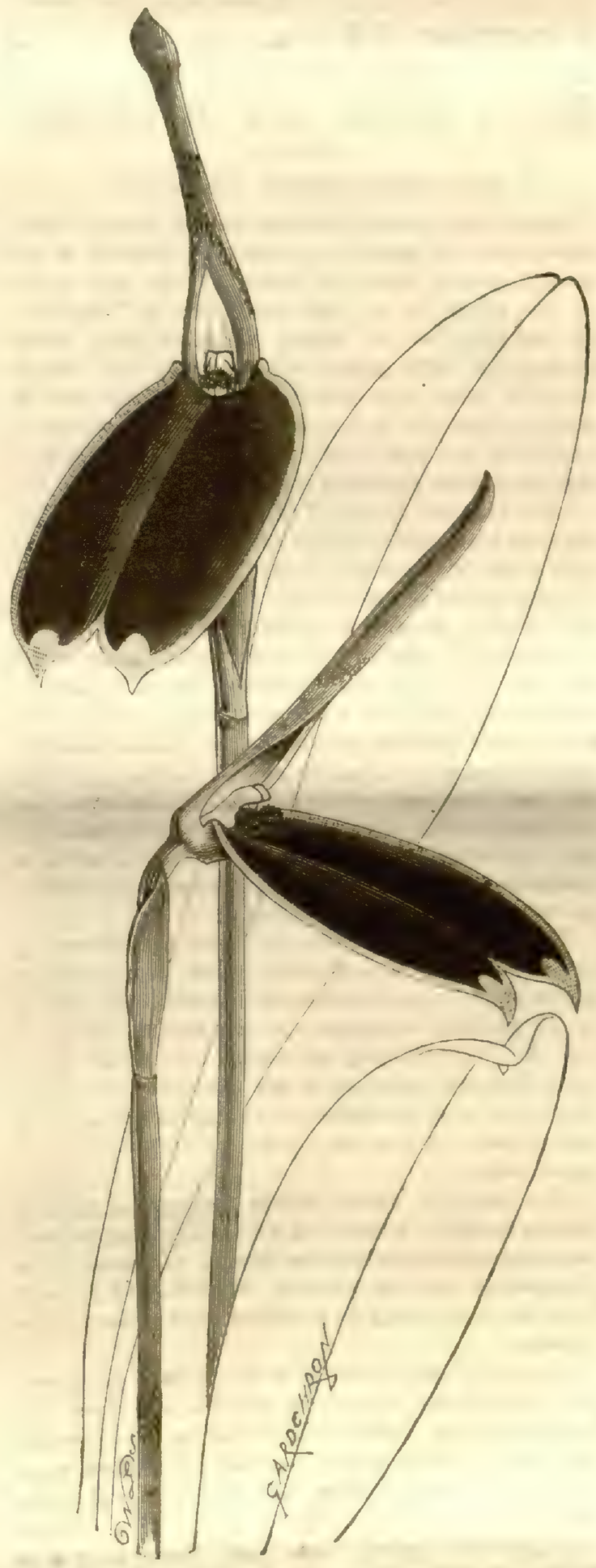

Fig. 46.—Masdevallia melanoxantha: velvety purple, edged with yellow.

The Rosary.

RE-NAMING ROSES.

This is a subject which at this season of the year may fittingly be brought forward, although it may be somewhat of a thorny one. I do not, of course, intend to deal with the vagaries of scientists in this matter, although botanists are as great offenders in this respect as horticulturists, if not greater, and I dread to provoke their ire; but it is trying, after having grown a plant such as Hyacinthus candicans for a good many years, to find that you must alter your label, and call it no longer by that name, as it has developed into a Galtonia. So Spiræa japonica became Hoteia, and for the present remains an Astilbe. And then look at our Lilies. Have we yet arrived at what is the real Lilium japonicum? But I am bound to say that it is not our plants only that suffer; for if anyone will take Mr. Seebohm's charming book on *British Birds*, he will find that even our commonest species have had their names changed over and over again. I have, however, to deal with things on a much lower plane—the results of the interference of the hybridiser.

It is well known that until late years almost the only source from whence we derived our new varieties of Roses was France, and we had to accept with all their absurdities the names which the raisers there chose to put upon them. Here is a delightful example in this direction—"Souvenir des Fiancailles du Prince Rudolf et de la Princesse Stephanie; happily, the Rose never was accepted here, and we have been saved having to abbreviate it in some form or another. As I have said, we had hardly any home-raised Roses until the late Mr. Bennett took the matter up. John Hopper was the only hybrid perpetual that I can call to mind in those days, and old Lacharme could never be persuaded but that he had sent that through some mistake to England; we had beside that the beautiful Tea, Devoniensis, whose origin is still uncertain; hence it came to pass that some of our Rose-growers used to go over to France, and possibly find amongst some of the newly-raised Roses, one whose stock they might be able to purchase, and then send it out with an English name. Of course, they were within their rights in doing this [?], although I cannot but think that the practice was objectionable, and tended to a good deal of confusion, and I know that many French growers thought the same, and complained that France was robbed of her rights; thus I remember once receiving a letter from that kind and intelligent florist, the late M. Jean Sisley, in which he energetically combated the practice, and even went so far as to say that we had no right to change Duc de Wellington to Duke of Wellington. Assuredly, he said, people would believe that this fine Rose had an English and not a French origin—the fact, however, is so general with regard to all kinds of garden productions, it seems to be an accepted fact that if any one in the trade purchases anywhere any production of the hybridiser, be it plant, root, or seed, he may affix to the plant his own name; and an amusing paper appeared some time ago in *Punch*, in which the writer wishing to procure seeds for his villa garden, consults the catalogues which had been sent to him, and finds in every one of them the same varieties, but with the vendor's name prefixed—therefore, I presume, that so well established a practice has commended itself to the trade generally. But it is somewhat odd to find when one is going about the country, a grower who speaks in high terms of some garden production, say he raised it, and that it has been sent out under such and such a name; and I suppose if one were to go amongst foreign raisers of Roses we should be told very much the same thing.

I believe that it is a rule in the committees of the Royal Horticultural Society that when once anything has obtained either a Certificate or Award of Merit under any special name, that name must not be changed, and I do not think the wisdom of this rule can be doubted, as its infringement would tend to confusion and perhaps to dishonesty, and therefore I think that all interested in horticulture are bound to uphold it.

I have been induced to make these observations in consequence of a case which has recently occurred with regard to Roses. In the year 1892 the celebrated raisers of Roses on whom the mantle of Mr. Bennett seems to have fallen, Messrs. Dickson & Sons, of Newtownards, co. Down, Ireland, raised a very beautiful Rose, which was exhibited by them at the Chester show of the National Rose Society, and was awarded that Society's Gold Medal; they had given it the name of Mrs. W. J. Grant, in honour of the wife of one of our most distinguished and successful Rose exhibitors, and, I think, all rosarians were glad to have his name associated with so fine a flower. It so happened that an American firm fell in love with it, and made arrangements for the purchase of the stock, sending it out in America; but they also determined to alter the name, and that which we know as Mrs. W. J. Grant is now sent out as Belle Siebrecht. Now this is a change of front which, I think, all on this side of "the herring pond" ought to resist, and I would appeal to all our nurserymen, that they should be loyal to the National Society, which awarded its Gold Medal to the Rose under its English name. It might be well perhaps to add a note at the foot of the page, that it is the same Rose which has been sent out under its American, or rather, as I should suppose, German name. As owing to the peculiar circumstances under which it has come before the public, and to the fact that its propagation has taken place so far off, we have not had much opportunity of seeing whether its first promise has been maintained, but if so it will be one of the most beautiful of those which have been raised by this firm. *Wild Rose.*

Stocks for the Rosa.

In recent years, many species of Rose have appeared whose seedlings would supply useful Rose stocks. The various experiments made with them are not yet conclusive, and it is still a question whether Rosa uralensis or R. laxa Fœbelli best fulfils the requirements of a good stock. So far, we may point to the true R. canina, L., as the species which forms the finest stems in by far the shortest period of time. He who plants a collection consisting of seedlings of our various species of wild Roses has no results of any consequence to show for his pains. The seeds should be collected solely from the true Dog-rose, and sown by oneself if the best results are to be obtained. Fine strong stems can be grown in three years from the time the seed germinates. The essentials are a loamy soil, trenching that 1½ foot, and strong seedling plants. The methods of culture have been written about often enough. It is probably somewhat different with the above-named species, R. laxa and R. uralensis, when the roots are employed as stocks for Roses; and the more, seeing that no suckers are produced from the roots. It may be scarcely so advisable for gardeners, and those engaged in growing Roses on a large scale, to make experiments in summer grafting, as for Rose amateurs. The writer carried out experiments in 1893 with a variety of Rose roots, including those of the true Rosa polyantha, which he obtained from Berlin under the name of R. multiflora; and on this species various forms of Rosa indica have grown well, and developed magnificent heads. The grafting was performed in July and August on roots taken out of the soil and cut into pieces about 4 inches long, the methods employed being rind, tongue, and cleft grafting. After being grafted, the pieces were potted in small flower-pots, and placed in a hotbed, or planted in a bed of soil in a hotbed-frame, and so deeply that the grafted parts were covered. The frame was kept close, and in a fortnight the grafts began to shoot. *E. M., Rosenzeitung, No. I.*, 1895.

Rose Madame Pierre Cochet.

In the following manner a presumably sober-minded German "lets himself go" in the *Rosenzeitung*, No. 1, 1895, over the pretty new Rose, Madame Pierre Cochet, a tea-scented Noisette:—"I would borrow words to describe her entire delicacy and tenderness, for mine, I fear me, are too coarse and rough. She has so clothed herself in the most glowing, purest golden-yellow tints, that one's eyes are dazzled and one's heart blissfully startled; and out of her chalice pours forth a flood of the most delicious fragrance. She (the Rose) actually turns the brain of a poor amateur; moreover, she heaps up the extravagant abundance of her bloom before the intoxicated eyes of the beholder. But she is and remains an elf, and is no puffy-faced German darling," and so on.

From what the writer says in his calmer moments, we take it that the little elf, Madame Pierre Cochet, is very likely to become a greater favourite with rosarians than the somewhat similar coloured variety, W. A. Richardson. The colour is a little darker, more equally distributed, without the disfiguring bleached appearance common in that variety. The flower is also fuller, has more expression, and remains in the bud state for a longer space of time; it also has great fragrance, which is not to be found in W. A. Richardson. The growth is also more moderate, and evenly distributed over the plant. A good coloured illustration of the variety, as well as Pernet's hybrid Tea, Marquis of Salisbury, is given in the *Rosenzeitung* above mentioned.

Berlin.

ON THE HEREDITY OF MALFORMATIONS OF PINUS SILVESTRIS, L.

In the last issue of the *Journal* of the German Dendrological Society, Mr. M. von Sivers, at Roemershof, near Riga (Livonia), gives some interesting remarks on the heredity of malformations of Pinus silvestris, L., which show that it is absolutely necessary to collect seeds from healthy plants only. He says that it is about twenty-five years since new forests of Pinus silvestris, L., were formed in the district. The seeds were procured from seed merchants in Western Germany, and as good as possible in germinating power and cheapness. But as the young plants grew up, they became crooked; even young plants of about half an inch diameter were already crooked, and of bushy habit. At first the soil was thought to be the cause of this growth; but during the hard winter, 1887–1888, a large plantation of the Pinus, all grown from imported seeds, were frozen. This led to a study of the plantations, and it was found that all plants from the imported seeds grown upon different soils, such as sand, loam, lime, or bog, and whether dry or moist, were crooked, whilst all plants from Livonia seeds were straight. The difference is so evident, that it is easy to see at once whether a plant has been grown from German or Livonian seed. It is a pity that the German seed merchants did not collect the seeds from healthy plants, as there are in Germany so many large forests containing fine straight specimens. Now there is in Livonia a special institution, to grow seeds of straight plants for the Russian foresters.

To these remarks of Mr. von Sivers I add the following:—First, he does not say whether the plants from the German seeds alone froze, or those from the Livonian ones also. It is very curious that the German seedsmen should have collected seeds from distorted plants only. Mr. von Sivers himself says that the seeds were as good as possible as regards germinating and purity. This shows that the German seedsmen spoke the truth. I think that it was not the distorted growth of the mother-plants which caused the crooked offspring, but that it was the relatively mild climate in which the mother-plants grew up. Everyone who has grown plants from different origin knows well that those seeds give the best and strongest plants which are from a severer climate than that in which the young seedlings are cultivated. Certainly there would have been better results if the seeds had come from North-east Germany. This knowledge of the weakness of Western German seeds and plants, compared with those from North-east, is so well known that in Germany no nurseryman would plant in Northern or Eastern Germany plants from the West; whilst, on the contrary, plants of Northern and Eastern Germany are much in demand in the West. It is also very curious that the malformation should have been inherited so exactly that not one specimen of the German seedlings should have grown up straight. The observations of Mr. von Sivers only show that the soil has not had any influence upon the growth of the seedlings. *U. D.*

Orchid Notes and Gleanings.

ODONTOGLOSSUM CRISPUM.

The genus Odontoglossum having proved itself universally the most pre-eminently admired of all Orchid genera, and the above species the queen of the genus, it is high time that a "Manual" be devoted to it alone, that we may know among the 120 named varieties in collections, which is which, and how different to these will be the new ones yet to bloom in so many cases, for it cannot be doubted that "there are as good fish in the sea as were e'er ta'en out."

With this end in view, I have determined to undertake the task, and with the generous support of all who grow this beautiful Orchid, it will be possible. I therefore ask all who bloom grand things they consider worthy, to send me a bloom, and if possible a photograph of the whole spike, *showing the bloom sent me. This is a most important point.* Also if owners will kindly send me blooms and photographs of all their present finest varieties, I shall be then able to complete a most important series of faithful sketches wherewith to illustrate the best of the various sections. Of course, there may be many of the well-known varieties that are not allowed to bloom this year, but if I can have some representation of them, I shall be grateful.

It may interest readers to know my process of sketching, which I invariably follow in all Odontoglossums, so as to get a faithful reproduction, instead of an absolute caricature, as one sees at times. I cut the ovary off, peg the sepals and petals down with pins, and trace round the absolute edge; then the filling in of all marks and details becomes a very easy matter; in this way all blooms are placed on an equal basis.

The financial aspect of the monograph will, of course, need the support of all Orchid-growers, and the more copies printed the less it will cost. The illustrations are the greatest expense, but without them the work would be a useless mass of descriptive details.

Many to whom I have spoken cordially welcomed the idea, and are furnishing me with materials, and I now hope that I shall receive the support needful to complete the book and issue it next autumn, so as to gain the new varieties that may be in store for 1895.

It has been suggested that I add to the above the species odoratum, luteo-purpureum, Lindleyanum, Pescatorei, and all the resultant hybrids (a goodly array for a man to face—and sketch), but if I can get the material, I may be able to do so. *de Barri Crawshay, Rosefield, Sevenoaks, March* 15.

[It is needless to point out the great value for botanical as well as cultural purposes of a series of accurate sketches of the kind mentioned. We hope Mr. Crawshay will not limit himself to fine varieties, but include as many as possible, so as to show the range and the direction of variation. Ed.]

Cattleya Schroderæ alba, Trenton var.

A flower of this superb Cattleya, sent by Mr. H. T. Clinkaberry, gardener to C. G. Roebling, Esq., Trenton, New Jersey, U.S.A., shows it to be one of the very best of the large-flowered white Cattleyas. The pure silvery-white of its sepals and petals contrasts well with the deep orange colour of the tube and front lobe of the lip.

C. S. Roeblingiana

is equally good in size and form; its flowers have the tint of the Peach blossom; a reddish hue overspreads the orange-coloured base of the lip, and the latter is veined with white. A handsome and distinct form of Dendrobium nobile, having, in form and colour much resemblance to D. Wardianum, with the exception of the absence of any yellow colouring on the lip, came with the Cattleyas, but it had suffered in transit.

KEW AND OUR COLONIES.

It is impossible to over estimate the value of the assistance which our colonies receive from the authorities at Kew Gardens. In fact, but for their action in directing attention to the benefits to be derived from the establishment of botanical stations, I doubt whether any of those stations would be in existence at all. Kew, moreover, not only lends her powerful aid in inducing Colonial Governments to introduce such stations, but she also finds curators for them, supplies them with plants, and is always ready to give counsel and advice, from experience collected from all parts of the world, as to the descriptions and methods of cultivation most suitable for the different colonies, and the most approved ways of preparing the various products and putting them into their most marketable shape. The colonies themselves are fully alive to the value of the services that Kew renders to them in the development of their resources, but I doubt whether the important part that she plays in such matters is fully known, or is appreciated as it ought to be. *R. G. C. Hamilton, Report on the Island of Dominica.*

Botanic Stations in the Leeward Islands.

Botanic stations were established in the Leeward Islands in 1889. Of the four stations, Antigua, Dominica, St. Kitts, and Montserrat, the most successful, so far, is undoubtedly that at Dominica. Particulars of this are given in the *Kew Bulletin*, 1893, pp. 148 and 359; 1894, p. 405.

In the Annual Report on the Leeward Islands for 1893, submitted by Sir William Haynes Smith to the Secretary of State for the Colonies (Colonial Reports, Annual, No. 112, 1894), the following particulars are given respecting the work of the stations during that year:—

Antigua.

The work of the Antigua botanical station was carried on actively during the past year. Besides the ordinary sale of plants, a large rockery was added to the station and stocked with valuable succulents from Kew. A series of manurial plots were laid out with different kinds of vegetables, &c. The number of Sisal plants in the nurseries was largely increased.

St. Kitts.

In St. Kitts the work was somewhat interfered with by the change of curator. The many plants put in the grounds are beginning to show. Very large plant sheds were erected and stocked with ornamental and economic plants, and the station, now in its second year, is rapidly assuming shape.

Dominica.

The botanical station in Dominica has proved its usefulness by the very great number of economic plants sold, over 22,000 having been sent out during the year, principally in small lots. This increased demand for plants has taxed the resources of the station to the utmost. An extra grant of £50 has been made for the work of the current year.

Montserrat.

The small botanic garden in Montserrat was slightly enlarged, and new walks and seats were added. The station was without a curator for a good part of the year, and not much progress can be reported. *Kew Bulletin.*

Plant Notes.

THE SCARLET TRUMPET HONEYSUCKLE.

This pretty Honeysuckle, Lonicera sempervirens, a native of North America, is but little known by gardeners, although it has been in cultivation a great number of years—it was cultivated by Tradescant, jun., in 1656—and is a hardy climber, which does so well against a wall in the south and other favoured districts; and where it can be grown against a warm side of a dwelling or garden wall, no garden should be without it—but it flowers best in a greenhouse in this country. It is invaluable when grown under glass for the abundance of its pretty scarlet and yellow blossoms throughout late winter and early spring, which are, besides, valuable for cutting. In a large garden in the neighbourhood of Birmingham, a plant in a greenhouse with a north aspect is now showing a large quantity of flower-buds, some few of which are expanded. It is a wide lean-to house built against a dwelling, in which in the summer Palms and flowering plants are kept, and in the winter Indian Azaleas. In the border and against one of the supporting pillars of the roof a plant of this species was planted some years ago, and trained up under the roof, which it now covers to a considerable extent. In the autumn of each year the straggling shoots are shortened back, when young growths soon form, and the flower-buds duly appear. I have often observed this plant in full beauty, and wondered why it is not more commonly grown in the greenhouse in place of the strong-growing Passion-flowers and Cobœa scandens. The flowers have not the pleasant fragrance of some of the other species. *D.*

GALANTHUS ELWESII Var. UNGUICULATUS.

A reference to the figure of G. Elwesii in our monographic note on Snowdrops, published in our number for February 22, 1879, will show that the variety we now illustrate (fig. 47) differs in the larger size of the flowers, and in the form of the perianth-segments, which are oval and tapering at the base, into a relatively long stalk. The petals have, as usual, a green blotch at the base, as well as at the apex. The variety was exhibited at the last meeting of the Royal Horticultural Society by Messrs. Barr.

THE SEED TRADE.

(Continued from p. 274.)

Here is a table of growths at various temperatures as conducted by one of the American seed-experiment stations (North Carolina), which is useful as showing in a simple form the effect that temperature has upon seeds of varying hardness:—

Description of seed.	Degrees of heat.			
	40°	50°	60°	65°
	Days	Days.	Days.	Days.
Pea appears in	5	3	1¾	1¾
Bean ,, ...	7	6½	4¾	4½
Clover ,, ...	7½	3	1¾	1
Fine Grass ,, ...	9	7¾	4½	3
Rye Grass ,, ...	8	5½	3¾	3
Oats ,, ...	7	3¾	3	2¾
Wheat ,, ...	6	3	2	1¾
Barley ,, ...	6	3	2	1¾

In respect to the growth of seeds in the husk, and the same when taken out the following experiment is interesting:—

No. of seeds.	Days.							
	3	4	6	8	10	12	14	19
100 seeds in husk, per cent.	1	11	34	54	65	73	79	86
100 seeds out of husk ,,	21	41	53	68	77	89	89	90

The age at which seeds lose their germinating powers varies considerably, and the laws of nature have been curiously applied in this respect, for it is well known that seeds of some of the smallest weeds will live for centuries when protected from the elements, whilst the seeds of some of our giant trees must be cared for directly they ripen, or their utility is gone.

Each country seems to employ a testing-pan constructed upon a different plan; the first principles, however, run very much alike in all, the variations being chiefly in the shape; the make used by the British botanists would appear to answer as well as the elaborate arrangements such as are adopted by some of the seed control stations on the Continent;

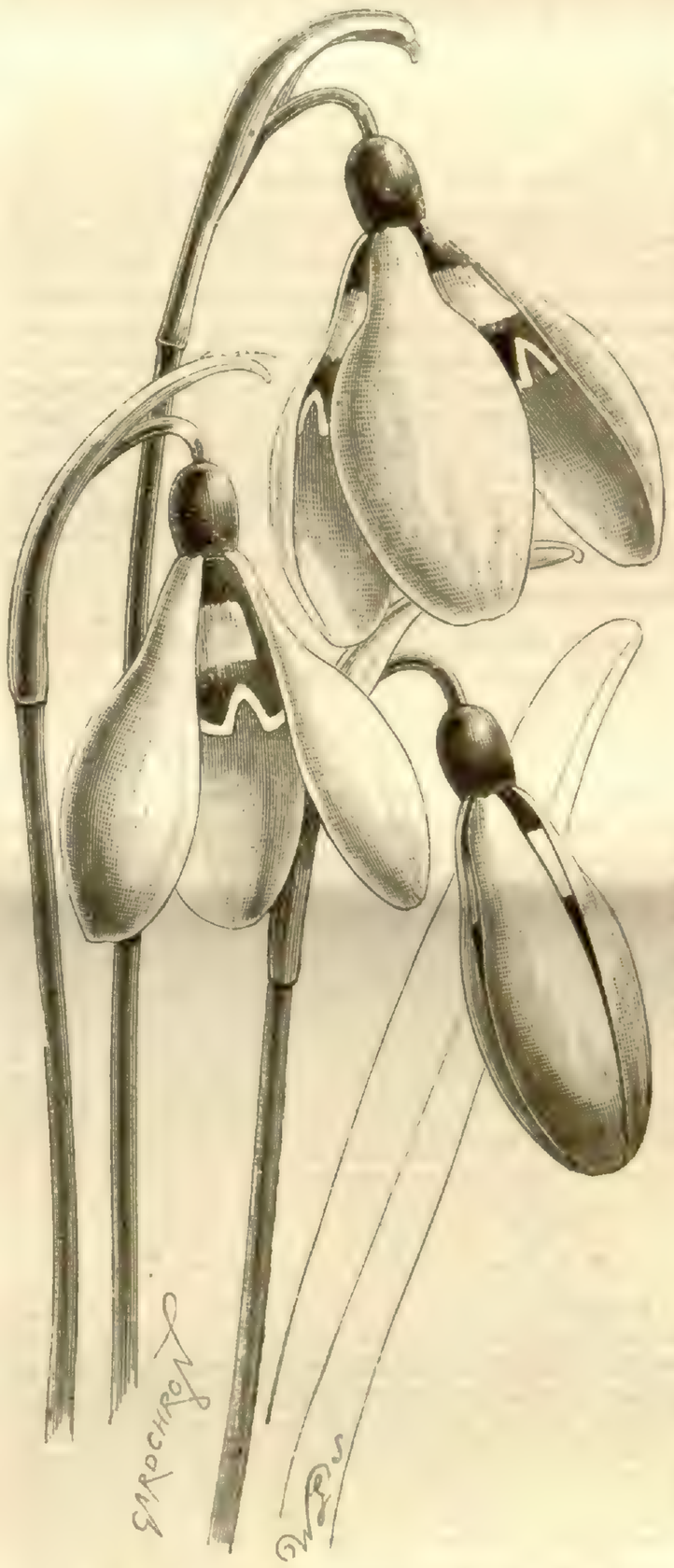

Fig. 47.—Galanthus elwesii unguiculatus.

for after all, this careful nursing is in direct contradiction to the ordinary dictates of nature; and, beyond being a good line for the manufacturers, its use seems extravagant. The pan used in some parts of America, and originally designed, we believe, by the botanist to the North Carolina Agricultural Experiment Station, seems a simple arrangement that should do its work well, whilst the apparatus employed for regulating the temperature need only be of the most simple construction. Some of our own experts have special systems for ascertaining the growths of seeds in a few minutes: thus the botanist of the Highland Society of Scotland has adopted a novel and instructive method, by means of a lantern-slide thrown on a sheet, which magnifies the seed so as to give a good idea almost at sight of those that contain a living germ and those that do not. *Seedsman.*

(To be continued.)

Continental Novelties.

Early Paris French Bean. *Vilm.*

A dwarf but vigorous variety, early and prolific, with straight, very long fleshy pods. The latter are dark green with a few black stripes, which disappear when the Beans are cooked. It is at least ten days earlier than Bagnolet and other approved varieties.

Digoin Dwarf-wax French Bean. *Vilm.*

A dwarf bushy plant, with fleshy thick pods, completely free from parchment. The plant is vigorous and prolific, and withstands heat and drought equally well with wet weather, which few other wax Beans can do. Good for field, as for garden culture, and the pods remain tender and good-flavoured until full grown; a valuable acquisition.

Doub's Yellow Short-horn Carrot. *Vilm.*

A Carrot in the way of the Early Nantes or Carentan; equally thick from top to bottom; of a pretty yellow colour outwardly and inwardly. Much cultivated in Burgundy for cattle-feeding, and as a culinary root; of fine quality, a heavy cropper, and good keeper.

Thick-Stalked Violet Celery. *Vilm.*

This variety was obtained from the much-prized white Pascal Celery, and it is equally good and large. With rather more colour than the violet Celery of Tours, it differs from it by its more compact growth and stronger development. Particularly hardy, its fleshy, tender stalks remain in good condition much longer than early varieties, and it is therefore an excellent winter Celery.

The Herbaceous Border.

CORYDALIS NOBILIS.

For a cool and fairly moist position in sandy loam, or even in a peat and leaf soil in equal parts, this is the most worthy member of this group. It is singularly neat and ornamental in appearance in the early spring-time, when the fresh young leaves show, and later, when the somewhat massive head of bloom appears. When fully grown, the flowering spike attains about 1 foot high; it is rarely more than 15 inches when well established. Afforded a fair amount of moisture, the plant offers no difficulty to the cultivator. In dry soils, the plant is rarely healthy, and is liable to scorch in the summer. In the drier parts of the bog garden, or in a bed more or less devoted to the hardy species of Cypripedium, this beautiful Fumitory would find a congenial home. It is well worthy attention, by reason of the graceful tufts which it forms, and the long time it continues in flower. The blossoms are a golden-yellow, and slightly tipped green when fully open, and they are produced in large numbers. The plant requires careful treatment when attempting to increase it—at least by division of the roots. This is best done just as growth commences in early spring, by carefully shaking or washing away all soil, and inserting the point of a sharp knife into the crown, but not attempting to cut it clean through at one operation; but having made an incision, gently wrench the tuft asunder with the hands. This method is more frequently successful than cutting, on account of the peculiar growth of the root-stock. When divided, plant in their permanent places without delay, they are safer in the ground than in pots. The smaller pieces may be encouraged to root more freely by adding a little sand about them. Water thoroughly if the weather be dry. *J.*

Trillium grandiflorum.

This species far surpasses all other Trilliums in decorative merit, for whatever botanical interest attaches to such species as sessile, pendulum and atro-purpureum, none can equal T. grandiflorum from a garden point of view. The snowy purity of the flowers of this white "Wood Lily," as it is

sometimes called, has no equal among the others. Few plants are so easily grown; indeed, it may be accommodated in almost any garden, and takes readily to almost any kind of soil if it be not of a clayey nature, or cold and retentive. It thrives in loams that are moist, deep and rich—in fact, some of the strongest groups I ever saw were growing in sandy loam. In purely vegetable soils, or such as are largely made up of peat and leaf-soil, it is also at home. Planted in a good depth of this latter, particularly if moisture be abundant, and in a shady dell, the plants will attain to greater luxuriance, than in the ordinary herbaceous border. The plant has an excellent effect when planted as an edging to a bank of Rhododendrons, the soil, moisture, and shade suiting it exactly; and in like manner some large masses of it have a pleasing appearance in the hardy fernery. When once planted and established it may be relied upon to bloom annually. It is impatient of removal, and suffers thereby considerably in vigour and the size of the flowers. Planted in deep soil it may be left alone for a dozen years, merely affording it a heavy mulch of rotten manure yearly. When well-grown the plant attains a height of 20 inches, and the leaves are large and handsome. As generally observed in gardens, it is little more than half this height. There is a variety in nurseries called T. g. præcox, on account of its early flowering, an excellent variety, the flowers being very large, and of the purest white. A dainty gem is the "Painted Wood Lily," T. erythrocarpum, with pure white flowers and a large crimson blotch at the base of each of the segments. It is very similar in its requirements to the subject of this note, and makes a good companion to it. *J.*

The Week's Work.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

ASPARAGUS.—Remove any large lumpy pieces of manure put on last autumn which have not broken up, and lightly fork the beds over, being very careful not to do this deep enough to injure the crowns. If white or blanched sticks are preferred, add from the alleys, or from some other source, light soil, sufficient to make the required depth, but 3 inches of soil above the roots will be enough where it is preferred to expose the "grass" to the sun. The exposed heads have, to my idea the proper flavour. When the top soil is dry enough, rake it over evenly, and make the beds tidy and clean. Just before the "grass" appears, they may be given a dressing of salt or fish manure; the salt will improve the flavour, and also act as a stimulant to growth. Asparagus planted on the single clump or single plant principle should have manure laid around each clump, levelling down or adding soil as may be required; but let the surface be formed so that the rain will not all run off. Preparations should be made by trenching the ground for new beds, or sowing seed to grow roots to be lifted for future forcing. If the soil be poor, work into it a quantity of farmyard manure or sea-weed; and if inclined to be stiff and wet, burnt garden refuse should be liberally used.

ONIONS.—The first opportunity should be taken for sowing the main crop of these outside. Give the ground a good dressing of soot, and a slight one of salt, lightly raking in this with a wooden rake. Sow the seed on the flat, giving them 1 foot between the lines, and aim at sowing the seed so that the young plants will require little if any thinning. If for home consumption only, they are best if not thinned, no check is then given, and sizes for all purposes will be obtained, and small Onions that will keep much better than large ones. Cranston's Excelsior for large Onions, next to the show varieties that are almost too dear to be generally sown outside, will be found one of the best to grow. Brown Globe with us this season has kept quite as well as the old variety, James' Keeping.

ONIONS UNDER GLASS.—The first and other batches of Onions sown indoors as advised, and also of Leeks, will be ready for potting on; this must be done very carefully indeed, to avoid bruising them. Those sown singly in pots may be plunged to the rim in a bed of fermenting material of about 70°, close up to the glass. If heated by pipes so much the better, but avoid a dry temperature, damp them on bright days, and afford a top temperature of about 60°. In potting the Leeks, use soil a little lighter and richer than for Onions.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

FIGS, REMOVING COVERS AND PRUNING.—Winter coverings may now be taken off the Fig trees, but kept handy in case sharp frosty nights should occur. When pruning the Fig, remove all strong watery shoots, unless there are vacant spaces to be covered with wood, when some of them may be retained; but the preference should be given to shoots that are short-jointed and well ripened, as it is from these that the fruit will be obtained. Shoots of this kind should be laid-in at full length, but not so thickly as to cause crowding, air and sunshine being required for the production of short-jointed wood and fruit. The trees which are old are likely to become divested of bearing shoots about the middle, and it is advisable to cut back a few branches here and there, so as to obtain young wood for laying-in. Of the quantity that will be produced, one or two of the strongest and best placed shoots should be retained. If some of these shoots have the points nipped out when five or six leaves have been made, and others are thinly laid-in over the wall, a breastwood of well-ripened short shoots will be secured. It is very important in Fig culture to have a restricted border and firm soil, and if it be of a limey nature and the drainage is good, so much the better. Aged trees, and those existing in borders greatly exhausted of their fertility, are much improved if dressed heavily with dissolved bones (superphosphate of lime), at the present season, lightly pricking it into the soil.

QUEEN WASPS.—A sharp look-out should be kept for queen wasps, now, and during the next month, bearing in mind that each queen caught would have formed a colony. A few wide-necked bottles half-filled with a mixture of sugar and beer, and hung amongst the fruit trees when in blossom, will snare many wasps. They are especially partial to the Gooseberry quarter, and the Peach walls.

TREE ROOTS LOOSENED BY FROSTS, ETC.—Fruit trees planted in the autumn should be looked to, as they will certainly be found to have been loosened by the severe frosts. Make the soil about the roots thoroughly firm by treading it, and mulch with half-rotten stable dung. The quarters occupied by fruit trees and bushes will be benefited by being Dutch-hoed rather deeply, thus destroying the weeds and aërating the soil.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

MASDEVALLIAS.—It is a good time to break up old plants of the Chimæra section, or to afford them more root-room if division be not desirable. These plants should be grown in shallow Teak-wood baskets, and as their singular-looking flowers are produced like those of Stanhopeas—in a downward direction—no crocks ought to be used for drainage. The compost should consist of two-thirds sphagnum-moss to one of fibry-peat, and if a moderate quantity of small crocks are intermixed with it, the whole will be rendered sweet for a length of time. This section of the genus should now be placed in a cool shady position in the intermediate-house; but during the summer months a cooler temperature than this house affords is best for them. The same directions will apply to M. tovarensis, a species that is well worthy of attention, its pure white flowers, which are produced at mid-winter, being especially admired at that season. The plant is now commencing to grow, and should, therefore, be repotted if that be necessary. The pots or pans used for it should receive clean crocks to within 1 inch of the rim, and over these a thin layer of sphagnum-moss should be spread, and the same kind of material as that advised for M. Chimæra should be used to complete the filling. Masdevallias having been repotted, must be carefully watered till re-established, that is, the water must be just sufficient for their needs and no more, or the old leaves will fall a prey to damp. As the plants are apt to be infested with insects, the leaves should be sponged occasionally. Masdevallia ignea and other species now sending up their flower-spikes should have these guided up amongst the leathery foliage, or the weight of the leaves may cripple them. Such dwarf-growing species as M. Arminii, M. hieroglyphica, M. Shuttleworthii, M. Geleniana ×, if cultivated in pots, and placed upon the stage, should be suspended close to the roof-glass when showing their flower-spikes, where, if the plants are in health, they will be covered in a few weeks with flowers.

HABENARIAS.—Some cultivators of Orchids are under the impression that these beautiful terrestrial Orchids are difficult to manage, which is really not the case; and I hope that more interest in these plants will be awakened, and their cultivators increase in numbers. When a knowledge of the requirements of Habenaria is mastered, they may be rendered extremely effective, as was well exemplified by the specimens exhibited last year at the Royal Horticultural Society's meeting. There are, at the least, four fine distinct varieties which are worth adding to any collection, viz., the brilliant scarlet H. militaris, H. carnea, which has large flowers of a delicate flesh-pink colour; H. carnea nivosa, having flowers equalling the last in size, and of pure white; and the fine old H. Susannæ, with large white flowers and a lip that is beautifully fringed. These deciduous species, providing their wants have been properly attended to during the resting season, will now be starting to grow, and the tubers should be turned out of their pots, and have the old soil removed forthwith. In doing this, the original tuber will be found to have decayed, which, in my opinion, is quite natural to the plant, and one or more tubers will be found clinging firmly to the sides of the pots, or among the crocks. These should be gently detached, and repotted singly in long thumbs, which allow of the employment of a greater depth of drainage than ordinary flower-pots, and into which the new tubers find their way. The tubers seem to be safer when down amongst the crocks during the resting period, than in the compost. By this method, other cultural conditions being favourable, Habenarias will increase and multiply freely. Supposing the tubers to be from 2 to 3 inches in length, and the pots about 4 inches in depth, a piece of crock should be placed over the hole at the bottom, with the base of the tuber resting upon it, and the top of the same just below the rim; then fill up around the tuber with clean crocks to within 1 inch of the top, and over these place a thin layer of sphagnum moss, and fill up with the following compost, which should just cover the top of the tuber:—One-half good fibrous peat and loam, and one-half finely-chopped sphagnum moss, some finely-broken crocks, nothing being larger than a Pea, and a sprinkling of coarse silver-sand, the whole being well mixed together. The potting should be done moderately firmly, and when completed, the first three mentioned varieties should be placed on the shady side of the East Indian-house or plant-stove, where the temperature is high, and the air moist, the position afforded them being one as near the glass as possible. This is very important, as if placed upon an ordinary stage away from the glass, the stems become drawn, and the flower-spikes weak. It should be observed that till the new growths have fairly started, the compost must be merely sprinkled with a fine-rose watering-can, the quantity of water being gradually increased; and when in vigorous growth, Habenarias may have an almost unlimited quantity. During bright summer weather, the plants must have shade afforded them; and by well syringing the under parts of the foliage the increase of insect pests may be kept in check. As regards H. Susannæ, it is an inhabitant of a cooler region than the others, and should be cultivated in a temperature similar to that of the Cattleya-house.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

EARLY-FLOWERING CHRYSANTHEMUMS.—These varieties are very satisfactory plants for bedding purposes. Cuttings will now strike freely, and old plants that have been flowered in pots should be protected from frosts until the middle of May, then planted out in beds or mixed borders. The late severe weather has injured those left in the herbaceous borders, and they cannot be depended on to make a show this year. Good varieties are Madame C. Desgranges, Golden Madame C. Desgranges, Anastasia, Alice Butcher, Baron Viellard, Blushing Bride, Canary, Fred. Pele, Harvest Queen, Golden Shah, Hermione, Illustration, Jardin des Plantes, Mrs. Cullingford, Lucinda,

Précocité, Oldfield Bedder, Percy's Seedling, Rollin Thatcher, St. Mary, Scarlet Gem, White St. Crouts, and Zenobie.

PENTSTEMONS.—These beautiful free-flowering plants are most useful for bedding, or for planting in mixed borders in sheltered situations. They will stand an average winter, but not one like the past has been. Seedling plants are very useful for mixed borders, and the flowers valuable for cutting purposes. Good varieties should be selected from these, and propagated by means of cuttings (as Calceolarias) in pots and frames; and they should have abundance of air and be protected from frosts and wet. They may be planted out in April.

PRUNING ROSES.—The pillar, wall, and climbing Roses should now have their shoots thinned out, the remainder pruned well-in, and generally put in order for the season. The frost has done much harm to even such hardy varieties as Gloire de Dijon; and in this district H.P.'s were mostly killed down to the snow-line, so that the pruning of these will simply be a matter of cutting down to the sound wood. Where well mulched, and covered deeply with snow, many of the shoots near the ground are sound, and these will quickly move when warm weather arrives. The pruning of H.P.'s in exposed situations should be postponed to the middle of next month. Many standard Roses are killed, but where there are signs of life in standards, they should be left for a time. This last is the most unsatisfactory method of growing Roses, entailing, as it does, a great amount of labour, and often with no results worth mentioning. When the pruning of the plants is finished, the beds and borders should be lightly pricked over with a fork, turning in as much rotten manure as possible, and heavily mulching afterwards with short dung from the stable and cow-shed. Peat-moss, when used for bedding cattle, makes an excellent mulch, and it does not look untidy.

ROSE STOCKS.—Dog-rose stems for budding purposes, if taken from the hedgerows, &c., should be well root-pruned, and the tops cut to the required length, planting them soon afterwards in a place convenient for working. The disbudding of Briar stocks should be gradually done, three strong shoots only being retained near the top, and these at about equal distance from each other.

PRUNING AND PLANTING OF HARDY CLIMBING PLANTS.—Clematises of the patens and florida type are good subjects for warm walls and sheltered situations. This type includes C. Sieboldi, C. calycina, &c., and the strong one-year-old wood should be trained in so far as it is thoroughly ripened, beyond which it may be cut off, weaker and straggling or over-crowded shoots being alone cut away. Clematises of the lanuginosa type require but a slight amount of pruning, and as the shoots die back considerably, not much is needed; merely remove unripened extremities, and shoots not needed. Clematis of viticella and Jackmani types flower on the summer wood, and require severe pruning to develop vigorous young shoots; and the pruning is best done in November, or, if late bloom be required, March and April are good months for pruning them. When planting these beautiful summer-flowering plants, afford them some fresh light loam, a liberal quantity of rotten manure. and a deeply worked soil; and mulch them in summer with rotten manure. Good varieties of the last-named type are all the Jackman family, Ascotensis, Beauty of Worcester, Duchess of Edinburgh, rubra violacea, Fair Rosamond, and Madame Baron Viellard. The varieties Fairy Queen, Lady Caroline Neville, and Madame van Houtte belonging to the lanuginosa hybrid class are excellent hardy climbers, as are also C. flammula, sweet-scented; and C. virginiana, a strong-growing, North American species, also fragrant. Ampelopsis hederacea requires to be well pruned back to the wall or pillar after the foliage is off in the autumn, but it may now be pruned. It makes strong heavy shoots, and requires to be well secured to its supports. A. Veitchii and A. Veitchii purpurea, good clinging varieties, are very beautiful for south or west walls; also A. japonica which clings well to walls, should now be pruned. The evergreen variety, A. sempervirens, clings well, and is a very interesting plant. Aristolochia sipho does well against wall or on rockwork, and its large green handsome foliage is very striking. For bright colour in the spring months the species of Pyrus should be planted, viz, P. japonica, the Japan Quince; P. j. alba, P. j. Moerlooesi, P. j. rosea, P. Mauleii, P. M. superba; also Wistaria sinensis and W. s. alba. These last should find a place against a south wall, and the leading shoots be kept well trained-in during the growing season, and the front shoots spurred-in in winter or early spring. Loniceras should be well pruned back before the spring growth pushes forth; and new beds should be made at this season of the year of deciduous species and varieties, viz., L. Early Dutch, L. Early White, L. fragrantissima, L. serotina, L. Periclymenum, and L. Sullivantii. For rustic work, plant the Mountain Bramble, Rubus fruticosus albens and R. f. roseus, and the evergreen species L. flexuosa, L. Halleana, L. sempervirens. Chimonanthus fragrans and C. grandiflorus should now be planted on a south aspect. Jasmins should now be cut hard back, and weak shoots thinned out, the plants being made secure by ties, &c. When very heavy the growth should be cut right back. The winter-flowering J. nudiflorum requires to have its shoots well thinned out, and being a strong grower, it looks better when the shoots are kept few in number. Jasminum revolutum, J. Wallichianum, with yellow flowers and bright green leaves, require a warm sheltered situation and moderate pruning only.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

PEACHES AND NECTARINES.—The recent bright weather has brought the fruit on quickly in the early house, and in a few days stoning will commence. This is a critical period with early-forced trees, but if the roots are in a healthy condition and they receive a soaking of tepid water now, and a regular temperature be maintained in the house, there need be no fear of the fruit dropping. For about a fortnight or three weeks the fruit will cease to swell, and during that time 60° at night will be sufficient. When stoning is completed, if the border be mulched with cow-manure, and well watered, and extra heat applied, the crop will swell rapidly. Syringe the foliage freely twice daily during bright weather, commencing earlier in the mornings as the sun gains in power, and put a little top ventilation on half an hour afterwards, increasing it gradually as the sun warms the house, at the same time reducing the heat in the pipes. Fumigate the house occasionally on a mild night if green-fly appears, but see that the foliage is dry, or it may be damaged by the fumes of the tobacco. Pick off curled leaves, and dust affected parts with tobacco-powder, or syringe with soft-soap and water. Trees on which the blooms are set may be syringed, and the atmosphere kept moist. A little extra heat may be given at night, but not to exceed 60°. Close the ventilators early in the afternoon with plenty of moisture. Trees coming into flower should be afforded all the air possible in fine weather, closing the ventilators at night in case of frost. It will not be necessary now to fertilise the flowers where bees abound. Inside borders should receive a thorough soaking once in ten days or a fortnight.

PINES.—The early Queens having thrown their fruit well up, will require more water at the roots, and the atmosphere of the house should be kept charged with moisture during the whole time the fruit is swelling. A little fresh air admitted at the top of the house will be beneficial when the thermometer reaches 75°, closing early to raise the temperature to 85° with sun-heat, letting the night temperature range about 70°. Syringe between the plants several times a day, but not overhead. A slight shade at midday will be necessary as the sun-heat increases, and for this there is nothing better than a Strawberry-net placed loosely over the roof-glass. Young plants recently potted on should have a moist-growing atmosphere, and the plants be dewed overhead on bright afternoons. Shade and ventilation as advised above may be afforded these also. As the roots take to the new soil, clear tepid water may be applied when the soil becomes dry, but if the fermenting material be kept moist, it may be some time before more moisture than is contained in the soil will be necessary. Keep the bottom-heat as near as possible at 80°.

FIGS.—As the fruit on the early-forced trees approaches maturity, a slightly dryer atmosphere must be maintained, or mildew may develop at the eye of the fruit before it is ripe enough to gather. Increase the ventilation on bright days, and leave a little on at night if the weather be favourable. Continue to regularly supply the roots with weak stimulants, or the later fruit will suffer. A slight syringing will be necessary to check red-spider, but this should be done early. The night temperature may range from 60° to 65°, gradually affording ventilation during the day as the thermometer rises above 70°. Continue to stop the shoots on later trees at the third or fourth leaf. Apply plenty of liquid manure-water at the root, and syringe the trees freely, and also keep the borders, walls, and paths moist. Avoid growing Strawberries or French Beans in the same house, as these tend to the increase of red-spider, and to guard further against this pest, manure-water may be used to damp the paths, &c., at night when the house is closed.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

GENERAL WORK IN THE STOVE.—Seedling Begonias now ready should be pricked off into pots or pans filled with sifted soil of a light kind. The seedlings must be carefully lifted from the seed-pans with a sharp-pointed dibber, not disturbing others, which may remain a longer time where they are. The pricked-off plants should stand about an inch apart, and when a pan is finished a small quantity of sand should be sprinkled over the top of it, and warm water afforded with a fine rose-can, and shaded. The same kind of treatment is suited to Gloxinias, Streptocarpus, and many other very small seedling plants. The pans should be kept in a warm house, near the glass.

CELOSIAS AND COCKSCOMBS may now be potted into small flower-pots, placed on a shelf close to the glass, and shaded for a few days. Grevillea robusta and others should be potted singly into small pots, and when well-rooted, taken to the cooler temperature of a greenhouse. Plants of Stephanotis floribunda have commenced to grow anew, and should have their shoots tied in, and be well syringed night and morning. Allamandas, when their pots become filled with roots, will require top-dressings of Clay's Fertiliser, or some other approved manure. The blinds on the stove should now be fixed in position, but they will not be required for a longer period than two hours in the middle of bright sunny days.

THE FERNERY.—Ferns now starting to grow must have plenty of water afforded at the roots, and a moist air maintained about them, which is best created by throwing water about the paths and other surfaces, and syringing the sides of the pots two or three times a day. On bright genial days a light dewing overhead is beneficial to Ferns at this season. Any Ferns that were not re-potted should be placed by themselves, as they will require much more water at the root than those that were re-potted, and weak manure-water; or an occasional sprinkling over the surface of the soil with some kind of fertiliser may also be afforded at intervals, always using a rose water-can after this is done. The blinds should now be fixed in place, letting them down over the plants when the sun is bright. Ferns do not like direct sunshine, but they should have plenty of light all the same, as this helps to strengthen the frond. A sharp look-out should be kept for slugs, whose tracks may readily be seen, and the slugs will be sure to be found if the plants are looked over the last thing at night. If thrips or green-fly appear, a very light fumigation with tobacco-paper or "Richard's Compound" (the latter is by far the safest) will settle them. The Filmy Ferns require but little heat, but plenty of moisture; doing best when grown under bell-glasses or in glass cases; they must always be kept shaded. A temperature of 55° will be found most suitable for nearly all of the Filmies. Todea superba is a species that does well if placed under a north wall outside during the hottest part of the summer, of course keeping it in the case in which it is grown. The plants should never be watered overhead, but kept moist by sprinkling the ashes on which the pans or pots stand three or four times a day with a rose-can.

Spiræa hypericifolia, *L.*; vern. "*Saber*" (Baltistán), "*tabalgol*" (Astor district).—Although not included in the *Flora of British India*, the economic value of this shrub as yielding excellent material for small walking-sticks has long been known to sportsmen in Baltistán, whose shikaris never fail to collect a supply. My friend, Captain Hunter-Weston, brought back flowering specimens collected in Baltistán in 1890, by means of which the plant was identified. I have since collected it on the Kájnág range, in the Satpur valley above Skárdu, in the Ditchell valley above Gudhai, and more recently in the Burzil valley, near Bangla. The wood is very hard, with smooth reddish-brown persistent bark. *J. F. Duthie, Report on a Botanical Tour in Kashmir*, 1893.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

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APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	March 26	Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

SHOW.

TUESDAY,	March 26	Brighton and Sussex New Horticultural Soc. Spring Show (2 days).

SALES.

MONDAY,	Mar. 25	Lilies, Palms, Begonias, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	Mar. 26	Established Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	Mar. 27	Important Consignments of Lilies from Japan, Plants from Belgium, and Palm Seeds, also Roses, Fruit Trees, Tuberoses, &c., at Protheroe & Morris' Rooms.
THURSDAY,	Mar. 28	Unreserved Sale of the Live and Dead Stock, at the Hook Hill Nurseries, Woking, *re* W. Jackman deceased, by Protheroe & Morris.
FRIDAY,	Mar. 29	Orchids from Messrs. H. Low & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.4.

Botanical Nomenclature.

Amid all the vagaries of recent would-be reformers, in the difficult task of laying a firm foundation for naming plants, it is refreshing to read the declaration of the commission on this subject, appointed by the International Botanical Congress that met at Genoa in 1892. It appeared in the January number of the *Oesterreichische Botanische Zeitung*, and has also been widely distributed in a separate form. This document is an admirable specimen of brevity and conciseness, the whole occupying less than eight pages; and if it is somewhat less conservative than the utterances on the subject that have emanated from Kew, and from ourselves, the points of disagreement are practically unimportant. Briefly, the suggestions put forward are as follows:—

1. The rule that a name once employed, and subsequently rendered invalid, should not be used again, is recommended for future observance; but a retrospective application of the dictum, "once a synonym, always a synonym," is rejected as leading to a vicious alteration of names.

2. In transferring a species from one genus to another, the original specific name is, as a rule, to be retained.

3. The year 1753 to be the starting-point in priority both for genera and species.

4. In the naming of species, the principle of priority is to be maintained, save that a good name is not to be displaced by a doubtful one.

5. In naming genera, a name that has been in oblivion for at least fifty years shall not be revived to replace a current name.

6. But this rule is subject to the exception that where such name has been in use for at least fifty years since its revival, it shall remain in use.

It should be explained that the foregoing are rather propositions than resolutions, open to discussion before final adoption; and they are, on the whole, so reasonable and practicable, that we should be glad to see the leading botanists of this country support them, not alone in practice, as they actually do, but by making known their adhesion to some such rules.

The second proposition is the one that will doubtless encounter the greatest opposition in this country, because in its present form it makes no distinction between the botanists, say, who regard Batrachium and Ranunculus as distinct genera, and the botanist who, by mistake, or sheer ignorance, places a true Ranunculus in Anemone. To give an instance of what we mean, the late Dr. Hance described a Chinese plant under the name of Hedyotis longidens. Some years later the same plant came under the notice of Professor Oliver, and he, we presume, without any knowledge of what Dr. Hance had done, published the plant as Wendlandia Henryi. Now these genera belong to different tribes of the Rubiaceæ. When Mr. Hemsley came to deal with these plants in his *Enumeration of Chinese Plants*, he discovered that they were the same, and accordingly cited the first name as a synonym of the second; but had he followed the rule of priority in specific names, he would have called the plant Wendlandia longidens, Hemsl., thus adding unnecessarily to the synonymy, and ignoring the claims of the botanist who first correctly determined the genus of the plant in question. Of course, we are assuming that Oliver was right, and Hance wrong, as to the genus; it is not a matter of opinion in this instance.

Greengrocers' Grievances.

Some bitter complaints have been set forth by London suburban greengrocers as to the sad effects upon their trade exercised by the competition of the various great metropolitan "Stores," which, to quote a complaining "grocer," are "everywhere with everything"—which cannot be said to characterise the operations of the affected salesmen. Dealing with the "Stores" is a very simple matter. Residents in the suburbs having connections with these places of business have only to select from the list, make up their orders, enclose a cheque or P.O., and—presto!—in a short time the goods are at the door—of the best quality at the prices, but this possibly not the lowest quotations in the open market. Again, the greengrocers' way of doing business does not appear to be always the best, for a comparison of prices made by the writer at various shops in an extensive suburb showed that what was charged 1*d.* in one street was charged 2*d.* for in a street not very far away; this wide divergence was most noticeable in Oranges, Apples, Sprouts, Potatos, Grapes, Seakale, and other vegetables; the difference in price was enough to provoke a laugh—when the explanation by the vendor was added: "There's a terrible competition in these goods—and the 'Stores' has nearly a monopoly." This, of course, is just so much nonsense. We noticed in one instance that where the "Stores" cleared £1 on a delivered ton of Potatos the greengrocer was clearing thrice that money. This is on one side; there is no doubt that there are grievances affecting the suburban tradesman, but it is possible for him to alter and improve his position. Combination or co-operation should be at once started, and where possible adopted as the guiding principle. In the *Directory* are to be found the names of all greengrocers; let a few on either side of the Thames lay their heads together, and draw up a plan, call all the rest into conclave, and then, by the aid of the *Six Home Counties Directory*, call on growers for market to give them their help or advice, which would gladly be vouchsafed, for they could see their way to planting dozen of "pitches," instead of seeking the limited number of metropolitan markets, to which "pitches" the vendors could easily find their way at the least possible expense of time and horseflesh. The County Council would doubtless be glad to help here; it would be the commencement of the realisation of their great scheme for market extension, in which the convenience and profit of all concerned are the first considerations. The "Stores" could have no reason to complain; certainly, their customers would have the advantage of contiguity of markets, freshness of goods, and possibly lowering of rates. We recommend this rough outline of a scheme for "betterment," in the belief that all concerned—grower, vendor, and purchaser—would find profit in it.

Eucharis Stevensi ×.—This hybrid was raised by Mr. Stevens, of Walton Grange, Stone, Staffordshire, from E. candida, by pollen of E. Sanderi, and was originally described in our columns by Mr. N. E. Brown, May 24, 1890. The perianth segments are broader and the tube longer than in E. candida. The corona is about half the length of that species. The leaf characters are those of E. Sanderi. It is stated to be very free flowering. The plant was raised in 1883, and sent to the Royal Horticultural Society, where it was then considered to be the same as E. Mastersii, from which, however, it differs. It is said to have the great advantage of not being subject to the attack of mealy-bug—an advantage indeed. Our illustration (fig. 48) was taken from some specimens exhibited at the last meeting of the Royal Horticultural Society by Mr. Blair, of Trentham.

Royal Horticultural Society.—At the next meeting of the Royal Horticultural Society, which will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, March 26, Mr. T. H. Crasp will read a paper on "Lifting Large Trees and Shrubs," at 3 P.M. The vacancy caused on the fruit committee by the lamented death of Mr. Geo. Taber, has been filled by Mr. Iggulden's appointment by the Council. The vegetable show has now been definitely fixed for Sept. 10 (instead of Oct. 15), and will be held at Chiswick Gardens, instead of in the Drill Hall, as stated in the Society's "arrangements" for the year. The show at the Drill Hall, therefore, on Oct. 15, will be an ordinary fortnightly meeting.

The National Rose Society.—The hon. secretaries of the National Rose Society desire us to announce the following list of special prizes, which have been placed at the disposal of the committee for the present year: For competition at the Rose show at Gloucester, the High Sheriff of Gloucestershire presents a Silver Cup of the value of 5 guineas. In local classes, Messrs. J. Jefferies & Sons, nurserymen, Royal Nurseries, Cirencester, present a Silver Cup; the Rev. F. R. Burnside, a Silver Challenge Cup; the Mayor and Corporation of Gloucester, likewise a Silver Cup. The English Fruit and Rose Company will offer prizes for Moss, Garden and single varieties of Roses; moreover, money prizes and medals will be offered by Rev. B. S. Dawson, Messrs. J. Jefferies & Son, Mr. Conway Jones, Mrs. Gambier Parry, Mr. T. Thorpe, Mr. W. J. Johnstone Vaughan, Mr. T. A. Washbourne, Messrs. J. C. Wheeler & Son, Kingsholm Nursery, Gloucester; and Captain de Winton,

All the other prizes in the numerous local classes are provided by the Gloucestershire Rose Society. At the show to be held at the Crystal Palace, Sydenham, Messrs. Harkness & Sons, The Grange Nurseries, Bedale, Yorks, offer a Challenge Cup of the value of 25 guineas; the Right Hon. Lord Penzance, a Silver Cup of the value of 5 guineas; Pemberton, and Mr. C. E. Shea. At Derby, the Right Hon. Sir Wm. Vernon Harcourt, M.P., will offer a Silver Cup of the value of £10; the Royal Crown Derby Porcelain Co., Ltd., a Crown Derby Vase valued at 5 guineas; the Mayor of Derby, a piece of Plate of the value of 3 guineas, and a money prize by Sir Thomas Roe, M.P.

Walker, Harry Turner, Laing, and others. The discussion was opened by Mr. H. Briscoe Ironside with an interesting paper on the "Vegetation of the Italian Lakes, especially that of Lago Maggiore." In the conversation which followed most of the members present joined; and a cordial vote of thanks was accorded to Mr. Briscoe Ironside for the paper.

Fig. 48.—Eucharis stevensi ×. (see p. 364)

Mr. Frank Cant, Braiswick Nurseries, Colchester, a Special Prize of the value of £5; The Hon. Mrs. J. Townshend Boscawen, a Piece of Plate of the value of 3 guineas; Mr. E. Mawley, a Piece of Plate of the value of 2 guineas; besides money prizes by the Rev. W. J. Mellor, Mr. O. G. Orpen, Messrs. Paul & Son, The Old Nurseries, Cheshunt, Herts; the Rev. J. H.

Horticultural Club.—The usual monthly dinner and conversazione of the Horticultural Club took place on Tuesday the 12th inst., at their rooms, Hotel Windsor, Victoria Street, S.W. The chair was occupied by Mr. C. E. Shea, and there was a good attendance of members, there being present the Rev. W. Wilks, Messrs. Cockett, H. J. Pearson, Selfe-Leonard, C. E. Pearson, H. Briscoe Ironside,

Irish Gardeners' Association.—On the 15th inst. a meeting was held in Dublin for the purpose of inaugurating a society to be known as the Irish Gardeners' Association. The promoters described the objects of the association as being to bring about a closer bond of union between gardeners, by the holding of periodical meetings, when lectures and essays by experienced members would

be heard and discussed. It was not intended to hold horticultural shows, and there was no antagonism intended towards the Royal Horticultural Society of Ireland. Several speakers complained, however, that the Royal Society was not doing all it might do in merely holding exhibitions and ignoring the usefulness of lectures and conferences. The exhibitions, too, were held at times inconvenient to the commercial classes in Dublin. After letters had been read approving the objects of the association, the following officers were elected:—President, Mr. W. J. Watkins; Vice-presidents, Mr. Ramsay and Mr. Todd; joint secretaries, Mr. Shaw and Mr. Russell; and the following committee: Messrs. Jno. Gough, Henry Crawford, James Colgan, Thomas Gough, R. McCraw, Donald McKinnon, and Robert Singleton.

The Swiss National Exhibition.—We have been requested by our valued correspondent, M. Marc Micheli, the President of Group 40 of the Exposition Nationale Suisse, Geneva, 1896, to publish the following announcement. The Geneva Horticultural Society, in accordance with the terms of endowment made by M. Marc Estalla in 1893, proposes to institute, in connection with the Swiss National Exhibition for 1896, an international competition under the following conditions:—1st. A prize consisting of a Gold Medal of the value of 300 francs (£12), and of 900 francs (£36) in cash, will be awarded to the finest collection of flowering plants, including species recently introduced into Europe. 2nd. The plants must have been for at least one year in the possession of the exhibitor, and cultivated in his establishment. A formal declaration to that effect must be signed by the exhibitor, 3rd. The Estalla prize will be awarded by a special jury, nominated by the Geneva Société d'Horticulture, and approved by the authorities of the Exposition Nationale Suisse. 4th. The competition will form part of the temporary horticultural exhibition to be held in Geneva in May, 1896. 5th. Nurserymen or amateurs who desire to take part in the competition should apply to M. Micheli, *Honorary President of the Society*, and *President of the Horticultural Section of the 1896 Exhibition*, before September 1, 1895, mentioning the nature of the proposed exhibit, as well as the approximate space required for its display, either under glass, in a tent, or in the open air.

Mr. Martin Hope Sutton.—To very few is it permitted, after an active and successful business career, and a life spent in works of usefulness, social, philanthropic and religious, to enter the threshold of fourscore years. An honoured resident of Reading—Mr. M. H. Sutton—lived to attain his eightieth birthday on March 14, and the pleasurable occasion was on Thursday last duly observed. Mr. Sutton received over one hundred letters and telegrams, besides a great number of congratulatory visits from friends in Reading. Addresses were also presented, amongst others, by the Church of England Y.M.C.A.; the Reading and District Gardeners' Mutual Improvement Association, and by the chiefs of departments of the Royal Seed Establishment, from which business he retired in 1888, after being head partner for more than fifty years, leaving it in the hands of the present firm, consisting of his eldest son, Mr. Martin J. Sutton, who has been managing partner for the past twenty-four years, with two other sons, Mr. A. W. Sutton and Mr. Leonard Sutton, and his nephew, Mr. Herbert Sutton. The heartfelt congratulations which Mr. Sutton received on the anniversary will be echoed far and wide, together with the wish that his life may still longer be spared to his family and friends.

Canker of the Apple.—According to Kirschner, there is a fungus canker and a frost canker. The first is caused by Nectria ditissima, and is distinguished by the appearance, usually in September and October, of small red warts—the fruit of the fungus, at the margin of the affected parts. Frost canker is due to the death of a shoot from frost, and usually appears as a closed wound, or when it is open it shows cankered margins, which in consequence of repeated severe frost continue to die back.

Flowers in Season.—We have received a few blooms of Messrs. B. S. Williams' Primula sinensis in four varieties, namely, their Giant Red, a bold dark crimson flower, with fringed but flat segments; a blue variety, or shall we say rather, violet, the tint a pleasing one; and alba magnifica, a massive pale pink bloom with yellow and green eye, and of wavy outline. Meteor is a medium-sized dark crimson, with a smallish eye. The varieties of this species of Primula are almost innumerable, and so well rewarded have the labours of the raisers of new varieties been, that really ill-shapen or poorly-coloured varieties are seldom met with.

The Vegetable Show at Chiswick.—We are delighted to hear that the Council of the Royal Horticultural Society has determined to hold a great vegetable show at Chiswick in September. Subject, locality, and time are all propitious if only the weather will be kind, as on the doctrine of chances it ought to be. We have no doubt the gardeners will respond and make a fine display as to quality. Quantity is of minor importance as compared with merit and novelty. We earnestly hope also that new vegetables—not new varieties of old ones differing as little from one another as tweedle-dee from tweedle-dum—will be exhibited, and that every effort will be made to make the show useful to the gardening community, and a powerful means of promoting novelty and progress in a department where routine reigns even more than usually despotically. The vegetable trials at Chiswick will in consequence this year be invested with additional significance.

Birmingham and District Amateur Gardeners' Association.—Mr. Wm. Dean read an instructive and interesting paper before the members of the Birmingham Amateur Gardeners' Association, on Wednesday, the 13th inst., entitled "Gardening Mistakes: How to Avoid them." He dealt with the subject in three sections—flower garden, fruit and vegetable garden, and greenhouse.

Shirley Gardeners' Mutual Improvement Association.—The first annual general meeting was held at the Parish Room, Shirley, Southampton, on the 18th inst., when the President, Mr. W. F. G. Spranger, presided over a fair attendance of the members. The balance-sheet showed the receipts to have been £21 7*s.* 9*d.*, and the expenditure, £20 6*s.* 5*d.* There was an exhibition of spring-blooming plants, &c., contributed by Mr. B. Ladhams, F.R.H.S., Mr. J. E. Wilcox, Mr. G. Wells, and Mr. H. Curtis.

American Blight.—A new method of freeing Apple trees from American blight is published in *Illustrirte Nützliche Blätter*. The substance employed is resin or rosin, dissolved in spirits, with which every white patch of the blight observed on an Apple-tree is touched by means of a small brush. The result in the case of a tree badly infested was surprising, for the following summer only four groups of insects were noticed, although the tree before the operation was covered with the insects. The mixture completely seals over the colonies of insects and eggs, the former being killed at once, and the latter lose their vitality. The materials should be mixed together in a double saucepan or glue-pot, with water surrounding the inner vessel, and they must be brought to the consistency of thin paint. The mixture should be poured into wide-mouthed bottles, and warmed somewhat before it is used. It is said to form an excellent material wherewith to paint over the wounds left by the pruning-knife and saw.

Edinburgh Botanical Society.—The members of the above society met on the 14th inst., in their rooms at St. Andrew Square, Surgeon-major H. H. Johnston occupying the chair. The balloting for a number of distinguished scientific gentlemen, proposed by the council as Honorary British and Foreign Fellows, and others as Corresponding Fellows, took place, the result being the unanimous election of all proposed. The chairman brought before the members' notice the death of two members of the society, Dr. A. G. Balfour and Professor Schmitz, the latter not having lived to see his last communication to the society through the press. Flowers from Mr. Campbell, of Ledaig, Argyllshire, grown in the open air, were exhibited, the sender accompanying the specimens with remarks upon the lateness of the season, as regards flowering plants in that district. A volume of photographs of the remarkable trees of Ayrshire, with their measurements, was presented to the library of the Royal Botanic Gardens, by Mr. G. Paxton, Kilmarnock, who had photographed the trees himself. Dr. D. Christison, through whom the presentation was made, gave some appropriate remarks upon the trees figured. Prof. I. B. Balfour, keeper of the garden, in his remarks, mentioned the interest and value of the book, and advised that, where possible, views should be obtained of the winter aspect, as well as summer. Surgeon-major H. H. Johnston exhibited some additions to the Flora of Mauritius, as recorded in Baker's *Flora of Mauritius and the Seychelles*; a Vote of Thanks being accorded to the exhibitor. Mr. R. Lindsay, in his report on Vegetation in the Garden, gave a list of plants affected by the late frosts, and stated that no plants had flowered during February upon the rock garden. The following are a few of the meteorological notes observed in the garden by Mr. A. D. Richardson, for February, 1895: Barometer mean at 9 A.M. and 32° = 30·071 inches. The highest reading of the protected self-registering thermometers was, on the 23rd, 47°·4. Lowest on the 10th = 11°·8. The mean for the month 31°·0, Hygrometer at 9 A.M., mean of dry bulb 29°·3; mean of wet bulb 28°·1; dew point 23°·9, mean humidity 77·4. The highest reading by the radiation thermometers in the sun 97°·9, was on the 23rd; lowest on Grass 9°· on the 10th. Frost occurred on the Grass on twenty-eight days. Total amount of sunshine for the month was 75¾ hours, the sunniest day being the 21st, when 8¼ hours were recorded. Rain or snow fell on seven days, the total fall being 0·460 inch. The usual notes on Plants in the Plant-houses were read by Mr. R. S. Harrow, and the following plants were exhibited: Impatiens auricoma, Burchellia capensis, Thyrsacanthus rutilans, Paulo-Wilhelmia speciosa, and other cut specimens.

Winter Spinach has survived the rigours of a winter which has been very fatal to all the Brassica genus.

Commercial Fibres.—The first of a series of Cantor Lectures was delivered before the Society of Arts on Monday, March 18, by Dr. D. Morris, M.A., C.M.G.; and the following is a summary of the heads of the lecture. The commerce in vegetable fibres was one of the most important in this country. The total turn-over during 1893, including imports and exports, was of the value of one hundred and nineteen millions sterling. Of this immense amount British possessions contributed only about five millions of imports. This was capable of great expansion. Canada could grow excellent Flax. The Phormium fibre of New Zealand was capable of indefinite development if once it was available for the higher textiles. Queensland had a superior Sida fibre, and the West Indies were naturally adapted to grow the best sea-island Cotton and Ramie. As showing the antiquity of linen, the lecturer referred to some specimens of linen-cloth in the Kew Museum taken from the Temple of Hawara, built B.C. 2500. In South America the Mataco Indians made an arrow-proof cuirass from the floss or vegetable silk of the Yachan, felted by steeping in water.

Devonport Royal Horticultural Society.—At the eleventh annual meeting of this society, held on the 14th inst., it was unanimously agreed to dissolve, it being impossible to carry on the work of the society amid the apathy and the unsympathetic attitude of the Devonport inhabitants.

"My Weather-wise Companion."—This little pamphlet, which is understood to be "presented by B. T.," is a series of observations relating to the sky, wind, fog, the moon, &c., and to the probable weather consequent upon the conditions of these natural objects. To be enabled to foretell the next probable variation of our ever-changeable climate would be a valuable power, and to assist him in attaining this we recommend every student of the weather to compare his own theories with those of the *brochure* before us, in which he will find many kindred interests. The publishers of the work are W. Blackwood & Sons, of Edinburgh and London.

The First Crocus.—The first flower of a clump of common yellow Crocus that has been observed for some years at Ealing was seen on March 14. In 1890 the date was January 15; in 1892, February 11; in 1894, February 2. Snowdrops observed under like conditions, the same patch being always noted, opened on the following dates:—1890, January 9; 1891, February 6; 1892, January 22; 1893, January 30; 1894, January 21; 1895, January 17 (before the great frost).

Meeting of the Brussels Orchidéenne.—At the last meeting no fewer than seventy Orchids were staged. The following were especially interesting:—Odontoglossum crispum virginale, from M. G. Warocqué, flower of exceptional size, lip bright golden yellow, with citron yellow spots; from le Comte de Bousies came a plant of O. excellens Harvengtense, of fine and new habit, colouring clear, petals and sepals broad, clear yellow, with an almost white band at the base of the petals, broad reddish dots are sprinkled over the centre and base of the petals; lip white, with a very large spot, and several little dots of a reddish tint. O. Pescatorei from M. Madoux, was a fine variety, the flower much flushed with lilacy-rose, especially about the sepals, there are some small purple dots in the centre of the divisions, lip with tufts of very bright yellow and radiating featherings of carmine-red; Cypripedium Charlesworthii from M. Ch. Van Wambeke has a large standard, clear rose along the edges, petals furnished at the tips with a large and effective rose-coloured marking; Cattleya Trianæi var. Imshootiana from M. A. Van Imshoot, had a wonderfully developed and dark-coloured lip, the petals were broad and well coloured; Lælia anceps var., from M. Van Wambeke, bore large flowers of unusually dark colouring; Cymbidium eburneum from M. Linden, had a beautifully coloured flower, the lip was of excellent form; Cattleya Luddemanniana from M. Van Imshoot, was an unusual variety, in general colouring lilacy-rose, the lip well marked and coloured; Cypripedium Massaianum from the same exhibitor is from C. ciliolare × Rothschildianum, it has a standard like that of the latter, petals and *sabot* like that of the former; Dendrobium nobile nobilius, from M. Linden, is a brilliantly coloured variety; Odontoglossum crispum, from M. Madoux, was represented by several good varieties, of which one was pure white, another very pretty lilacy-rose, the edges of the sepals darker than the centre, a fine raceme; O. Ruckeri, from M. Van Wambeke, flowers charming, white and rose, with numerous bright spots; Cattleya Schroderæ, from M. Madoux, bore a very fine flower, mauve, and with a remarkable lip. M. Linden staged Cattleya Trianæi, with a very dark lip and two spots united at the top and separating at the base of the lip; M. Em. Rodigas exhibited Odontoglossum crispum, a fine plant, with a beautiful spotted lip; Cymbidium eburneum came from M. Van Lansberghe, and bore a pretty flower, similar to that on the same variety as previously mentioned. M. Linden sent Phajus tuberculosus, a fine variety; also Odontoglossum Ruckeri, with a fine cluster of pretty flowers, among them four fused blooms, each composed of two complete flowers. M. de Wargny sent Lælia anceps, var., petals feathered at the top with dark purple; M. Linden exhibited also Cymbidium Lowi superbissimum, with a remarkable lip, on a background of pure white a blotch of rich carmine-purple. The same exhibitor showed Masdevallia Schroderi, flowers of good size and colouring, also Cypripedium Lathamianum, with the standard almost entirely white, with a very broad midrib of purple; also Dendrobium nobile var. Phillipsianum, of a pale distinctive shade. M. Moens sent a plant of Dendrochilum glumaceum, measuring nearly 2 feet across, and bearing about 150 trusses of bloom, this, and a fine specimen of Cœlogyne cristata alba from M. Linden, obtained certificates for being well bloomed. *Ch. De B.*

Birmingham Gardeners' Mutual Improvement Association.—The usual bi-monthly meeting of this association was held on Monday evening, the 11th inst., in the Athletic Institute, Mr. W. B. Latham in the chair. A paper by Mr. T. Beddard, gardener to Lord Leigh, Stoneleigh Abbey, on "Cordon-trained Gooseberries: Varieties and Cultivation," was read by the Secretary. Among other advantages claimed for cordon Gooseberries were less room required for growing them than for bush fruit, the greater ease by which pruning and gathering could be done, and facility for quicker netting. The Gooseberries are planted 9 inches apart on the walls, which are 9 feet high, and tied to wires, being carefully examined yearly to see that the ties are good. The paper gave full practical instructions as to cuttings, destruction of insects, &c. After some

Fig. 49.—Abnormal form of Phalænopsis schilleriana.

remarks by several of the members on pruning, &c., the meeting terminated with a vote of thanks to Mr. Beddard for his paper. *The Birmingham Gazette, March* 13.

Amsterdam.—The Universal Exhibition to be held in Amsterdam in the present year has a horticultural section, in which foreigners are entitled to compete. The most important items in the programme are the following:—a Rose show, to be held from July 6 to 8, together with an exhibition of fruits and vegetables; a general exhibition from July 27 to 31; a similar one from Sept. 14 to 18. On Oct. 10 to 17, a great exhibition of fruits and vegetables is arranged, when special prizes will be awarded to collections of English Apples, Pears, Peaches, Grapes, Pines, and miscellaneous fruits. The Grapes must be shown in bunches, without either branch or foliage. Mr. J. P. R. Galesloot is the president, Mr. Bulk, first secretary, and Mr. P. F. Laarman, second secretary. In addition to these periodical exhibitions, there will be a permanent display during the whole duration of the exhibition.

From the First Report on a Botanical Tour in Kashmir.—The most interesting discovery on this day, remarks Mr. J. F. Duthie, was a minute kind of Misleto parasitical on the branches of Pinus excelsa. I originally found this plant in 1884, just within the border of Western Nepal, growing on the same kind of tree, and at about the same elevation (10,000 to 11,000 feet). It is published in the *Flora of British India* under the name of Arceuthobium minutissimum The Zojl La is rather a dangerous pass when covered with snow; otherwise there is no difficulty whatever. I crossed over on June 29 at which time there was no snow on the road The views from the summit, looking north and south, are striking from their contrast. On the northern side the mountains are bare and rocky, and there is not a tree to be seen in the valley leading to Drás; whereas on the Kashmir side, the Sind Valley is beautifully wooded. The different climatal conditions prevailing on the Drás side are indicated by the presence of many Tibetan plants, also by the whistling cry of the marmot. The top of the pass is 11,287 feet. Some interesting plants were found on the ridge to the west of the pass up to 12,000 feet.

Stipa siberica, which is known as the poisonous grass of Kashmir, is very abundant in some of the valleys, especially on the outskirts of the forests at an elevation of 8000 to 9000 feet. It occurs also in other parts of the Himalaya; and on the Black mountain in Hazara it was the cause of much sickness amongst the baggage ponies during the expedition of 1888. The direct cause of its injurious effects on animals has not yet been conclusively shown. Some attribute it to a narcotic principle inherent in the plant, whilst others affirm that it acts mechanically as an irritant, and is not in any way chemically poisonous. Dr. Aitchison, who has given much attention to the subject, and has witnessed many cases of ponies having been poisoned by eating this grass, believes that the symptoms are produced by some kind of narcotic poison. A common remedy in Kashmir for this complaint, Dr. Aitchison tells me, is to hold the animal's head in the smoke of a fire, in order to produce a discharge from the nostrils, after which the dangerous symptoms disappear, and the animal recovers consciousness. In addition to this treatment, vinegar and sour Apples are sometimes given. The cattle of the country do not of their own accord eat this grass during the spring and summer, but in the autumn, Dr. Aitchison says, they do eat it. If this be so, it tells somewhat against the idea of the plant possessing only mechanically irritant properties, for during the autumn months the rough awns of the spikelets are fully developed.

Publications Received.—*Hints on Family Washing and Spring Cleaning.* By Mrs. J. G. Baker. (Partridge & Co.)—*Études Religieuses, Philosophiques, Historiques, et Littéraires.* (Paris: Victor Retaux, 82, Rue Bonaparte.)—*Plants without Earth.* (London: C. & E. Layton, Farringdon Street.)—*Lehrbuch der Biologie der Pflanzen.* Von Professor Dr. F. Ludwig. (Stuttgart: Enke. London: Williams & Norgate.)—*Guide to the Cultivation of Vegetables, Flowers, &c.* By F. C. Heinemann, Erfurt.—*A Student's Text-Book of Botany.* By Sydney H. Vines, D.Sc. Second part. (Swan, Sonnenschein & Co.)

PHALÆNOPSIS SCHILLERIANA.

The illustration (fig. 49), from a flower obligingly sent us by Sir Trevor Lawrence, shows the lateral petals reduced to a thread-like form; the lip also is much reduced, but, curiously and significantly enough, the central callus is unaffected.

PLANT PORTRAITS.

Aquilegia canadensis, Linnæus, *Meehans' Monthly*, February, 1895.

Clerodendron splendens, *Le Jardin*, February 5.

Cymbidium grandiflorum, var. Hookerianum, *Le Moniteur d'Horticulture*, February 10.

HOME CORRESPONDENCE.

Preserving Cabbages in Winter.—On my way home from the Crystal Palace Autumn Fruit Show, a friend whom I met in the train was telling me amongst other things, how they keep Cabbages in America. I promised to try the experiment, but not

having much faith, I only tried six. I selected them from a plot in the field, in various stages, from little more than a green head to a forward or quite mature Cabbage. This morning, my friend paid me a visit, and we lifted two of the Cabbages which had been frozen hard for two months (ground in same field we cannot plough to proper depth yet), and find them in just the same state as when buried. I simply pulled up the plants, dug a trench and buried them in it head downwards. *William Hovell, gr. to G. Herbert Morrell, Esq., Headington Hill, Oxford.*

CIDER OR CYDER.—An article in the *Gardeners' Chronicle* of this week on cider reminds me that I very recently saw in some London daily paper an inquiry about the derivation and spelling of cider, and Pliny (!) was quoted as an authority for spelling the word with a y. Strange as the change may seem, there is no reasonable doubt that cider is a corrupted form of the Hebrew word sikera. This word occurs three or four times in the Mosaic Law as a forbidden drink, and is adopted into Greek once in the New Testament (St. Luke, i., 15), where it is said that John the Baptist "shall drink neither wine nor sikera." The old Hebrew commentators explain sikera to mean any intoxicating drink not made from Grapes; and wines made from Apples and from Dates are mentioned by some as included in the term. As for its adoption in English, the oldest known occurrence of it in any modern European language is in a very old German translation, said to be a rendering of *Tatian's Gospel Harmony* (a lost work), where "sikera" becomes cidiri. In Wyckliffe's Bible, of the fourteenth century, we have, "He schal not drinke wyn ne cydyr." This will hardly be thought an authority for cyder, unless we also adopt wyn. As for Pliny, in Book xiv., chap. 19, amongst many kinds of spurious wines, he does speak of wine made "malorum omnibus generibus;" but sycites, which he also includes, is a good classical Greek word, meaning "Fig wine," and has no connection with sikera. Skeat, Latham, Littré, all agree in the etymology I have given. The last-named, in his large lexicon, gives the changes which the word cider undergoes in six different European languages, but the letter y does not occur in any one of them. *C. W. Dod, Edge Hall, Malpas.*

CIDER.—Until I read the *Journal of the Society of Arts* on this subject, I had been under the impression that cider was a variety of thirst-quenching liquids, which was tolerable only under certain conditions, and occasionally intolerable under *any* conditions. Being rather encouraged by the statements made, I wrote to Messrs. Gaymer & Sons, Banham, Attleborough, Norfolk, and received by return some samples, which were more than tolerable, under *any* conditions. It would appear that we are capable of producing wines containing less than 5 per cent. of spirit, which will bear comparison with the finest samples of hock and champagne, a comparison by no means unfavourable to the British product, and this at a price which quite excludes the foreigner. No doubt there are other makers who can produce equally fine samples, and they only need to be known to make our home-product popular and largely used. *Thos. Fletcher, Grappenhall, Cheshire.*

LEUCADENDRON ARGENTEUM.—I should be much interested to know what the experience of your correspondents has been with the above-named plant. Captain C. Drummond has several very beautiful plants, one of which is about 6 feet high. The roots are very fine ones, like those of the Azalea, and consequently need great care in potting and the preparation of the soil, which should be of good quality, open, and porous. I should like to know if the plant will do well if fed with artificial manures. A greenhouse temperature seems to suit it best. The leaves on the main stem ripen, and fall off—or it may be some check to growth causes this to happen. The young branches throw out a cluster of young ones at the point of each, just in like manner as a Fir tree does. The plant grows in a very luxuriant way on Table Mountain, South Africa. The natives paint devices on the leaves, which are a beautiful silvery-grey in colour, very glossy; the surface of each leaf is covered also with small spines as soft as silk. The leaves when painted on are sold by the natives, and thus made of commercial value. There are only a few plants in this country, and its general treatment in this changeable climate of ours is as yet practically unknown; therefore, I should be pleased to see in the columns of the *Gardeners' Chronicle* the experience given of those who have this plant in their possession. *Geo. Garner, Cadland Gardens, Southampton.* [The tree was figured in these columns, December 21, 1889, p. 725; and a brief notice of the plant occurs at p. 714. Ed.]

PLANTING OUT FORCED STRAWBERRIES.—Mr. McLeod's note on p. 444 of the last volume reminds me of the method adopted in the gardens of Heythrop Park, Oxon. About 1500 Strawberries are forced, and of these about 1000 are used every year for making permanent beds, the varieties being Vicomtesse H. de Thury, Laxton's Noble, President, Sir J. Paxton, and James Veitch. The ground is well manured and deeply dug in the winter or early spring. Vicomtesse produces the earliest crop of fruit, and as soon as all the fruit is gathered, the first week in March, the plants are stood in cold frames, or, if these be not available, stacked close together in some sheltered place, and covered up with mats at night; and as the season advances, the other varieties are taken straight from the houses and planted. From these forced plants the strongest runners are obtained for next year's forcing, and a crop of excellent-flavoured fruits is obtained from Vicomtesse the same autumn. To keep the fruits clean, straw is strewn among the plants, and the trusses of fruit are tied up to small sticks, which also lets them get all the sun possible; and in this way good fruit is obtained up to the end of September, if the weather be at all favourable. I have never noticed any other variety to fruit a second time the same year, except a few of President. These forced plants make as good a permanent bed as strong runners would do, and they carry a better crop of fruit the next summer than those. *C. C.*

THE LATE SEVERE FROSTS.—I see your correspondent, Professor C. Leeson Prince, F.R.Met.S., in last Saturday's *Gardeners' Chronicle*, alludes to January 20, 1838, as being the severest frost ever observed by him. I, too, kept a diary at that date, and it is very singular and interesting to know how exactly the weather that season compares with the one we have just passed through. My diary states the autumn of 1837, and the first week in January, 1838, as being exceedingly mild, so much so, that clouds of gnats were flying about on New Year's Day, but on the 7th a frost set in, which, as my diary states, continued without intermission for more than six weeks, and its severity was almost unparalleled in history. The Thames was completely frozen over, fires were made thereon, and a considerable traffic was kept up for some time. Many rare specimens of aquatic fowls visited different parts of the kingdom, and the destruction of hardy shrubs was immense. On the 10th the Royal Exchange was burnt down. The water froze in the pipes of the engines, and hot water was used to cast upon the burning ruins, or the engines would have been useless, so intense was the frost. The late severe season even exceeds the former one in duration, lasting quite eight weeks; in fact, to-day (March 16), although the thaw commenced about ten days since, thick ice still covers a pond in front of my house. The destruction of hardy shrubs is quite as great, if not more; and Roses, both standard and dwarf, will, I expect be found killed by thousands, especially the Tea varieties. *W. H. Rogers, Southampton.*

HORTICULTURE IN SCHOOLS.—I was much impressed with the very able article on this subject in a recent issue (p. 300). Having for years taken a deep interest in the management of schools, I know full well the benefit that boys in the rural districts would derive from practical instruction afforded by competent persons, if such could be obtained. There would, however, be many difficulties to overcome, and not the least amongst these would be land suited for such kind of work. The majority of school managers in country places throw all sorts of obstacles in the way when such things are intimated to them, being, as a rule, farmers who have struggled on as their forefathers did before them, and are very sceptical about the children being taught even to read and write, therefore opposed to instruction being given on the management of land. They "used to do without learning," is the remark I have often heard some of the managers of the village school here make. These stick-in-the-mud persons say that they cannot get lads now to do the work they used to, for they learn all manner of things at school which unfits them for their occupation, and they know more than their masters. Clergymen, too, in the rural districts are sadly opposed to education, and I have often heard them remark that men who have to get their living by ploughing, or hedging and ditching, need no book learning. With such crude ideas as these, there is little wonder that education makes such slow progress in country places, where we hear children calling moths owlets, and farmers telling their men that if they plough more than 4 inches deep, a greater amount of manure will be required to support the crop. Where conceptions as these exist, there is certainly some need for improving the mind as to the source from which plants draw their nourishment. Having got over the land difficulty, which in some places will be a serious obstacle, for though the farmers swear the land does not pay for cultivating, they will not give it up, even though they were offered double the money for it. It would have been a great advantage in some places had the Parish Councils the management of schools, with power to take land for that purpose. In some districts the funds are so low as not to admit of the most meagre improvements being carried out. What prospect, then, is there in such places of garden plots being provided? Land in some places, though let at a low rental to the farmer, could not be obtained for such a purpose unless a very high price were paid for it. Then, again, many schoolmasters know little or nothing about gardening; therefore, it would be necessary to call in the aid of a gardener to impart instruction. Would employers in rural districts be willing for their gardeners to render such service? If not, then professionals would have to be engaged, and as schools in some places are a considerable distance apart, the instructor would not be able to attend more than two each day, which would make such counsel expensive. It is not in hard technical names that boys need be taught, but in simple matter-of-fact language, that can easily be understood. They should also be instructed in the use of tools, more particularly the spade, fork, rake, and pruning-knife. I have often stood and watched men having cottage gardens dig, who on account of not having had any instruction in the use of the spade made very laborious work of it even though they do not turn the soil over more than 6 inches deep. They cannot see the necessity of taking out a trench when beginning, or of thrusting the spade into the soil almost perpendicularly, but simply, according to gardening phraseology, "point over the ground," and expect it to produce a good crop, and are surprised on finding that the plants "burn up" when a spell of dry weather sets in. When we see men cutting Gooseberry bushes with the hedge-shears, and have not the remotest knowledge of the difference between a fruiting and a wood-bud, or why Black Currants require different pruning from the red varieties, it is evident that many would be only too glad to be instructed in such matters, to say nothing of the benefit they would derive from an acquaintance with the ways in which plants grow. Much also might be done by instructing them in the proper manner to bud, to graft, and to make cuttings. I have long been an advocate of school gardening, having, when a boy, to look after one, and it was by such that I received the first instruction in the cultivation of vegetables. We seldom observe any of the choicer kinds of vegetables, such as Seakale, Asparagus, or Cauliflower, grown by the cottager, nor the crops which he does grow arranged in such order that those of the same nature do not occupy the same piece of ground two years in succession. Potatos are grown year after year on the same plot, and these, with a few Cabbages and French Beans, constitute the principal crops in the garden. *H. C. Prinsep, Buxted Park Gardens.*

DO PLANTS EAT SOIL?—It is no doubt rash to criticise the collective omniscience that answers correspondents in the *Gardeners' Chronicle;* but when it replies to "C. B. G." (p. 340) that "no solid substance is absorbed by the roots, and the root-hairs, as a rule, are destitute of any aperture," I cannot help thinking that scant justice has been done to Mr. Thomas Jamieson's fifteen years of experiment on the subject, described by him in the "Report of the Agricultural Research Association for the North-eastern Counties of Scotland for 1891." He figures apertures in the root-hairs of Turnip, Pea, Lupine, Carrot, Tobacco, Potato, Mangel, Beet, Barley and grass, i.e., in representatives of the large orders, Cruciferæ, Leguminosæ, Umbelliferæ, Solanaceæ, Chenopodiaceæ, and Gramineæ, and adds, "in the case of no plant that I have examined have I failed to find the aperture." He also gives figures and description of

solid particles within root-hairs, and carefully criticises the figures and the theories of solvent action by the root-hairs given by Sachs, Van Tieghem, and others. I am not aware of his paper having appeared elsewhere, and fear that where originally published it may well have escaped the notice of physiologists. *G. S. Boulger*, 18, *Ladbroke Grove, W.* [Gasparinni was the first to indicate the presence of apertures in the root-hairs, but it is generally considered that these cases are exceptional. Ed.]

THE EDUCATION OF GARDENERS. — I cannot avoid noting "W. G.'s" letter, on p. 274 of March 2, which is one of those which usually follow any suggestions that may be made for the improvement and higher education of gardeners. He begins by impressing on the reader's mind the fact that he has studied the subject for the last twenty years, goes on to eulogise Mr. Boulger's article as the best he has ever read, and then follows the usual despondent note—he cannot see how it is to be done. It would take the young gardener too long to master all the subjects Mr. Boulger names; he would be wasting his time when he might be earning 5*s*. a week. Besides, a great proportion of the young gardeners get such low wages—only a pound or five-and-twenty shillings a week. Well, what can a so-called gardener expect but labourer's pay, if he spend no more on his education than does the day labourer? If, as "W. G." says, a young gardener prefers of an evening a game of cards, draughts, or chess, to study, he must expect to take a low place in the ranks of the profession. "W. G." does not wish us to think that he is averse to education, but he sets more store on practice. He tells us he met with young gardeners at Ghent who were well educated, and spoke two or three languages; but English gardeners do not take a "back seat," they "are so practical." Does he suggest that these well-educated young men he mentions were less practical because of their better education? What nonsense this is to talk about practice, which with many means the rule-of-thumb. Our patriotic sympathy for our own countrymen blinds us to our imperfections, and we decry the education, industry, and enterprise of those who are enabled thereby to supersede us in gardening and many other professions. What is education and science but the knowledge of the successful and proved practice of others who have worked before us. Young gardeners in these days have great advantages over those of my young days. They have free education of a high class to start with. Why was free education provided in this country? Because the commercial classes found they were losing their hold of the markets of the world. The mechanics and artisans of other countries were better educated than our own; their workmen possessed original ideas, and ceased to be mere imitators in handicrafts; our markets were flooded by them with all manner of articles of improved pattern and usefulness. So education was promoted in the attempt to regain our position in the world's markets. Already some little progress has been made; but still there are those who, in a half-hearted way, decry the influence of education. Why were, and are, Scotch gardeners so much sought after and thought so much of? Because of their education. It is well known that Scotch parents give their children a good education, even if they cannot give them shoes, and so they have been wont to make their way to the highest positions, wherever they have found themselves, in gardening as well as in other professions. Fellow gardeners, young men especially, do not be deluded about this matter, education is your opportunity, if you wish to improve your position. Look around you, see what it has done and is doing for others, see what it has done for other professions! and ask yourselves if it cannot do the same for you and yours. Books are cheap and plentiful, work and read, and learn, and call it practice if you like—at any rate, learn. Learn all about how plants and trees grow, that you may grow them well; learn the nature and properties of soils, so that you may know how to improve them; learn all about manures, that you may know the right sort to use for your crops; earn something about the climate of the countries your plants come from, so that you may know how to imitate it; learn to bud, to graft, to inarch, layer, strike cuttings, root buds, raise seeds, improve and propagate plants, and much more besides. Read what others have done, and prove for yourself, and improve on it if you can, and if you go on steadily, perseveringly, and systematically, you will become scientific before you are aware of it. Do not be afraid there will be no places good enough for you, for though only 10 per cent. of gardeners' places are good ones, perhaps half of these might be better filled if there were better men to fill them. There are other means of improving the position and status of gardeners, which I have advocated before, but education is the chief, and must suffice for my present advocacy. *H. Elliott.*

ROYAL BOTANIC GARDEN, EDINBURGH.

Paulo-Wilhelmia speciosa. — The habit of this Acanthaceous plant is rather straggling, and to this cause is due in all probability the fact that it is so uncommon in our gardens. A plant in one of the new houses here is now flowering freely. The stem is about a yard in height, swollen at the nodes, the leaves having fallen from the lower portion. The leaves are opposite and cordate, with irregular serrations. The inflorescence is borne upon small branches, and in the pretty mauve-blue flowers is its chief attraction. The curious arrangement of the lobes of the corolla, which have the appearance of being in a single lower lip, is remarkable. A figure appeared in the *Gardeners' Chronicle* of Dec. 28, 1889, p. 749, and in describing the plant Mr. N. E. Brown states that the Kew plant was raised from seed obtained from a dried specimen in fruit collected in an expedition to the Cross River, Cameroons, by Vice-Consul H. H. Johnson in 1888.

Rhododendron argenteum.

A plant of this remarkably beautiful species, from the Sikkim Himalayas, is now flowering in a cool greenhouse. The habit is tree-like, the foliage being confined to the ends of the branches. The leaves, which are large, have a silvery under-surface. The large white flowers bear blotches of a dark purple colour at the base of the corolla. In the bud they are of a pinkish hue, changing with age to a pure white. In this house we have also a fine specimen of R. ponticum arboreum, which is one of the original hybrids raised by the late Mr. James Cunningham of the Comely Bank Nurseries, Edinburgh. The plant is now nearly 20 feet in height, and has a stem of nearly a foot in diameter near the base. The flowers are in dense heads, the corolla light red in colour, and as there are about 200 trusses, the plant is now a mass of flower.

Impatiens auricoma.

The yellow colour of the flowers of this species is a welcome addition to the other species, and although the flowers are smaller than those of I. Hawkeri and others, in their hood-like shape we have a decided distinction. As is now well known, this plant was introduced to cultivation by seeds upon some stems of tree Ferns from Madagascar. A figure may be seen in the *Botanical Magazine*, t. 7381, where a full account of its history is given. Like the rest of the genus it is easily propagated and grown, the plant here having been received as a cutting from Kew in the autumn of last year, and has flowered during the last fortnight.

Tacca cristata.

Plants of this Malayan species are flowering in the stove. The scape rises above the foliage, the flowers are arranged in an umbel, and in their early stage are protected by four dark purple-coloured bracts. The abortive flowers producing the long drooping filaments, give the plant a most singular appearance. A compost in which it can be successfully grown is one of fibry peat, and a little sifted loam and chopped sphagnum, with the addition of plenty of broken crocks and silver sand. A moist tropical temperature is at all times necessary.

Thyrsacanthus rutilans.

Considering the beauty of this plant, and the dull period of winter and early spring when it may be had in flower, it is a matter of surprise that we so rarely meet with it in our gardens. Its cultivation and propagation are very easy. Spring-struck plants will flower profusely the following spring, and if a succession of plants is required, old plants should be grown on; if cut down several growths will be secured, and this ensures a greater number of flowers. Succession plants may be grown in a cooler temperature, and thus prolong their flowering period. *R. L. Harrow, Edinburgh.*

THE HARDY FERNERY.

The time is now at hand when hardy Ferns, whether British or foreign, should be overhauled and put in order for the coming season, since the period of active growth will soon commence and aid the plants in re-establishing themselves, either in case of removal or of division. Damage to the old fronds which may result from drastic operations of this class, is now of no consequence, while later in the season, when the new foliage is up, eyesores may result, which the entire season may fail to cure entirely. In view of the still impending risk of dry easterly winds, so often experienced at this season, it is not wise to clear away the old fronds entirely just yet; fronds of evergreen species should at any rate not be removed until quite dead, and in any case, if tidiness demands a clearance, a handful of moss or some such protective material should be scattered over the crowns, to prevent desiccation, if the dry winds aforesaid prevail. It must be borne in mind that with all Ferns new roots are thrown out from the base of each new frond, and hence, if the crown be bared, the tender tips of these are likely to get damaged and cause a great check to growth. Mulching with dead leaves is a good and natural preventive of this, and beneficial in any case.

Old clumps should be forked into, keeping the roots as intact as possible, turned over on their side, and carefully divided, since single-crown cultivation permits the character of the Fern to be much better developed, and adds considerably to the robustness of the individual. Clump-culture means a constant struggle for existence, and a crowding together of delicate frondage, which is distinctly inimical to a proper display of varietal beauty. As a rule, it is quite easy to pull the crowns asunder, each coming away with its own bunch of roots, and all ready for installation as a specimen; but where this is not the case, though separate centres are obvious to the eye, a knife passed through the connecting-link will do no harm, though care should always be taken to sever as few roots as possible. This, of course, refers to the large Ferns, such as Lastreas, Polystichums, and Athyriums, which form circular crowns and rings of ronds symmetrically. The Spleenworts, Bladder, Ferns, and small species like them, are naturally cæspitose or clump-growers, and are better undisturbed. The common Polypody and its many varieties also resent removal, and good specimens can only be obtained by installing plants in plenty of congenial soil, loose leaf-mould and sand, and leaving them severely alone. Rare varieties when divided should have the protection of a frame until established, and many of the extremely fine developments of recent years are quite unfitted to display their charms properly except under glass. Athyrium f.-f. calothrix, to wit, is far too ethereal to bear the brunts of breezes which common plants would stand with impunity.

In making new Fern rockeries, or filling gaps in existing ones, the prevailing absurdity of using only the common weeds of the country lanes, i.e., the common normal Ferns there found, should be avoided. There are hundreds of far more charming varieties, all as hardy as the weeds from which they have sprung, which are far better fitted for such positions, and which are by no means expensive. These, and these alone, should find a place in cultivated gardens; the others should be left to grace the shady dells with their numbers, and to generate the more delicate varieties to which we have alluded, the great majority of which have been found wild. *Chas. T. Druery, F.L.S.*

Nursery Notes.

ORCHIDS AT MESSRS. W. L. LEWIS & CO. SOUTHGATE.

With the completion of the large new range specially built for Cattleyas, Lælias, and for Odontoglossums, much-needed space has been provided at the Chase Side Orchid Nurseries. Mr. Ashton, the clever managing partner of the firm, has skilfully made use of it, and the different divisions are now well filled with excellent specimens of most of the showy Cattleyas, Lælia purpurata, &c., in quantity, and with remarkably well-grown Odontoglossums of all kinds and in various sizes, some handsome O. triumphans, O. crispum, and O. Pescatorei, being in bloom among them. The best of the last-named is O. Pescatorei Lewisii, which had very finely formed flowers, with the additional attraction of a large triangular purple blotch on the lip, which is a constant feature in the variety, for it has bloomed several times, and always alike. In the same houses are some well-flowered plants of Ada aurantiaca, Cypripedium villosum, C. Boxallii, Odontoglossum cirrosum, &c.

In the older block of houses there is a good lot of the varieties of Cœlogyne cristata in bloom, one fine example of C. c. alba having six good spikes of flowers; some Oncidium tigrinum, too, are in bloom in the same house; and growing very well are a lot of sturdy plants of Lælia majalis.

In the next house are many hybrid Cypripediums, the most prominent flowering specimens of which were C. × Medea (Spicerianum × hirsutissimum), C. × Davisianum (Boxallii × Argus), C. × Leeanum superbum, with unusually yellow ground colour to the flowers; C. × Wiganianum var. (insigne Chantinii × Ashburtoniæ); C. siamense, C. Ballenianum, C. callosum, and other species.

The next house is filled with Cattleyas, Lælias &c., many of the C. Trianæi being in bloom. Two of the best are C. T. lilacina, which has a very distinct slate-blue colouring to the lip; and C. T. splendens, which is a very distinct and showy form, well worthy of the name it bears. C. T. Ashtoni is a very handsome variety of a fine and very peculiar colour, the whole flower being tinted with a warm bright rose colour, which deepens on the front of the broad open lip into velvety crimson—a very bright and attractive flower. Grouped on one side of the house are some brightly-coloured Lælia harpophylla, among which is a good example of the chrome-yellow L. flava, an old and well-known species, but one which is not often seen in flower. In another house the varieties of Cymbidium eburneum, and some fine C. Lowianum, are in bloom, other interesting things being with them; and in the Phalænopsis-house are many hybrid Cypripediums, of rare crosses, varying in size from the tiny seedling just making its appearance, to the mature specimen which good care has brought to the flowering stage.

Among some freshly-imported Burmese plants, a pretty little Dendrobium is flowering, which seems distinct, and though not showy, still very well worth growing, among other reasons, because of its fragrance. Its flowers, which are produced in pairs, are much like those of D. moniliforme (japonicum), but with broader segments, and an orange base to the lip.

"London Home."—The first number of this new monthly journal contains an assortment of articles ranging from grave to gay, from lively to severe, and therefore appealing to readers with differing tastes. Mr. Hall Caines' Manx ballad is decidedly pleasing, and so are the illustrations to it. The magazine, indeed, contains plenty of pictures, and is cheap for the price asked for it—threepence. The publisher is Horace Cox, of Bream's Buildings, E.C.

FRENCH HYBRID CYPRIPEDIUMS.

OUR excellent contemporary, *Le Jardin*, 1895, p. 53, has published a list of the principal hybrid Cypripediums raised in France. The list supplies some omissions in the English catalogue published at p. 199, and corrects some alleged errors as regards the French raised plants, on which account we deem it well to reproduce the list which has been drawn up by M. Martinet. It will be understood that only the more important varieties are here mentioned. The publications mentioned in the sixth column by initial are the *Journal de la Société Nationale d'Horticulture* (*J. S. N. H.*), *Gardeners' Chronicle* (*G. C.*), *Orchidophile* (*O.*).

Parents.	Hybrids.	When sown.	When exhibited.	Raisers.	Publications.
Argus × callosum	Argus-callosum	1890	1895	Cappe	
,, × niveum	Mdlle. Nancy Descombes	1887	1894	Opoix...	*J. S. N. H.*, March, 1894
barbatum × ciliolare	M. Elysée Descombes	1883	1894	Opoix	*J. S. N. H.*, Oct., 1894
,, × Warnerianum...	Olivetense	1888	1891	Mantin	*Orchidophile*
,, gracile × Swanianum atro-purpureum	Olivet	1889	1894	Mantin	Exhibited at Orleans, May, 1894
,, nigrum × Hookeræ	amethystinum	1889	1894	Bleu	*J. S. N. H., Jardin*, Feb., 1894, p. 44
,, ,, × Hookeræ	atro-purpureum	1889	1894	Bleu	Certificat de Mérite de l'Orchidéenne
,, ,, × superbiens...	barbato-Veitchii	1882	1888	Bleu	*J. S. N. H.*, 1894, p. 165
,, purpureum × superciliare majus	Ministre A. Viger	1889	1892	Mantin	May, 1894, at Orleans
Boxalli × Dauthieri	amabile, Page	1890	1895	Page	*Le Jardin*, 1895, p. 136
Bullenianum × insigne	corbeillense	1887	1892	Maron	*J. S. N. H.*, 1892, p. 611
callosum superbum × Godefroyæ ...	M. Finet	...	1891	Régnier	*Orchidophile*, 1891, p. 321
ciliolare × insigne Chantini	Dauthieri latifolium	1884	1890	Jolibois	*J. S. N. H.*, Feb., 1890
Crossianum × bellatulum	Jacobianum	...	1894	Leroy	
,, × villosum	Alfred Bleu	1884	1892	Bleu	*J. S. N. H.*, 1892 [1894
,, × barbatum Warnerianum ...	Marguerite Mantin	1889	1894	Mantin	Exhibited at Orleans, May,
,, × ,, ...	Dauthieri-violaceum purpureum ...	1888	1894	Opoix	*J. S. N. H.*, Feb., 1894
Dauthieri Lawrenceanum	M. Paul Descombes	1888	1894	Opoix	*J. S. N. H.*, June, 1894
,, × Spicerianum	Madame E. Cappe	1885	1889	Cappe	*Le Jardin*, 1889, p. 265
Dayanum × insigne Chantini... ...	Mdlle. Madeleine Gayot	1885	1891	Jolibois	*J. S. N. H.*, Jan., 1891
gumiferum × Boxalli nigrescens ...	Héloïse Mantin	1889	1894	Mantin	*J. S. N. H.*, Oct., 1894
Harrisianum × insigne...	Mdlle. Alice Gayot	1885	1891	Jolibois	*J. S. N. H.*, Jan., 1891
,, × insigne Chantini	Charles Gondoin	1884	1889	,,	*J. S. N. H.*, May, 1889
,, × ,, ,, ...	Clément Loury	1883	1889	,,	*J. S. N. H.*, April, 1889
,, × ,, ,, ...	Félix Jolibois	1883	1889	,,	*J. S. N. H.*, Jan., 1889
,, × ,, ,, ...	Joséphine Jolibois	1884	1888	,,	*J. S. N. H.*, April, 1888
,, × ,, ,, ...	Madame Charles Gondoin	1884	1889	,,	*J. S. N. H.*, June, 1889
,, × ,, ,, ...	Madame Coffinet	1889	1893	Opoix	*J. S. N. H.*, Oct., 1893
,, × ,, ,, ...	Madame Emile Gayot	1884	1889	Jolibois	*J. S. N. H.*, June, 1889
,, × ,, ,, ...	Mdlle. Germaine Scellier de Gisors	1889	1893	Opoix	*J. S. N. H.*, Oct., 1893
,, × Spicerianum	Mdlle. Louise Scellier de Gisors ...	1869	1893	Opoix	*J. S. N. H.*, Oct., 1893
,, × ,, ...	Mauriceanum			Bleu	
,, × ,, ...	Seegerianum	1885	...	Page	*G. C.*, 1888; p 828, *O.* 1888
,, × ,, ...	Souv. de Madame Jules Dupré ...	1886	1894	Opoix	*J. S. N. H.*, Oct., 1894
Haynaldianum × Spicerianum ...	Carnusianum			Carnus	
hirsutissimum × villosum	hirsuto-villosum	1887	1890	Cappe	*J. S. N. H.*, 1890, *Orchidophile*, March, 1891
Hookeræ × Veitchii	Hookero-Veitchii	1887	1892	Bleu	Diplôme d'honneur de l'Orchidéenne
insigne × Harrisianum...	Madame Roch Jolibois	1885	...	Jolibois	*J. S. N. H.*, Feb., 1892
,, × ,, ...	René Jolibois...	1885	1892	Jolibois	*J. S. N. H.*, Dec., 1894
,, × Williamsianum	Préfet Boegner	1890	1894	Mantin	Exhibited at Orleans, May,
,, var. × Spicerianum	Leeanum miniatum var.	1890	1895	Page	*Le Jardin*, 1895, p. 361 [1894
,, Chantini × barbatum	Barteti	1882	1886	Bauer	*J. S. N. H.* 1886, *Orchidophile*
,, ,, × ,, sp. du Mont Ophir	Laforcadei	1882	1885	Bauer	*J. S. N. H.*, 1885 [1886
,, ,, × ,, Leeanum	Leeanum macrantum var.	1889	1895	Page	*Le Jardin*, 1895, p. 36
,, ,, × Spicerianum	Leeanum imperiale var.	1889	1895	Page	*Le Jardin*, 1895, p. 36
,, Maulei × barbatum-superbum...	Edgard Jolibois	1885	...	Jolibois	*J. S. N. H.*, Nov., 1889
,, ,, × hirsutissimum	Etienne Jolibois = syn. Alcides ...	1885	1889	Jolibois	*J. S. N. H.*, Jan., 1891
javanico-superbiens × ciliolare ...	Iris	1888	1894	Bleu	Diplôme d'honneur de l'Orchidéenne, *Jardin*, 1894, p. 44
,, ,, × Hookeræ	amabile, Bleu	1886	1891	Bleu	*J. S. N. H.*
javanicum × Spicerianum	javanico-Spicerianum	1881	...	Page	*Orchidophile*, 1894
,, × superbiens	javanico-superbiens	1880	1887	Bleu	*J. S. N. H.*
,, × ,, ...	sementa...	...	...	Bleu	
Lawrenceanum × ciliolare	Lucie	...	1892	Moreau	*Orchidophile*, p. 17
,, × Curtisii...	Lawrenceo-Curtisii	1886	1894	Bleu	*J. S. N. H.*, July, '94, *Jardin*, 1894, p. 180
,, × venustum	Lawre-venustum	1890	1894	Cappe	
Lowi × Curtisii	Souvenir de Roch Jolibois	1889	1893	Opoix	*J. S. N. H.*, Oct., 1893
œnanthum × Argus	Mdlle. Josée Decombes	1888	1894	Opoix	*J. S. N. H.*, March, 1894
,, superbiens × Spicerianum ...	Savageanum	1885	1888	Page	*G. C.*, 1888, p. 407
purpuratum × insigne	Madame Léonie Doin	1884	1892	Jolibois	*J. S. N. H.*, Feb., 1892
Spicerianum × Harrisianum	Spicero-Harrisii	...	1892	Maron	*J. S. N. H.*, 1892, p. 611
,, × insigne Nilsonn	Leeanum superbum Vallerandi ...	1887	1889	Vallerand	*Orchidophile* [1894
,, × villosum	Spicero-villosum, syn. Lathamianum	1885	1891	Bleu	*J. S. N. H.*, April, 1891, p.
superciliare × Dayanum	M. Coffinet	1890	1894	Opoix	*J. S. N. H.*, June, 1894
Semis naturel de superciliare × niveum	Madame Octave Opoix	1886	1893	Opoix	*J. S. N. H.*, August, 1893
Tonsum-Lawrenceanum superbum...	Madame Barby	1884	1891	Jolibois	*J. S. N. H.*, Feb., 1891
,, ,, villosum	Théodore Bullier	1890	1894	Opoix	*J. S. N. H.*, March, 1894
Veitchii Demidoff × lævigatum ...	Youngianum superbum	1889	1894	Page	*J. S. N. H.*, 1894
,, superbiens × Dauthieri	Veitchii-Dauthieri	1891	1894	Opoix	*J. S. N. H.*, Oct. 1894
,, ,, × Hookeræ	Pageanum, Rchb. f.	1885	1888	Page	*G. C.*, 1888, p. 264
venustum × Hookeræ	Cassiope, Rolfe	1886	1889	Page	*G. C.*, 1889, p. 200
,, × Veitchii	Carrièrei	1882	1887	Bauer	*J. S. N. H.*, 1887
,, × villosum	Julien Coffignez	1889	1894	Opoix	*J. S. N. H.*, June, 1894
,, spectabile × villosum Lindeni...	Measuesianum, var. de Bel-Air-d'Olivet	1889	1893	Mantin	*J. S. N. H.*, 1893
vernixium × Lawrenceanum	Madame Elysée Descombes ...	1883	1892	Jolibois	*J. S. N. H.*, Feb., 1892
villosum × hirsutissimum	Germinyanum superbum	1888	1893	Cappe	*J. S. N. H.*, Jan. 18, 1891, [p. 46
,, × insigne	Gibezianum	...	...	Gibez	
,, × Spicerianum	Madame Gibez	...	...	Gibez	
,, superbum × barbatum plumosum	Harrisianum var. de Bel-Air d'Olivet	1889	1894	Mantin	Orleans, May, 1894

The English Ivy.—Evergreens suffer in winter much more from sunlight than from low temperature. Indeed, both with deciduous and evergreen trees, destruction in the winter is more from evaporation of the juices than from low temperature itself. Light is as great an evaporator as heat, when it comes to dealing with living things. The English Ivy will endure extremely low temperature if grown where sun does not reach it in winter time. So far south as Philadelphia it is usually killed when on southern exposures; but on the north side of buildings it is absolutely hardy under any circumstances. There is nothing better for clothing the side of a building than this beautiful evergreen creeper. Its green flowers are not showy; but they are very attractive to bees and other insects, and in this way possess an interest welcomed by lovers of nature.—*Meehans' Monthly for February.*

SOCIETIES.

CRYSTAL PALACE.

March 16.—The annual spring exhibition of plants and flowers held under the auspices of the Crystal Palace Company, was favoured with capital weather on Saturday last, and the number of visitors in the afternoon was considerable. As usual, the display was a very pretty one, but the contests in the different classes lacked the interest that would be present were the number of competitors largely increased.

Considerable allowance must be made for the exceptional weather of last month, but of late years exhibitors at this show have perceptibly decreased in number, and there would be few on Saturday who failed to secure prizes, the number offered of the latter being, we should imagine, greater than that of competitors!

There was not a great number of Hyacinths shown, but a collection of thirty-six, shown by Mr. J. Douglas, gr. to Mrs. Whitbourn, Great Gearies, Ilford, was very commendable, and not inferior to the average at former exhibitions.

The only other exhibitors of thirty-six Hyacinths were Messrs. Jas. Winter & Son, Bon Marché Nursery, Gipsy Road, West Norwood, but the quality of the plants only warranted an award of the 3rd prize.

There were four competitors in the class for twelve Hyacinths, and Mr. Jas. Gibson was deservedly 1st, followed by Mr. W. Barrell.

Mr. Jas. Douglas again beat his competitor in the class for thirty-six Tulips, and his flowers were considerably larger, brighter, and of greater substance than those shown by Mr. Wm. Howe, gr. to Henry Tate, Esq., Park Hill, Streatham Common, whose collection, however, was deservedly awarded the 2nd prize.

Mr. Jas. Gibson took the 1st place for twelve Tulips.

For Polyanthus Narcissus, shown in class 3, Mr. Douglas obtained another 1st place, and Mr. William Howe followed with plants of fair quality, but the latter exhibitor was more successful in the class for Narcissus (Daffodil section), and with excellently-flowered plants beat Mr. Gibson, gr. to E. H. Watts, Esq., Devonhurst, Chiswick.

Cyclamens evidenced good culture as fully as any of the plants exhibited, and the thirty-six for which Mr. John G. Mowbray, gr. to Major the Hon. H. C. Legge, Fulmer Gardens, near Slough, who was placed 1st, contained the justification for this statement. The bulbs were of different ages, but one and all were capitally grown, and as well flowered; Mr. Thomas Pestridge, Boston Park Road, Brentford, W., was 2nd here. Mr. W. Slogrove was 1st for twelve plants, and Mr. F. Watts, gr. to C. J. Trinder, Esq., Mount Vernon, Caterham Valley, 2nd.

Hippeastrums, in the collection of twelve, were best from Mr. James Douglas, who had good specimens, varieties Mrs. Laing, Mrs. Douglas, and Thalia were the best, but the last named was marred by much green in the base of the flower.

Mr. John Mowbray was 1st for a group of Cyclamens, arranged for effect, with plants of similar quality to those he exhibited in the other class, and a few Adiantum Ferns interspersed. Mr. Wm. Howe was 2nd, whose collection contained several plants with curiously-lined flowers of brick-red and white. The best of these was named Mrs. Tate.

Cinerarias were only indifferently shown. Mr. Jas. Douglas 1st, and Mr. J. Slater, gr. to Mrs. T. Nothard, York House, Lower Sydenham, 2nd.

Mignonette was exhibited only by Mr. W. Barrell, gr. to Mrs. Thornton, The Hoo, Sydenham Hill, who had a collection of nine plants, trained in pyramidal shape.

Primulas found no exhibitor in the class for twenty-four, but Mr. Jas. Bateman, gr. to Mrs. King, Southwood, Sydenham Hill, S.E., was 1st for twelve plants, which were very well flowered; and Mr. C. Lane, gr. to E. H. Coles, Esq., Burntwood, Upper Caterham, Surrey, was 2nd.

Lily of the Valley was shown only by Mr. C. Lane, who had six plants.

Messrs. John Laing & Sons, Forest Hill Nurseries, London, S.E., who last year secured 1st place for a group of stove and greenhouse plants, arranged for effect, encountered no opposition in a similar class on the occasion under notice. The group, which it was stipulated should be an oval one, contained many first-rate plants. Lycaste Skinneri alba and Cœlogyne cristata alba were exhibited in flower, and there were several good Crotons, Caladiums, Cliveias, Amaryllis, Begonia rosea floribunda compacta, &c.

Miscellaneous.—Messrs. J. James & Son, Woodside, Farnham Royal, Slough, covered one of the centre tables with well-grown Cinerarias of a capital strain.

Messrs. W. Paul & Son, Waltham Cross, Herts, exhibited a quantity of plants in pots of the new China Rose, Duke of York, and various Tea Roses; also plants and cut flowers of Camellias, and plants of Clematis indivisa lobata in flower.

A rare lot of Daffodils in pots was shown by Mr. Thomas S. Ware, Hale Farm Nurseries, near Tottenham, including most of the best varieties for forcing; also some Lachenalias, and a group of hardy flowers. Saxifraga Burseriana was shown in quantity, and Colchicums also. Arum palestinum, and A. P. Eggeri, a spotted form, were exhibited in flower, &c.

Messrs. John Peed & Sons, Roupell Park Nursery, Norwood Road, put up a large and effective group of miscellaneous foliage and flowering plants, including a good show of spring-flowering plants.

Messrs. Laing had some plants of Nicotiana affinis variegata, a plant of Aglaonema costatum, and several new Crotons.

Miss Mary Jackson, 44, Westow Hill, Upper Norwood, exhibited tasteful floral arrangements of cut flowers; and Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, had floral exhibits also.

READING.

March 19.—The first exhibition of the Reading Horticultural Society was held in the Queen's Hall on the date named, and was in every way a success. Owing to the severity of the winter, the number of exhibits was not quite so numerous as would have been desirable at a first exhibition of a society.

Hyacinths were shown in good numbers. For eighteen in not fewer than nine varieties, Mr. Turton, gr. to J. Hargreaves, Esq., Maiden Erlegh, Reading, was an easy 1st with plants having good spikes and foliage. King of the Reds, L'Innocence, and King of the Blues were especially noteworthy. Mr. Dockerill, gr. to G. W. Palmer, Esq., M.P., Elmhurst, Reading, was 2nd. For twelve plants, Mr. L. Walker, Balmershe Road, Reading, was an easy winner. Mr. A. A. Jones, Penrhyn Villa, Reading, won easily in the class for six.

Tulips were well shown by Mr. Turton in six varieties. Lilies of the Valley were well shown by Mr. F. Lees, Connaught Road, Reading, plenty of good foliage along with strong flower-spikes. Cyclamens were quite a feature of the show, and Mr. Woolford, gr. to A. Palmer, Esq, easily beat Mr. F. Lees. Mr. Chamberlain, gr. to F. W. Lonergan, Esq, Cressingham, won 1st place for six single-flowered Primula fimbriata, and Mr. Dockerill was 2nd.

Orchids formed a nice display of bloom; Mr. Turton was successful with some well-flowered examples of Cymbidium Lowianum, Dendrobium Wardianum, and a richly-coloured Dendrobium nobile; Mr. Bright, gr. to J. Karslake, Esq, Whitenights, was 2nd. The last-named was 1st for one Orchid, a grandly-flowered panful of Cœlogyne cristata.

Cinerarias made a bright display, and generally the plants were dwarf, and the flowers had much substance. Mr. Woolford was 1st for six; Mr. Willis, gr. to H. J. Simmonds, Esq,, Caversham, was 2nd for the same number of plants.

Prizes were offered for a group of flowering-plants, arranged in a space of 60 square feet, in which competition Mr. Woolford was 1st, and Mr. Lees was 2nd. Most of the plant-material employed consisted of bulbs, Cinerarias, Euphorbias, &c. Roses were shown sparingly in pots. Mr. Turton won easily in the class for six plants, as also for twelve cut blooms.

Plants of Spiræa astilboides and S. japonica were finely shown in classes provided for them, and Mr. Lee's plants were the best.

Mr. Dockerill had three well-flowered examples of Dielytra spectabilis.

Mr. Turton was 1st for six stove and greenhouse plants, and he had well-flowered examples of Azalea mollis.

Mr. Perkins, gr. to the Hon. W. F. D. Smith, M.P., Greenlands, Henley, staged (not for competition) a nice group of Hippeastrums in bloom, set off with Palms and Ferns.

Mrs. Phippen, Reading, had a fine display of production of the bouquetist's art.

ROYAL BOTANIC.

March 20.—The first show of the season, held by the Royal Botanic Society, in the gardens at Regent's Park, on Wednesday last, like the one held under the auspices of the Crystal Palace Company on the previous Saturday, suffered in a considerable degree from the abnormal weather last month, which has had the effect of retarding and depreciating spring flowers in the houses, as well as plants in the open. Consequently, the show was smaller than usual, and the number of competitors in the classes few. Although, however, the show suffered in quantity, there were exhibits of good quality and interest.

The best group of greenhouse Azaleas was exhibited by Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park; Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, being 2nd; the quality of the plants was fair.

Hardy herbaceous plants were shown only by Mr. T. S. Ware, Hale Farm Nurseries, near Tottenham. Included in this exhibit were Arum palæstinum, and a variety called Eggeri, with spotted spathe; Primula cashmeriana, Leucoium vernum, L. carpaticum, Sanguinaria canadensis, Erythronium dens-canis purpureum and album, Saxifraga Burseriana, &c.

There was only one exhibit of a group of Cyclamen, and this was from Mr. T. Pestridge, Boston Park Nursery, Brentford. Mr. R. Scott was awarded 1st prize for a group of Lily of the Valley, but the quality of the exhibit was poor.

For a group of Hippeastrum (Amaryllis), Mr. Douglas, who usually takes 1st place, was beaten by Mr. M. H. Perkins, gr. to the Hon. F. D. Smith, Greenlands, Henley-on-Thames, who had a first-class lot arranged with Palms, Ferns, &c., in an effective style.

Mr. Douglas had the best group of twelve Hyacinths, including The Sultan, dark single blue; Koh-i-noor, bright pink; La Grandesse, large single white; and Garibaldi, single red, all good varieties. Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, was 2nd; 3rd, Mr. R. Scott.

For twelve Tulips, Mr. Douglas was again 1st, with large substantial blooms of bright colour; Mr. R. Scott was 2nd; and Mr. H. Eason 3rd.

Mr. R. Scott exhibited a grand lot of Crocuses in pans, and took 1st prize, and Mr. Douglas was 2nd.

Mr. Douglas, with six large plants of Deutzia gracilis, was 1st in the class for these plants, and took the same position in the class for twelve pots of Narcissi, being followed in this case by Mr. R. Scott.

Miscellaneous.—The exhibition owed a considerable part of its attractiveness to the miscellaneous contributions by the trade, which were very praiseworthy. Mr. J. R. Stevens, Hassocks, Sussex, exhibited a few plants and a box of fruits of his Seedling Strawberry, Stevens' Wonder, which has already been favourably described as well as figured in these columns.

A large group of plants was staged by Messrs. B. S. Williams & Co., Victoria and Paradise Nurseries, Upper Holloway, London, N. This included a fine lot of Cliveias in flower, with large, handsome heads of bloom: Firefly, Model, Ambroise Verschaffelt, Prince of Orange, and Surprise were the best of the varieties. Amongst an excellent lot of Orchids were a batch of Cœlogyne cristata alba, some large plants of Cymbidium eburneum, a capital form of Dendrobium nobile nobilius, some plants of Calanthe Sanderiana, a few Vanda suavis in bloom, Cypripedium Chamberlainianum, and several new Dracænas and Camellias were exhibited. The Holloway firm were also the exhibitors from their establishment at 169, Piccadilly, W., of a collection of floral designs, the most tasteful of which was a basket filled with Rose Mrs. Jno. Laing, and Carnation Uriah Pike.

A large and excellent exhibit of Lily of the Valley was made by Mr. T. Jannock, Dersingham, near Sandringham. They were exhibited in the usual cone-shaped clumps that Mr. Jannock has made a specialty.

Camellias in the shape of well-grown plants, and also as cut blooms, were well shown by Messrs. Wm. Paul & Son, Waltham Cross, Herts. Plants of C. M. Hovey, a double crimson variety; and the old imbricata were very good. Rose Duke of York was shown in pots.

Messrs. John Peed & Sons, Roupell Park Nurseries, London, S.E., had a group of miscellaneous stove foliage plants, brightened with a facing of spring-flowering plants.

A pretty group of choice plants was arranged by Messrs. John Laing & Sons, Forest Hill, London, S.E., including a nice plant of Caladium Comtesse

de Maille, a well-flowered Cliveia, Cœlogyne cristata alba, a few Ghent Azaleas, and several good varieties of Hippeastrums, &c.

Mr. Thos. S. Ware, Hale Farm Nursery, near Tottenham, staged a large group of Narcissus in pots, which well illustrated the value of these bulbs for forcing, also a few other hardy flowers.

Messrs. P. Barr & Son, King Street, Covent Garden, exhibited cut blooms of Narcissus, a fine lot of Iris reticulata, Elwes' Giant Snowdrop, Scilla sibirica, Anemone fulgens, &c.

Amongst a group of new and rare plants exhibited by Messrs. James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, were some capital varieties of Hippeastrum, the hybrid Cypripediums Aphrodite, C. Bryza ×, Phaio-Calanthe irrorata rosea ×, a hybrid from Calanthe vestata gigantea, and Phaius grandifolius; and a few of their superb varieties of greenhouse Rhododendrons, the best of those shown being Apollo, a large brilliant crimson single flower, &c.

ROYAL HORTICULTURAL.

Scientific Committee.

March 12.—Present: Dr. M. T. Masters, in the chair; and Mr, McLachlan, Professor Müller, Professor Church, Dr. Russell, Mr. Michael, Rev. W. Wilks, and Rev. G. Henslow (Hon. Sec.).

Dendrobium Wardianum.—A plant was exhibited by Mr. Hugh Low, lately received from Burmah, remarkable for having four flowers, two on one stem and two on a second stem, each pair of flowers being quite distinct, but arising from the same point, and all four flowers with two lips. Dr. Masters undertook to examine and report upon them.

Libocedrus decurrens.—Dr. Masters exhibited specimens received from Mr. Meehan of Germantown, Philadelphia, in which the terminal portions of the shoots had been attacked by some grub (Cecidomyia). The consequence was that the leaves, instead of being minute, with mucronate tips and adherent to the axis, were broad at the base, free and lanceolate; thus bringing about what would seem to be a reversion to a more ancestral state of the foliage.

Pholidota, sp. (?), *Diseased.*—Dr. Masters showed some Orchid leaves with rows of circular spots, having a central hole, due to some fungus. The specimen was interesting from a historical point of view, because it was figured by Gerarde, *Herball* (page 1168), in 1597, under the name of Viscum indicum L'Obelii. Being an epiphyte, this and a Tillandsia, called *V. peruvianum* L'Obelli, were supposed to be parasites, like the Mistleto. Gerarde describes the leaf of this Orchid as having "certaine round eies, such as are in the haft of a knife."

Chinese Primrose × *The Lady.*—Some umbels of flowers were received from Mr. Cannell, stated to be a cross, originally effected by Mr. C. Green, of Reigate, between the original wild form of Primula sinensis, from N. W. China, and a garden form of the same plant. The wild form had never previously been known to be crossed. It is figured in the *Gardeners' Chronicle*, March 16, 1895 (p. 327).

Photos from New Jersey.—Dr. Masters exhibited a series of photographs illustrative of Nelumbiums, Nymphæas, &c., growing in the open in ornamental waters, from Mr. S. C. Nash, of Clifton, N.J.

Pinus cubensis, with Androgynous Catkins.—Dr. Mellichamp, of Bluffton, South Carolina, forwarded some catkins of one particular tree, which apparently produces this phenomenon every year.

Larch Canker.—Mr. Rogers sent a very characteristic specimen of this disease caused by *Peziza Willkommi*. It appears to be due to the attack of this fungus after some injury, and then spreads throughout the tree. When this occurs no remedy can be applied, and the tree must be cut down. If, however, it be perceived early enough the infected part can be cut out, and coal tar or carbolic acid be applied to the wound; the fungus may then be killed and the canker arrested.

Orchid Leaves Decayed.—Some Cypripedia leaves were sent by Mr. O. O. Wrigley for examination. No fungus was apparent on a superficial examination. They were forwarded to Kew for further investigation.

Trachymene fasciated.—Baron Ferd. Von Mueller sent a specimen of this plant with this common deformity, from near Coolgardie, W.A.

MANCHESTER ROYAL BOTANIC.

March 17.—The first show of the season was held in the Town Hall, the exhibits were more varied than usual, and both the quantity and quality of the flowers were conspicuous. It says much for the owners of collections of valuable plants, be they private gentlemen or connected with the trade, that they respond so liberally to the call of the directors of this useful institution, without any hope of reward, as there is no schedule of prizes, and whatever returns are netted go for the Society's benefit. The Orchids, as usual, took the leading position, the Dendrobiums particularly being as large, as choice, and as captivating a lot as could be found drawn together in any position out of London. The Cinerarias, too, were a charming group of dazzling colours, while the Hyacinths and Tulips, and other bulbs, gave such a wealth of colour that it needed all the selected Palms ranged in salient positions to soften down the floral glare.

Conspicuous on the orchestra was the collection from Mr. Fred. Hardy, of Tyntesley. The more prominent among this group was a peerless white Cattleya Trianæi, of excellent form and substance, which stood out as a gem among the ordinary coloured Cattleyas of the same division, and which at this particular season are so welcome, because of their brilliancy and commanding appearance. C. Percivalliana was much larger than the ordinary form, and the colouring was of great intensity. Then the Dendrobes were very choice. Nothing takes the eye so fast as a pure white, and it was exemplified here in D. nobile Amesiæ, which is purity itself, with the pronounced crimson disc. Dendrobium Wardianum was in many varieties, and the white variety was well shown. Odontoglossums were not plentiful, the most novel one being called O. Hardyanum, a natural hybrid, showing a touch of both crispum and Andersonianum blood. We look upon this when in full growth as likely to be an acquisition to this decorative family. Cœlogyne cristata alba and many others make up a beautiful group, for which Mr. Stafford, the gardener, deserves praise.

Mr. E. Ashworth, Harefield House (gr., Mr. Holbrook), had a much smaller group, but his Dendrobes were wonderfully choice and well cultivated. We were much struck with one of the nobile section called Robinsonianum, a pure white, considerably larger than Amesiæ above noticed, but rather lesser in the segments. Not less beautiful in another way is D. splendidissimum Leeanum (and nobile pendulum and aureum phillipinense). The colouring here is clear and vivid, with high-coloured margin on each of the segments. D. nobile Dominyanum is one of the best of that breed, quite distinct from Hardyanum, and more beautiful too. There were several other species, the more prominent among them being Cypripedium Rothschildianum, with its beautiful brindled sepals, and its attenuated awl-shaped petals—one of the best we have seen.

Mr. Thompson, of Stone (gr., Mr. Stevens), put up a choice lot. The more prominent was a grand form of Odontoglossum triumphans, well named superbum for its size and vividness of colouring, the Indian-red blotches being overlaid on a beautiful deep yellow ground, contrasting well with the paler forms of the species by its side. It carried ten flowers on the raceme.

Mr. James Cypher, Cheltenham, had a rich and well-grown lot of Dendrobes, comprising some very choice Wardianum, an extra choice crassinode, called aureum, which to length of bulb, had very large, very deep golden disc flowers, much beyond the normal type. Then in nobiles and their hybrids and crosses, for which this firm held a distinguished position, the fine variety of D. nobile rubens, and Ainsworthii Cypheri and others, made a fine show.

Messrs Charlesworth & Co., Bradford, had a good miscellaneous lot of Orchids, comprising most of the best Dendrobes in season now; a few good Cypripediums, some fairly good Cattleyas, Cœlogyne cristata alba, and others.

Messrs. John Cowan & Co., Garston, had a large assortment of Orchids set in a nice lot of greenery. Among species not noted were Oncidium ampiliatum majus, Angræcum sesquipedale, Zygopetalum Gautieri, &c.

Messrs. Heath & Son, Cheltenham, had some fine formed and well-coloured Cattleya Trianæi, a fine piece of Angræcum sesquipedale, several Dendrobes and Odontoglossums, altogether an effective lot.

Mr. John Robson, Bowdon, had a well-flowered piece of Dendrobium nobile albens—pretty and effective in its way, along with a good Wardianum splendens.

Messrs. Dicksons, Chester, put up a large assortment of Narcissus in triangular posies set in glasses, Scilla sibirica and Chionodoxa Luciliæ in admirable violet colours.

Messrs. Dickson, Brown, & Tait cover a considerable space with an assortment of Hyacinths, both in single spikes and in groups of four, which tell well as a piece of colouring those co-mingled with Daffodils and confronted with Ferns.

From the Old Trafford Gardens, Mr. Bruce Findlay sent a fine assortment of Dutch bulbs, the Hyacinths and Tulips being specially good, and well mixed with Kentias, Cocos, Geonomas, and other Palms. The Squills at the front were of faultless cœrulean blue, and the tiny Ferns made up a pretty table picture.

Messrs. Sutton & Sons, Reading, had a remarkably fine display of Cinerarias, grown chiefly in 6-inch pots, the Picotee form as shown in one or two samples of the hundred plants on exhibit seems to be fairly well pronounced, each floret limb of a roseate-crimson flower being edged with white. If this persistency could be depended upon it would be a great gain in this useful decorative florist flower.

Messrs. Edwards & Son, Nottingham, exhibited a collection of Ferns in rather stylish baskets for drawing-room and window-gardening purposes.

Miss Oldham, one of the pupils of Swanley Horticultural College, but now resident in Ashton-on-Mersey, showed a style of Daffodil adornment which seemed worth imitating. The lesser Daffodils are used along with their foliage, and placed widely apart in flat saucer-like dishes, decked round with ribbon, the whole set on a white tablecloth—very effective and pretty.

Mr. Joseph Broom, Sunny Hill, Llandudno, owing to the stress of weather, had not so large an assortment of hardy flowers as usual; yet there were fine posies of Marie Louise Violets, lots of Snowdrops, Christmas Roses, and Squills.

Obituary.

Mr. William Crowther.—We regret to have to announce the death of Mr. Crowther, the curator of the botanical station at Aburi, Gold Coast, from abscess of the liver, after twenty-five days' illness. Mr. Crowther was selected and sent out from Kew in 1890, to create and take charge of the botanical station which it had been decided to start there in the interests of planters and the colony generally. The garden is now 40 acres in extent, and is well stocked with all kinds of valuable economic plants. Mr. Crowther visited some of the West Indian islands in the autumn of 1893, and his report on what he saw there was printed by the colonial authorities. The deceased was much respected in the Colony by all, from the Governor downwards. He was a Leeds man, his father being gardener at Meanwood Hall; and was only twenty-seven years of age.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending March 16.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 —	7	32	— 59	+ 331	2 —	46	6·6	17	26
1	0 aver	7	30	— 97	+ 460	2 —	38	4·7	15	26
2	1 +	15	27	— 90	+ 337	3 —	48	6·4	25	26
3	1 +	24	36	— 93	+ 354	4 —	42	4·4	40	27
4	1 +	24	37	— 114	+ 438	4 —	31	4·1	30	25
5	1 —	20	33	— 126	+ 386	3 —	32	3·8	46	28
6	0 aver	10	21	— 95	+ 400	3 —	37	4·3	18	27
7	0 aver	16	24	— 89	+ 358	3 —	36	4·2	20	27
8	1 —	19	29	— 142	+ 381	4 —	36	5·8	31	31
9	0 aver	24	15	— 122	+ 311	3 —	44	5·5	20	28
10	0 aver	33	16	— 173	+ 250	5 —	38	7·3	30	30
*	1 —	28	8	— 149	+ 261	3 —	44	6·1	53	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending March 16, is furnished from the Meteorological Office:—

"The *weather* continued rather unsettled during the earlier days of the period, and some rain was experienced in all except the extreme south-eastern and eastern parts of the Kingdom. Later on the conditions improved greatly, the weather becoming fine and warm in the daytime, cold and clear at night.

"The *temperature* did not, as a whole, differ very much from the mean, but slightly exceeded it over north-eastern, central, and eastern England. The daily maxima were much higher than any experienced of late; those registered on the 16th varying from 60° in 'Ireland, S.,' and 59° in the 'Midland Counties, England, S., and Ireland, N.,' to 53° in 'Scotland, N. and England, N.W.' The minima continued low generally, those recorded during the middle part of the week ranging from 14° in 'Scotland, E.' (at Braemar), to 22° in 'Scotland, N., Ireland, N., and England, S.W.,' and to 33° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts. The fall over 'England' was extremely

slight, the weather at many stations being quite rainless.

"The *bright sunshine* was considerably in excess of the mean in most of the 'Wheat producing' districts and in the 'Channel Islands,' but showed a deficit in nearly all the 'Grazing' districts. The percentage of the possible duration ranged from 15 to 18 in 'Scotland,' and from 20 to 30 in 'Ireland,' while over 'England' the values varied from 20 in 'England, N.W.,' and 25 in 'England, N E,' to 40 in 'England, E.,' and 46 in 'England, S.' In the 'Channel Islands' the percentage was as high as 53."

MARKETS.

COVENT GARDEN, *March* 21.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	3 0	4 0	Mignonette, 12 bun.	2 0	4 0
Azaleas, doz. sprays	0 6	1 0	Orchids:—		
Bouvardias, p. bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 6	3 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Daffodils, double, dozen bunches ...	15 0	18 0	Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— single, doz. bun.	24 0	30 0	— 12 sprays ...	0 6	0 9
Eucharis, per dozen	4 0	6 0	Pyrethrums, 12 bun.	2 0	4 0
Gardenias, per doz.	3 0	4 0	Roses, Tea, per doz.	1 0	2 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0	— coloured, p. dz.	2 0	4 0
Iapageria, 12 blms.	1 0	2 0	— yellow (Maréchals), per dozen	6 0	9 0
Lilac (French), per bunch	5 0	6 0	— red, per dozen	6 0	8 0
Lilies of the Valley, doz. sprays ...	1 0	2 0	— (French), red, per dozen... ...	1 6	2 0
Lilium Harrisii, per dozen	4 0	6 0	— (French), yellow, per dozen ...	1 0	2 0
Maidenhair Fern, per 12 bunches ...	6 0	9 0	Snowdrops, 12 bun.	1 0	1 6
Marguerites, 12 bun.	1 0	3 0	Tuberoses, 12 blms.	0 4	0 6
Mimosa (French), per bunch ...	0 9	1 0	Violets, Parma (French), p. bch.	2 6	3 6
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0	— Czar (French), per bunch ...	1 9	2 0
— Paper-white, p. 12 bun. ...	4 0	6 0	— doz. bunches	2 6	3 0
			— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	2 0	4 0
Aspidistra, per doz.	12 0	30 0	— various, doz.	6 0	12 0
— specimen, each	5 0	15 0	Foliage plants, doz.	9 0	24 0
Cinerarias, per doz.	9 0	18 0	Genistas, per doz.	10 0	18 0
Cyperus, per dozen	4 0	10 0	Hyacinths, per doz.	9 0	12 0
Dracæna, each ...	1 0	7 6	Marguerites, p. doz.	6 0	12 0
Erica hyemalis, dz.	12 0	18 0	Mignonette, p. doz.	0 0	6 0
— various, doz.	9 0	12 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	— specimens, ea.	10 6	84 0
Ficus elastica, each	1 0	7 6	Primulas, per dozen	4 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cobs, per 100 lb. ...	20 0	25 0	Pine-apples, St. Michael, each ...	2 0	6 0
Grapes, 1st quality, black, English, lb.	3 0	3 6	Strawberries, per lb.	8 0	12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 heads	8 0	10 0	Potatos, Channel Islands, per lb. ...	0 6	...
Beans, per lb. ...	1 6	2 0	Rhubarb, per dozen bundles	1 3	1 6
Cauliflowers, p. doz.	2 0	4 0	Seakale, p. punnet	1 9	2 0
Cucumbers, per doz.	3 0	5 0	Tomatos, Canary Islands, per lb. ...	0 3	0 6
Mint, per doz. bun.	6 0	9 0	— English, p. lb.	1 6	1 9
Mushrooms, per lb.	0 10	1 0			
Onions, per bushel	2 0	2 6			

OLD POTATOS.

Prices firm, with a slight increase in arrivals.

NEW POTATOS.

Supplies have increased. Demand good at prices varying from 14*s.* up to 28*s.* per cwt. for Canary produce, and 5*d.* to 7*d.* per lb. for Channel Islands produce. *J. B. Thomas.*

SEEDS.

LONDON: *March* 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that owing to the favourable weather there is now a daily increasing activity, and country buyers all round are laying in supplies. Meantime quotations continue at a moderate level. For Tares, both spring and winter, there is a brisk sale at full prices. Swedish and Scotch Gore Vetches are inquired for. Rye is also wanted. Bird seeds meet an improved request, at values in favour of holders. As regards Haricot Beans, stocks are getting exhausted. Blue Peas keep steady. Rapeseed is firm. There is no change in Mustard. Linseed presents no new feature.

FRUITS AND VEGETABLES.

BOROUGH: *March* 19.—Quotations:—Savoys, 4*s.* to 8*s.* per tally; Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 3*s.* to 3*s.* 6*d.*; and Parsnips, 3*s.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* to 3*s.*; Celery, 6*s.* to 9*s.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Onions, English, 5*s.* to 6*s.* per cwt.; do., foreign, 3*s.* 6*d.* to 8*s.* 6*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.* per barrel.

STRATFORD: *March* 19.—The market has been well supplied with all kinds of produce during the past week, and, with a large attendance, a brisk trade has been done at the undermentioned quotations:—Savoys, 3*s.* to 9*s.* per tally; Greens, 5*s.* to 7*s.* per tally; Cauliflowers, 2*s.* 6*d.* to 5*s.* per dozen; do., 10*s.* to 20*s.* per tally; Brussels Sprouts, 2*s.* 3*d.* to 2*s.* 9*d.* per half-sieve; Broccoli, 4*s.* to 5*s.* per sieve; Horse Radish, 1*s.* to 1*s.* 2*d.* per bundle; Turnips, 30*s.* to 45*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; do., cattle-feeding, 15*s.* to 25*s.* do.; Parsnips, 9*d.* to 1*s.* per score; Mangels, 14*s.* to 18*s.* per ton; Swedes, 14*s.* to 20*s.* do.; Onions, English, 100*s.* to 120*s.* do.; do., Dutch, 3*s.* 3*d.* to 3*s.* 9*d.* per bag.

FARRINGDON: *March* 21.—Quotations:—Parsley, 5*s.* per bushel; Savoys, 8*s.* to 9*s.* per tally; Cauliflowers, 4*s.* to 10*s.* per basket; Leeks, 1*s.* 6*d.* per dozen; Rhubarb, 1*s.* 6*d.* to 1*s.* 7*d.* per dozen; Beetroot, 3*s.* 6*d.* per bushel; Turnips, 2*s.* per bag; Carrots, 1*s.* 6*d.* per cwt.; Onions, 6*s.* do; Sprouts, 3*s.* per sieve; Horseradish, 1*s.* 1*d.* per bundle; Seakale, 1*s.* 9*d.* per punnet; Curly Kale, 4*s.* per bushel; Apples, Canadian Baldwins, 14*s.* to 15*s* 6*d.* per barrel; Cucumbers, 5*s.* per dozen.

POTATOS.

BOROUGH: *March* 19.—Quotations ranged from 80*s.* to 125*s.* per ton.

STRATFORD: *March* 19.—Quotations:—Magnums, dark soil, 90*s.* to 95*s.*; do., uplands, 95*s.* to 105*s.*; Bruces, 100*s.* to 105*s.*; Main Crop, 100*s.* to 110*s.*; Sutton's Abundance, 100*s.* to 120*s.*; Scotch Magnums, 95*s.* to 105*s.*; do., Bruces, 95*s.* to 105*s.*; do. Main Crop, 105*s.* to 115*s.* per ton.

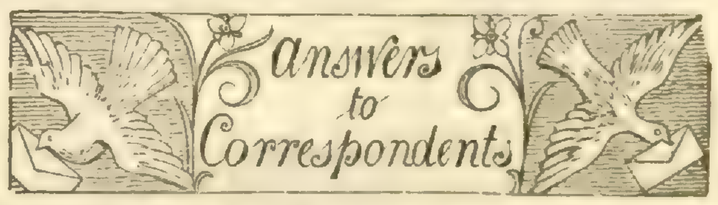
FARRINGDON: *March* 20.—Quotations:—Hebrons, 110*s.* to 130*s.*; Main Crop, 100*s.* to 130*s.*; Snowdrops, 100*s.* to 120*s.*; Magnums, 100*s.* to 120*s.*; black-lands, 85*s.* to 100*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending March 16, and for the corresponding period last year:—1895: Wheat, 19*s.* 9*d.*; Barley, 21*s.* 7*d.*; Oats, 13*s.* 8*d.* 1894: Wheat, 24*s.* 3*d.*; Barley, 27*s.* 5*d.*; Oats, 18*s.* 4*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 112*s.*; do., inferior, 45*s.* to 90*s.*; hay, best, 67*s.* to 92*s.* 6*d*; do., inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 8 *s.*; and straw, 15*s.* to 34*s.* per load.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

AGAPANTHUS UMBELLATUS: *C. H. J.* The plant dislikes disturbance at the roots, and if it be potted or tubbed in sandy loam and fibrous peat and sand, with good drainage—not small crocks—it will increase in size by merely picking out some of the top-soil and replacing it with fresh; manure-water and occasionally an application of clear soot-water may be afforded during June, July, and August. It is a plant that flowers but poorly if not kept in full sunshine. In most parts of this country it is advisable in winter to shelter the Agapanthuses under glass if cultivated in pots, &c. A. umbellatus and its varieties do fairly well planted out in sunny borders, if the ground be covered with a 6-inch layer of tree-leaves in the beginning of winter, removing them at the end of March. Each plant will not produce many flower-heads, but there being probably a number of the former, the effect produced is good, there being few other plants in season with the same shade of colour in the flowers.

ANNUALS FOR A SHADY BORDER: *Gaucho.* We know of no annuals that would grow and flower satisfactorily in a shady border. If you could grow in pots Clarkias in variety, Dianthus Heddewigi and others, Coreopsis in variety, Sweet Sultan, Gaillardia picta, and G. Lorenzii, Erysimum Perowskianum, Nasturtiums, tall and dwarf; Phlox Drummondi, Salpiglossis, Godetias, Mignonette, Nemophila, and others, planting the pots in the soil when the plants are in flower, very nice effects could be produced.

BOTANICAL QUESTIONS: *P. T. I.* 1, There is no real difference. In ordinary use a "runner" is a thin, wire-like stolon, with a tuft of leaves at the end, like a Strawberry; 2, no difference; 3, We do not recall any example of sympodial ramification in a forest tree.

CALLAS WITH DOUBLE SPATHE: *J. H.* Many thanks. Not uncommon, but no one seems to try to fix so desirable a variation.

CATTLEYA HARRISONIÆ: *C. W.* The plant is not doing well, because you treat it improperly; but as no information as to culture is afforded by your note, we cannot say where you have failed. It should have a minimum winter temperature of 55°, and a summer one of 70° to 75° by day. Never syringe the plant unless it be on block, and even then dipping is best; but apply water with a watering pot.

CATTLEYA TRIANÆI FLOWERS IN SHEATHS TURNING BLACK: *C. W.* Caused, probably, by water lodging at the base of the sheath. It is good practice to make an incision of about 1 inch long at this point, so as to make it possible for moisture to escape.

CIDER APPLES: *Bunya Bunya, Brisbane.* Red Splash, early, good; Hagloe Crab, mid-season; Red Bud, mid-season, great bearer; Tanner's Red, late; Coccagee, mid-season; Forest Styre, mid-season; Garter Apple, mid-season; Bran Rose, early, good; Ansell, late keeper; Ledbury Bell, first-rate cider; Bache's Kernel, highly esteemed, rich juice; Black Hereford, a dark green Apple, making prime cider; Bristol Crab; Brown Snout, a bitter-sweet, and makes good cider; Bull's Eye, late keeper, pendulous habit, makes excellent tipple; Canon Bitter-sweet, late, much-esteemed; Darbin Red Streak; Devonshire Red Streak, mid-season, makes god cider; Devonshire Royal Wilding, one of the best cider fruits—the true variety may be got in Devonshire, the false variety is large, and fit only for cooking; Price's Bitter-sweet, makes excellent cider, alone or in mixture; Sugar Apple, a cooking or cider fruit—it helps to make first-class cider; Tremlet's Bitter, highly esteemed Devonshire variety; Foxwhelp, mid-season, first-rate cider fruit; Cowarn Red, late, good cider; Dymock Red, mid-season. These varieties are not obsolete, and may be obtained in the nurseries of Devonshire, Somersetshire, Herefordshire, and Gloucestershire. The Bitter-sweet varieties are scarcely fitted for making cider alone, but are very valuable for mixing with sweet kinds. *Bull's Herefordshire Pomona.*

FLOWERS FOR A WINDOW-BOX FACING SOUTH: *Gaucho.* All of the plants you name.

FIG. 50.—BRINDLE BEAUTY MOTH.

INSECTS: *H. R. H.* The caterpillar of the Brindled Beauty moth (see fig. 50). It has a remarkable resemblance when stretched out to a thin stick or twig, and is readily overlooked by its enemies—the birds—on that account. It is very common in the London parks and squares.

Lycaste Barringtoniæ (L. costata): *C.* We fear the plant failed owing to its being grown too cool. It should be placed at the warmest part of the cool-house.

Manures for Potatos on Light Loamy Soil after Dung: *W. M.* It should consist of soluble phosphates, partly dissolved and undissolved bones and guano, sulphate of ammonia, and sulphate of potash. Price, between £5 and £7 10*s* per ton. It should be purchased of the manure makers, who may be supposed to know the right proportions of each to be used for land of the description named. A fair dressing would be 3 cwt. per acre.

Market Growers' Greenhouses: *W. G.* These should be assessed in respect of one-fourth part only of the nett annual value. See Sub-section 1 (*b*), of Sect. 211, of the Public Health Act, 1875.

Names of Plants: *W. T., Cardiff.* 1, one of the many varieties of Thuia (Biota) orientalis; 2, Cupressus obtusa var. filicoides, the Retinospora filicoides of gardens; 3, Cupressus pisifera var. filifera, the Retinospora filifera of gardens; 4, Cupressus obtusa, commonly called Retinospora obtusa.—*J. H.* A species of Hypoxis, probably H. elata; but without the leaves we cannot be sure.—*W. J. W.* Dendrobium chrysotoxum, a rather common Indian species. If you got it from Brazil, it must have been a cultivated and not a wild plant there.—*S. B., Liverpool.* Cymbidium Lowianum, with an undeveloped front lobe to the lip; and Cœlogyne cristata.—*H. M. E.* Hedera Helix var. digitata. We do not recognise the Ivy mentioned, but application to any of the larger nurseries would probably be successful.

Odontoglossum crispum: *W. M.* It is a good ordinary form of O. c. virginale, a variety from New Granada, shown by Messrs. B. S. Williams & Sons in 1883, at one of the meetings of the Royal Horticultural Society, when it received a First-class Certificate.

Pine apples: *Cretica.* You will find all that you require to know on the matters referred to in your note to us in the Calendar for the present issue. We intend publishing shortly an article by a well-known cultivator that will give you numerous hints for guidance.

Setting Melons: *J. W.* The flowers of these plants are very fugacious, and they should be caught soon after they open, say about noon, or when bees and other insects abound at 10 A.M., if you want to be sure of getting the best pollen. Strip the petals off a male flower which you have removed from the plant, or from a different plant than the one to be fertilised, touch it with thumb-nail, and if the pollen comes off easily it is "fit." Having selected a freshly and fully expanded female flower, touch the stigma with the pollen grains. If fertilisation takes place the flower withers in a few hours afterwards. In high summer the fertilisation of Melon blooms is often effected without the gardeners' agency, but it is best to be sure.

United Horticultural Benefit and Provident Society: *G. L.* The Secretary is Mr. W. Collins, and his address is 9, Martindale Road, Balham, S.W.

Violets: *J. D.* The darker-coloured variety is De Parme; the other Neapolitan.

Communications Received.—W. F. P.—B. and G. (Why did you not address the publisher on such a matter?).—W. F. P.—U. D., Berlin.—G. H.—E. S. Hambledon.—Treseder.—W. D.—M. M.—W. Marshall.—M. C.—A. M. D.—C. W. D.—J. H. (thanks for your note; it will appear shortly).—G. H.—R. D.—W. G.—S. T. W.—W. W.—W. C.—J. O'B.—Q. R.—J. S.—G. W.—A. D. W.—J. R. J.—T. G. H.—J. B—Aspidistra (next week).

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

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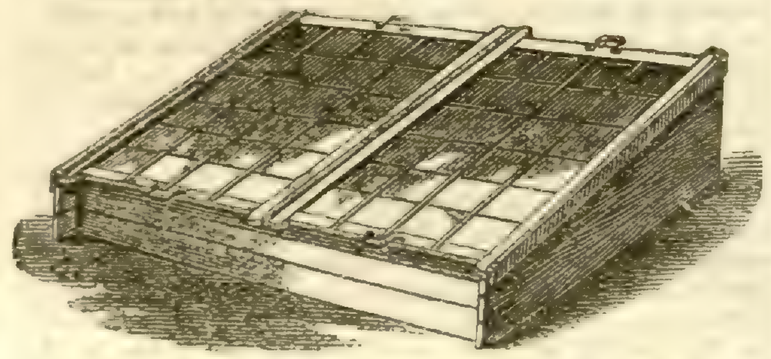

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4 „ 16 ft. by 6 ft...	PAID.	5	5	0
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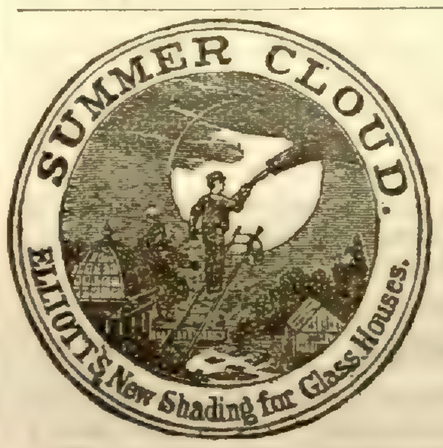

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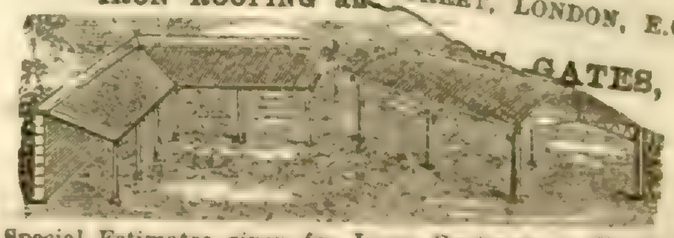

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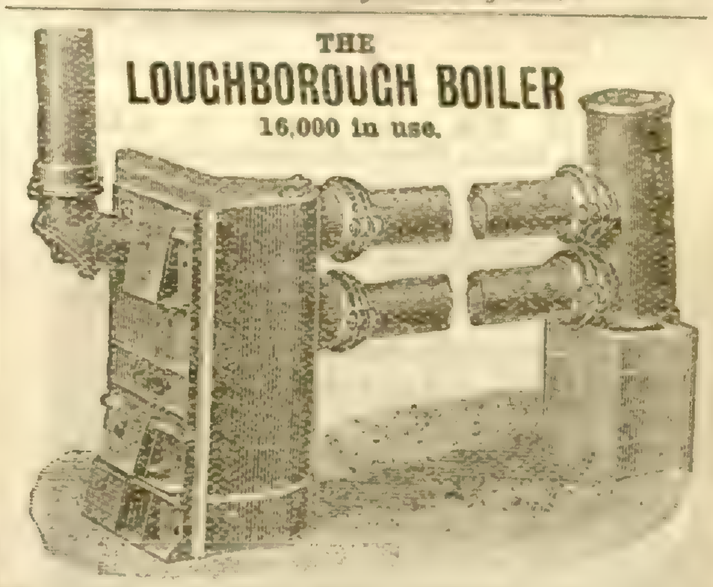

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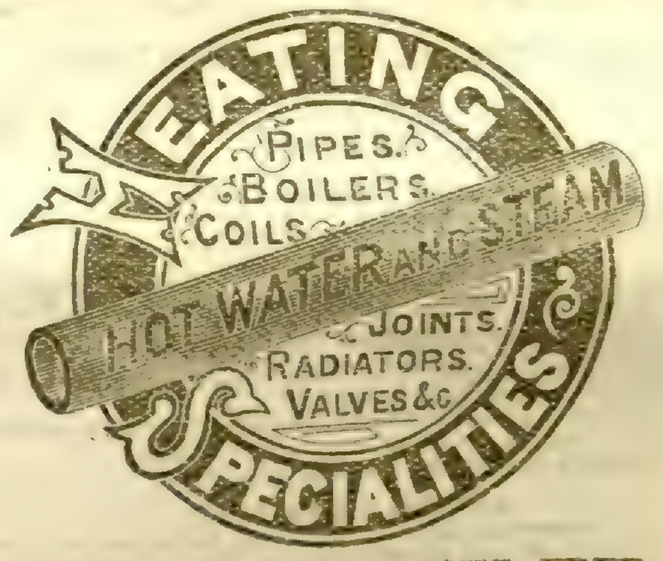

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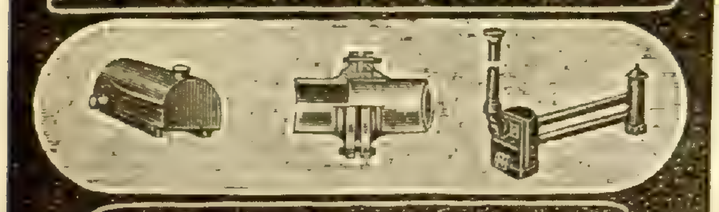

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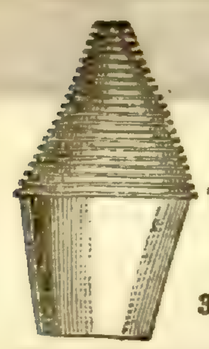

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10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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WANTED, a few Good GARDENERS, for Jobbing Work, also to assist in Furnishing, Boxing, &c.—G. STRUDWICK, Florist, Bayswater Road.

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WANTED at ONCE, a WORKING GARDENER for Nursery, about 8,000 feet of Glass in Eight Houses, with one young Man under him, to grow Plants and Flowers for Market, and to take charge of the whole place. Wages, 20*s.* per week, with 5 per cent. on profits; height of man not over 5 feet 8 inches, as the houses are low; strictly honest; state age and experiences to—W. STOTT, Nurseryman and Florist, Heywood, Manchester.

WANTED, a GARDENER (Single-handed place), Highgate, London.—Must thoroughly understand his duties. Good personal character required. Write full particulars, age, married or single, last situations, experience, wages required (nothing found), to GARDENER, Willings, 162, Piccadilly, W.

WANTED, a strong, active young GARDENER, principally for Jobbing. — Permanency. Churchman preferred. State age, wages, experience, and references. — J. J. WOODGER, 4, S. Mary Villas, Chislehurst West.

WANTED, an UNDER GARDENER, with special knowledge of Hardy and Alpine Plants and their Propagation. — J. WHITEHEAD, Esq., Southwood, Bickley, Kent.

TO NURSERY FOREMEN.—WANTED, at ONCE, in a London Market Nursery, an experienced MAN. Must be thoroughly up to his work; good Manager of Men, and first-class Grower of Tomatos, Cucumbers, Grapes, Chrysanthemums, &c. No application other than from Covent Garden growers entertained.—Address, giving full particulars, and wages required, which must be moderate to commence, FOREMAN, H. Tite & Co., Salesmen, Covent Garden, W.C.

WANTED, a young MAN, as PROPAGATOR and ASSISTANT-SALESMAN.—WIMSETT AND SON, Florists to the Queen, Chelsea, S.W.

WANTED, immediately in a small Nursery, near Enfield, Middlesex, a WORKING FOREMAN, who has had good experience in growing Flowers under Glass and in the Open for Market. To a capable and energetic man this may prove a good opening.—Letters only, stating full particulars and wages required, to W., 17, Buckingham Street, Adelphi, W.C.

WANTED, at ONCE, a JOURNEYMAN, not under 23, with good training in plant growing. Must be very neat and clean in his work. Wages 16s. per week, with bothy, milk, and vegetables.—State experience, and other particulars to H. R., Dickson & Robinson, Manchester.

WANTED, TWO JOURNEYMEN for the Houses.—Quick at Tying, Watering, and Potting. Well up in growing all sorts of plants under glass; from Nurseries preferred. Wages 18s. per week.—Apply, with reference, to ISAAC MATTHEWS & SON, The Nurseries, Milton, Stoke-on-Trent.

WANTED, a young MAN, to assist Foreman of a Market Nursery, and attend to customers. One from a Market Nursery preferred.—Apply to READ, Vine Nursery, Downs Road, Clapton.

WANTED, a MAN, who has had experience in the general routine of a Market Nursery, where general Pot-stuff, Tomatos, and Cucumbers, are grown. State age and wages required.—G. B. D., 41, Wellington Street, Strand, W.C.

WANTED, immediately, a Strong, Active Young MAN, for Kitchen and Flower-garden, will have fires and Sunday duty every third week. Wages 18s. per week. Bothy, milk, and vegetables.—Apply to GARDENER, Milburn, Esher, Surrey.

WANTED, Young MAN for the Houses, quick at Tying, Watering, and Potting Ferns, Cucumbers, and Tomatos. Wages 18s.—CRISP & JONES, Devon Nursery, Balham, S.W.

WANTED AT ONCE, for the Season, steady unmarried Man, about 25, to assist in small Market Nursery, near London. Must be well up in Cucumbers, Tomatos, Grapes, Mushrooms, and Chrysanthemums.—Send references and wages required to W. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, Active, Intelligent Young MAN for Nursery (outside market work, vegetables). Wages, 21s. per week, good prospect, total abstainer, good character, able to superintend, if necessary. South Coast.—Apply by letter, WOOD & SON, Wood Green, N.

WANTED.—Several quick, active Men, used to Cucumber and Tomato Growing. State age, experience, &c., to JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne.

WANTED, an energetic and thoroughly experienced MAN, to take charge of the Stove and Greenhouse Department and Forcing of Cut Flowers, &c., in a Country Nursery. One who has had several years experience in a London Market Nursery preferred. Good wages given to a suitable man.—J. ROBSON, Altrincham.

WANTED, young MAN for Market Nursery, used to growing Ferns and Soft-wooded Plants. Wages 18s. per week.—Apply to FOREMAN, Wright's Nursery, Turner Road, Lee.

WANTED AT ONCE, a young MAN, for Nursery.—A smart man, about 20 to 24, used to Potting, &c. Required to work both under Glass and Outdoors. Wages, 18s. to 20s. per week.—State full particulars to CARTER PAGE AND CO., 53, London Wall, London, E.C.

WANTED, IMMEDIATELY, a MAN, who thoroughly understands Mushrooms for Market; also the Brick making.—Apply by letter, stating age, wages, and experience, to BARRON, The Moat, Enfield Highway.

WANTED, a young MAN (18 to 20), Inside. Some experience in Ferns, Palms, &c.—References and wages required to T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, for Outside Nursery Work, MAN as Leading Hand. Age 30. Strong and active. Thoroughly up in planting Nursery Stock and Names of Plants. Wages 22s. Also strong, active Man as Assistant to above.—CONIFER, 41, Wellington Street, Strand, W.C.

WANTED, at ONCE, TWO good SPADE HANDS, used to General Nursery Work.—Apply to Hassocks Nursery, Sussex.

WANTED, at ONCE, a young MAN; must be used to Cucumber and Tomato growing, and with a knowledge of Ferns. Wages 18s. per week.—YOUNG AND SON, Town Road Nursery, Lower Edmonton.

WANTED, an active young MAN, for Potting, Watering and Tying-up Plants, and must be well up in Growing Ferns. Good wages to a competent man.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

WANTED, a young MAN, for the Houses.—One who has a knowlege of Cucumber and Tomato-growing preferred.—ISAAC BUSH, Beechfield Nursery, Bowdon, Cheshire.

WANTED, an intelligent and active young MAN as IMPROVER in Greenhouses and Garden. Also attend Market as Salesman part of time.—Terms to H. WHITEHEAD, Heathville Nursery, Gloucester.

WANTED, strong YOUTH (age about 18); Wages 10s. per week, with Bothy and Vegetables.—Apply, F. DUESBURY, Sunny Hill Vinery, Littleover, Derby.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

JOHN R. BOX, Croydon, has now upon his Register several able and well-qualified HEAD GARDENERS, FOREMEN, JOURNEYMEN, and SINGLE-HANDED GARDENERS, men of highest character; and will be pleased to give employers particulars.

GARDENER (Head), or FOREMAN in the Houses.—Knowledge of Plant-growing, &c. Age 31; abstainer.—E. CORDING, Ruscombe, near Twyford, Berks.

GARDENER (Head), and ORCHID-GROWER.—Age 35; married. Successful grower of Orchids, Grapes, Stove, Greenhouse, and Hardy Plants, Fruits, Flowers, and Vegetables. Reliable manager. Excellent character.—GARDENER, Lett's Library, Crouch Hill, N.

GARDENER (Head), age 27, single, where two or three are kept.—Good all-round experience, including Chrysanthemums for exhibition. Last place with J. Stiles, Teignmouth; leaving present situation when suited.—W. P. HAYMAN, 6, Hope Terrace, Alpha Road, Surbiton.

GARDENER (Head), where two or three are kept.—J. CROWN would be pleased to recommend his Foreman, aged 29, to anyone requiring a thoroughly practical and trustworthy man; well up in all branches of the profession; fifteen years' experience; total abstainer.—6, Grove Terrace, Board School Road, Woking.

£5 OFFERED for information leading to good appointment as HEAD GARDENER.—First-class experience and references.—J. G. BROWN, 153, Tyers Street, Vauxhall, London, S.E.

GARDENER (Head); age 30, married, one child.—WM. ALLSOP, Head Gardener to E. W. Beckett, Esq., M.P., Kirkstall Grange, Headingley, Leeds, offers his services to any Nobleman or Gentleman wanting a thoroughly practical Gardener in every Department. First-class testimonials from present and previous employers, in some of the best gardens in England.

GARDENER (Head), aged 30.—JAMES STOCKS, who has been General Foreman in the Stoke Edith Gardens, Hereford, for the past two and a half years, begs to offer his services to any Lady or Gentleman requiring the services of a first-class practical man.—For full particulars, apply to Mr. WARD as above.

GARDENER (Head), age 27; married; no family.—N. P. CADELL, Esq., highly recommends his Gardener, who has been with him the past two years, to any Lady or Gentleman requiring a thorough practical, trustworthy man, well up in all branches. Fourteen years' experience.—W. E. LOVELL, The Gardens, Clare House, Tiverton.

GARDENER (Head).—Single; desires a re-engagement with any Lady or Gentleman requiring the services of a thoroughly experienced energetic young man. Good characters. Highly recommended.—Particulars please to R. B., 41, Wellington Street, Strand, W.C.

GARDENER (Head), age 44, married.—Mr. G. H. PEAKE, who is changing his residence, strongly recommends his Head Gardener, William Atkinson, who has been with him and his predecessors for twenty years as Head.—Reply to WILLIAM ATKINSON, Head Gardener, Westholme, Sleaford.

GARDENER (Head).—Age 30; life abstainer. Fifteen years' practical experience in all branches. Good character. Well recommended.—G., 41, Wellington Street, Strand, W.C.

GARDENER (Head), age 32, married.—A GENTLEMAN is desirous of recommending his Head Gardener as a thoroughly efficient man, especially successful with Chrysanthemums; present situation two and a half years, seven years previous.—GEO. BURRISS, Woburnhurst Park, Addlestone Surrey.

GARDENER (Head), or ORCHID GROWER; age 32.—JOSEPH FORSEY, The Gardens, Stauford Hall, Loughborough, would be pleased to recommend his Foreman to any Lady or Gentlemen requiring the services of a good practical man. Thoroughly experienced in all branches. Five years in present situation.

GARDENER (Head).—Age 30; married.—A Gentleman wishes to recommend his Gardener to any Lady or Gentleman requiring a good all-round man.—GARDENER, Baron House, Mitcham.

GARDENER (Head); age 32; married when suited.—Mr. J. LOCKHART, Gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington, can with every confidence recommend Edward Joseph, who has been with him four years as General Foreman; experienced in all branches of Gardening. Highest references.

GARDENER (Head), where two are kept, or good SINGLE-HANDED.—Age 30; two years' good character from last employer; seven previous. Single at present.—J. PLEASANCE, Church Lane, Teddington.

GARDENER (Head); age 39.—Advertiser, a thoroughly practical all-round Gardener, conversant in every department. Life practical experience in Fruits, Flowers, Vegetables, &c. Thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, London, W.

GARDENER (Head).—F. POTTER, late Foreman at Eridge Castle, and fifteen years Head Gardener at Newick Park, desires re-engagement. Had great experience in Alpines and Hardy Plants. Age 40; excellent character.—47, Althorpe Road, Upper Tooting, S.W.

GARDENER (Head).—A LADY wishes to recommend her head gardener, H. Parrott; thoroughly efficient, trustworthy man, well qualified for the management of a good garden. Stock, if required. Six and a half years in present place; nine years previously as Head; age 41. Married.—H. PARROTT, Wood End, Chichester.

£5 BONUS for information leading to a good appointment as HEAD GARDENER.—Age 39, married, two children. Twenty-five years' experience in good establishments, seven and a half years as Head in last place. Excellent characters.—GARDENER, 8, The Croft, Boyn Valley, Maidenhead.

GARDENER (Head Working).—Age 41; married; no incumbrance. Thoroughly practical in all branches. Life experience. Good reference from present and previous employers; abstainer.—H., 53, Natal Road, Streatham.

GARDENER (Head Working).—Age 30; fifteen years' practical experience in large establishments; excellent testimonials.—GARDENER, Avenue Lodge, Selly Park, Birmingham.

GARDENER (Head Working); age 29.—R. JONES, Barford Hill Gardens, Warwick, would be pleased to recommend his late Foreman as above. Well up in all branches of Gardening.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (Head Working).—A GENTLEMAN recommends the above. Thoroughly conscientious and trustworthy; understands his work in all branches; been in the service of his late father for the last ten years.—J. L., Gardener, Dale Ford, Northwich.

GARDENER (Head Working).—Age 36, two children; thoroughly experienced in all branches. Eight years with present employer. A death cause of leaving.—RANDALL, The Park, Addlestone, Surrey.

GARDENER (Head Working).—Age 40; twenty-five years' experience. Thorough good all-round man. Well recommended.—J. HORN, 56, Croydon Grove, West Croydon.

GARDENER (Head Working).—Middle-aged; married; no family. Life experience in all branches. Well recommended. Land and Stock.—W. REEVES, 37, Kidderpore Avenue, Hampstead, N.W.

GARDENER (Head Working).—Age 35, married, no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (Head Working).—Age 30; married; with eighteen years' practical experience, conversant in the general routine of a good garden. Excellent characters.—G., 43, Highfield Street, Market Harborough.

GARDENER (Head Working).—Age 29; where two are kept. Sixteen years' experience. Good characters from all employers.—T. ATTWOOD, 14, Rectory Road, Parson's Green, Fulham.

GARDENER (Head Working), age 37, married, no family.—GENTLEMAN, who has given up, would be pleased to recommend his Gardener, who has good practical experience in all branches.—CROCKFORD, The Grange, Elstree, Herts.

GARDENER (Head Working, where three or four are kept).—Age 30; good experience in the general routine of gardening, including Orchids, Stove and Greenhouse Plants, &c. First-class references from good places.—H. ROWLINSON, The Gardens, Oakley, Fallowfield.

GARDENER (Head Working), where two or three are kept.—Age 32, single; life experience in all branches; also Land and Stock. Good character.—GARDENER, Moss Hall, Finchley.

GARDENER (HEAD WORKING).—Sir THOMAS BAYLEY wishes to recommend W. Burly, who has been with him five years as Foreman, to any Lady or Gentleman requiring a Gardener (age 32). First-class experience in all branches, including Orchids.—W. BURLY, Hatherop Castle, Fairford, Glos.

GARDENER (HEAD WORKING).—Fourteen years' experience in all branches, five in present situation, previously at Royal Gardens, Kew. Good references.—C. WILKINSON, Bradwell Grove, Burford, Oxon.

GARDENER (HEAD WORKING, where two or more are kept).—Age 38, married, offers his services to any Lady or Gentleman in want of a thorough practical man in all branches. Excellent character.—W. R. COPESTAKE, 24, Mountfield Road, Ealing, W.

GARDENER (HEAD WORKING).—Age 46, married, no family; life experience in Noblemen's and Gentlemen's Gardens. Thoroughly experienced in all its branches. Can superintend Pasture Land and Stock if required.—LOCKYER, South Entrance, Saxmundham, Suffolk.

GARDENER (HEAD WORKING).—Married, no family; experienced in all branches. Nearly three years in last place as Foreman. Good testimonials.—Apply, stating particulars, to J. HIGGS, 3, Acacia Road, Beckenham, Kent.

GARDENER (HEAD WORKING).—Age 30, single; fifteen years' experience in all branches; highly ecommended.—H. ELLIOTT, The Lodge, Manadon, near Plymouth.

GARDENER (HEAD or SINGLE-HANDED).—Married; thoroughly understands Glass, Fruit, Flowers, and Vegetables. Can be well recommended, with excellent references.—PALMER, Bonney Brock, Little Kimble, Tring.

GARDENER (HEAD, or SINGLE-HANDED).—Age 37, married; thoroughly experienced with Grapes, Peaches, Cucumbers, Tomatos, Flowers, and Vegetables of all kinds. Good character.—GARDENER, Dragon Street, Petersfield, Hants.

GARDENER (HEAD, or good SINGLE-HANDED). — Understands Early and Late Forcing, Flowers, Fruits and Vegetables. No family. Wife a good Laundress.—GARDENER, Ystrad-house, Ystrad Mynach, Cardiff, Wales.

GARDENER (HEAD, or SECOND); age 28; single.—A LADY wishes to recommend her late Second man, who has had about 12 years' experience in First-class Establishments. Well up to his duties. Early and Late Forcing, Vines, Peaches, &c.—GARDENER, 79, Bridge Road West, Battersea, S.W.

GARDENER (SINGLE-HANDED, or SECOND).—Age 27; twelve years' experience in all branches; three years last place; well recommended; disengaged.—V. H., 41, Wellington Street, Strand, W.C.

GARDENER (SINGLE-HANDED).—Age 23; nearly ten years' experience, Inside and Out. Nine years present situation. Country preferred.—A. P., Talbot Road, Twickenham, Middlesex.

GARDENER (SINGLE-HANDED, or where assistance is given).—Good all-round practical man. Age 49, one son (11); Wife (37) willing to assist in House, if required. Good characters.—W. H., 2, Bynner Street, Rellevue, Shrewsbury.

GARDENER (SINGLE-HANDED or otherwise). Age 25; ten years' practical experience, Inside and Out. Good references as to ability.—E. GARRETT, Bell Lane, Hendon, Middlesex.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, married when suited; fourteen years' experience in first-class places.—A. B., 3, Abercorn Villas, Wembley, N.W.

GARDENER (SINGLE-HANDED).—Used to Cows and Stock. Five years' character.—R. REEVES, Chelsfield, Kent.

GARDENER (SINGLE-HANDED or otherwise).—Age 29, married; understands Vines, Peaches, Melons, Cucumbers, Flowers, and Kitchen Gardens. First-class references.—C. TAPP, Burton Hill Cottages, Petworth, Sussex.

GARDENER (SINGLE-HANDED, or where help is given).—Age 40; married. Practical with Grapes, Peaches, Melons, Flowers, and Vegetables. Wages £1, with cottage.—GARDENER, Orchard Row, Baldock, Herts.

GARDENER (good SINGLE-HANDED, or with help).—Age 24; abstainer. Thoroughly practical in all branches of Gardening. Well recommended.—W. Y., Mr. Smith, Jun., 69, High Street, Eltham.

GARDENER, where three are kept.—Age 27; married when suited. Thirteen years good practical experience Inside and Out. Two and a-half years present situation. Good references.—F. B., 49, Duke Street, Henley-on-Thames, Oxon.

GARDENER, or to Assist at a Nursery.—A Gentleman can recommend a young man who has been with him three years. Excellent references and good experience.—L. MOXON, Sempsford Hall, Sandy.

GARDENER.—Situation wanted, by young man. Age 26, single; experienced all-round. Where married man could be kept if suited. Several years experience. Five years present place.—J. E. TERRY, Parkville, Dumpton, Ramsgate.

GARDENER.—Situation wanted by a young Man (age 24) as SECOND, Inside and Out. Good character.—H. KNOWLES, Up Park Gardens, Petersfield, Hants.

GARDENER (SECOND), where four or more are kept—Age 25; nine years' experience Inside and Out. Good references. South preferred.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (SECOND or UNDER).—Age 24, single; well experienced, Inside and Out.—A. SPEAKMAN, 8, Shaftesbury Avenue, New Barnet.

GARDENER (SECOND), or IMPROVER in Houses.—Age 22. Where five or six are kept; been used to general work. Two years' good character.—G. J., Lignum Cottage, Bushey Heath.

GARDENER (SECOND), Inside, or Inside and Out.—Age 22; abstainer. Over eight years present employer; two years Second.—C. MILLS, Holwood Gardens, Beckenham, Kent.

GARDENER (SECOND, or UNDER).—Age 27; twelve years' experience in all kinds of Plant and Fruit Growing. Three years in last situation. Will be highly recommended for abilities.—J. WILLIAMS, Hookfield Grove, Epsom, Surrey.

GARDENER (SECOND), age 24; with good general experience. Excellent references from present and previous employers.—B., 43, Highfield Street, Market Harborough.

GARDENER (SECOND), where three or four are kept.—Inside and Out. Age 25; thoroughly understands his work.—J. TREVENA, 12, Syndall Street, Ardwick, Manchester.

GARDENER (SECOND of three or four, or good Third).—Age 22; single. Eight years' good experience Inside and Out.—W. PETERS, 59, Orchard Road, Dorking, Surrey.

GARDENER (SECOND, or would not object to good SINGLE-HANDED place).—Age 25, single; two and a half years' reference. Abstainer.—J. D., 92, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (SECOND).—Age 26, married; life experience, Inside and Out. Good character.—C. SMITH, Elmore, Chipstead, Surrey.

GARDENER (SECOND).—Age 25; thoroughly experienced in all branches. Can be well recommended.—J. BROOKER, Ivy Cottage, Leicester Road, New Barnet.

GARDENER (SECOND or UNDER.—Age 24; experienced in Indoor and Outdoor work.—W. CAWLEY, Devon Cottage, Malpas, near Newport, Mon.

GARDENER (UNDER), in the Kitchen Garden.—Age 23; nine years' experience, Inside and Out. Highest references.—G. CAPSTICK, 51, Wellfield Road, Streatham, Surrey.

GARDENER (UNDER).—Single; good general knowledge of Gardening. Inside and Out. Good character.—G. P., 14, Tylney Road, Bromley, Kent.

GARDENER (UNDER or otherwise).—Age 32; single; abstainer; good character. Used to Kitchen Garden, Pleasure Ground, and Greenhouse.—A. GARWOOD, Hall Street, Long Melford.

GARDENER (UNDER). — Age 26; good knowledge of Kitchen Garden-work, or Inside and Out. Good character.—W. SANSOM, 7, Sydney Terrace, Feltham, Middlesex.

GARDENER (UNDER).—Age 20; two and a half years' good character, six years' previous. General knowledge Inside and Out.—J. DRAKE, Sidbrook, Monkton, Taunton.

GARDENER (UNDER).—Age 21; good experience Inside and Out. Five years in present situation. Good references from employer.—C. W. HOWARD, care of Gardener, The Cottage, Sandgate, Kent.

GARDENER (UNDER), age 25, seeks a situation Inside and Out. State wages, &c.—W. BOURNE, Tiltwood Lodge, Crawley Down, Sussex.

GARDENER (UNDER). — Inside and Out; age 20; strong, willing, and obliging. Four and a half years' good character from present employer.—G. DIMMOCK, Midland Cottages, Mill Hill, N.W.

GARDENER (UNDER), Inside and Out.—Age 25; eleven years' experience. Good character.—T. DANCER, Harsfold Manor, Billingshurst, Sussex.

GARDENER (PLAIN), or HANDY-MAN.—Age 30, married, no family. Mr. OSBURNE, The Grove Gardens, Teddington, will be pleased to recommend J. Dean as above. Used to small engine. Abstainer. Six years' good character.

Market Nursery.

FOREMAN or GROWER in small Nursery.—Ferns, Cucumbers, Tomatos, Soft-wooded Stuff, &c. Eighteen years' experience. — A., Mr. Dale, High Street, Mitcham.

FOREMAN, in good establishment.—Age 25; ten years' experience in growing Vines, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, early and late forcing. Two years in present situation as Foreman.—J. DAVIES, Gardener, Aberaman House, Aberdare, can highly recommend CHARLES BARRETT as above.

FOREMAN, or JOURNEYMAN (FIRST), in a good establishment, age 25.—Mr. CARR wishes to recommend A. Griffiths as above. Been two years in present situation; nine years' experience. Good testimonials.—Gardens, Yeaton Pevery, Shrewsbury.

FOREMAN, age 27.—A. SMITH, for the past two years Foreman at Wroxton Abbey Gardens, Banbury, desires re-engagement. Thoroughly experienced, and highly recommended by present and previous employers.

FOREMAN, or MANAGER.—Age 30; life experience in growing for London and Provincial Markets, Grapes, Tomatos, Cucumbers, Melons, Strawberries, Plants, Cut Flowers, Ferns, Forcing, Lily of the Valley, Bulbs, &c.—A. H., 4, Bride Street, Liverpool Road, Highbury, London, N.

FOREMAN, or JOURNEYMAN (FIRST), in Private Establishment.—Age 27; good knowledge of Orchids. Character will bear strictest investigation.—W. MASON, Lodge Field, Tittensor, Stoke-on-Trent.

FOREMAN or JOURNEYMAN (FIRST).—Age 24; ten years experience Inside and Out, including Chrysanthemums, Orchids, and House Decoration. Good characters.—F. WICKENS, 7, Gladys Cottage, Chislehurst, Kent.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 24; nine years' experience in Private and Nursery Gardens. Good testimonials. Bothy.—S. G. SMALLRIDGE, Down Park, Crawley, Sussex.

FOREMAN, in the Houses.—Mr. GALE, Place Gardens, Fowey, Cornwall, will be pleased to recommend F. Westcott as above. Been with him two years as SECOND.

FOREMAN (Inside).—Age 27; ten years' experience, last four years at the Gardens, Toddington Orchard Co., Winchcombe, Glos., under Mr. Cleare, who will be pleased to recommend W. FRENCH as above.

FOREMAN, age 25, single.—Mr. G. NORRIS, Head Gardener, Stone Park, can with confidence recommend an energetic Man as above, has been with him two years and eight months.—F. STENT, The Gardens, Stone Park, Greenhithe, Kent.

FOREMAN, or JOURNEYMAN (FIRST), in the Houses, in a good establishment.—Age 24. Ten years' experience in good places.—C. WEAVER, Oakley, Fallowfield, Manchester.

FOREMAN (GENERAL); age 27.—Mr. POPE, Ashby Hall Gardens, Lincoln, wishes to highly recommend his Foreman, Thomas Robinson. Thoroughly experienced in Fruit and Plant Houses; steady, sober, and trustworthy. Two and a half years as Foreman here.

FOREMAN, Inside.—Age 28; fourteen years' experience in Stove and Fruit Houses. Good characters.—W. MILTON, Market Nursery, Harefield, Middlesex.

FOREMAN or PROPAGATOR.—Age 34; married. Thorough practical man. Nineteen years' experience in leading Nurseries. London reference.—LLOYD, 27, Eddiscombe Road, Parson's Green, Fulham.

FOREMAN.—Age 24. Mr. RINGHAM, Gardener to the Earl of Strafford, will be pleased to recommend W. Baker as above, who has been with him three years.—The Gardens, Wrotham Park, Barnet, Herts.

FOREMAN (or SECOND). — Age 24; nine years' experience in Plant and Fruit Houses, and an abstainer. Excellent testimonials from present and previous employers.—STOKES, Antony Gardens, near Devonport.

FOREMAN.—Age 27. Good practical experience in all branches, including Orchids and Decorations; reliable character and testimonials.—T., 101 High Street, Hemel Hempstead, Herts.

FOREMAN, Inside, age 25.—Ten years' experience in first-class establishments. One year as Foreman in last place. Two years at Enville Hall. Good characters.—W. T., 3, London Road, Hackbridge, Surrey.

FOREMAN, PROPAGATOR and GROWER. 20 years' experience in hard and soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—H. JONES, Cambridge Road, Godmanchester, Hunts.

To Market Nurserymen Only.

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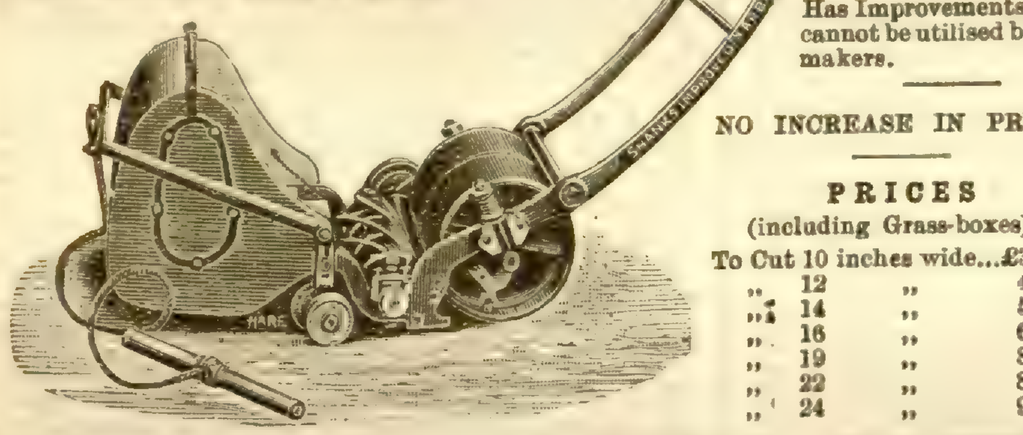

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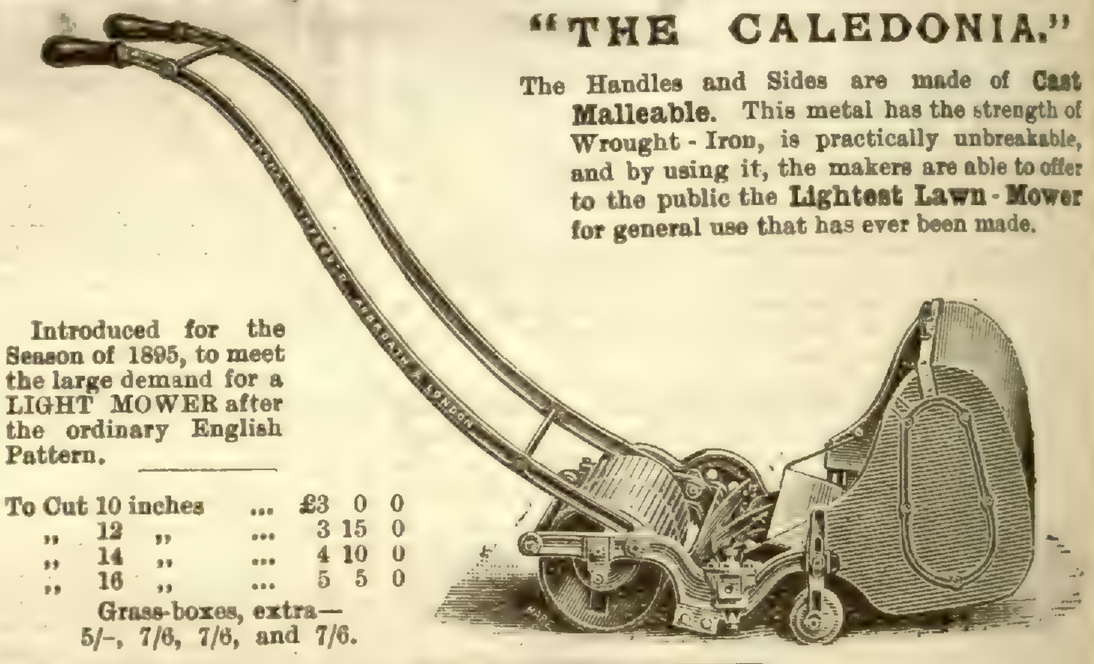

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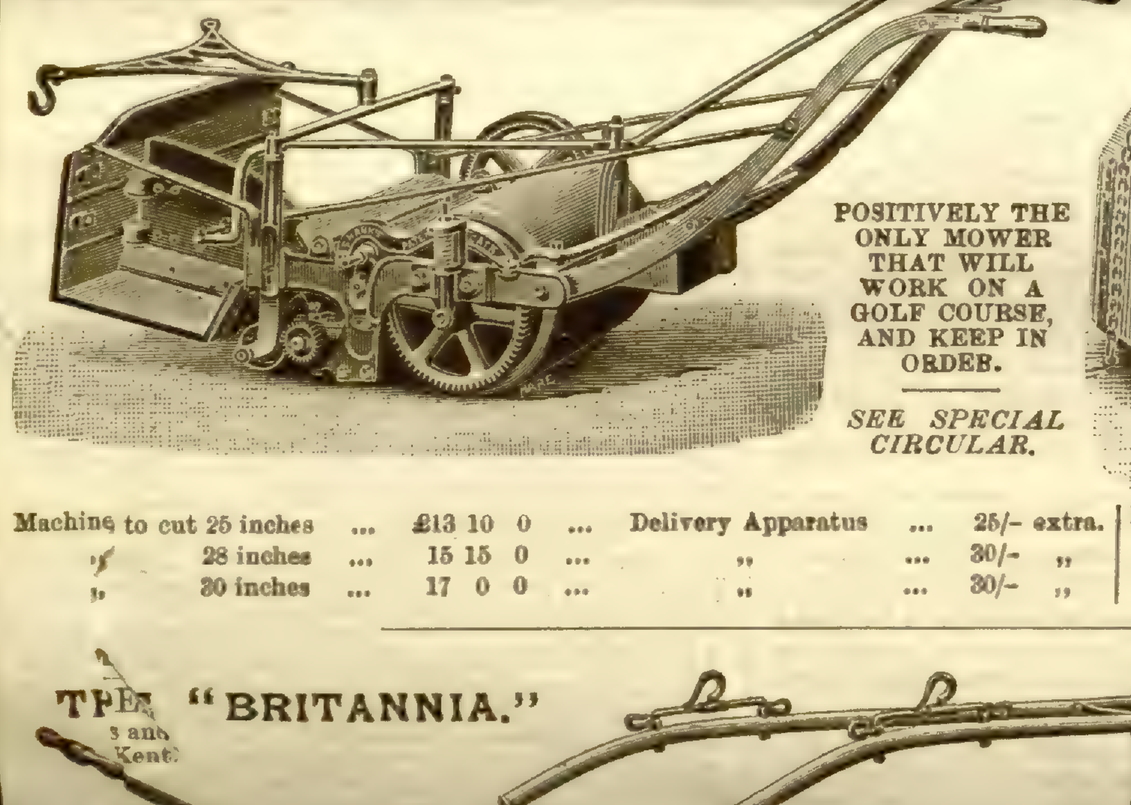

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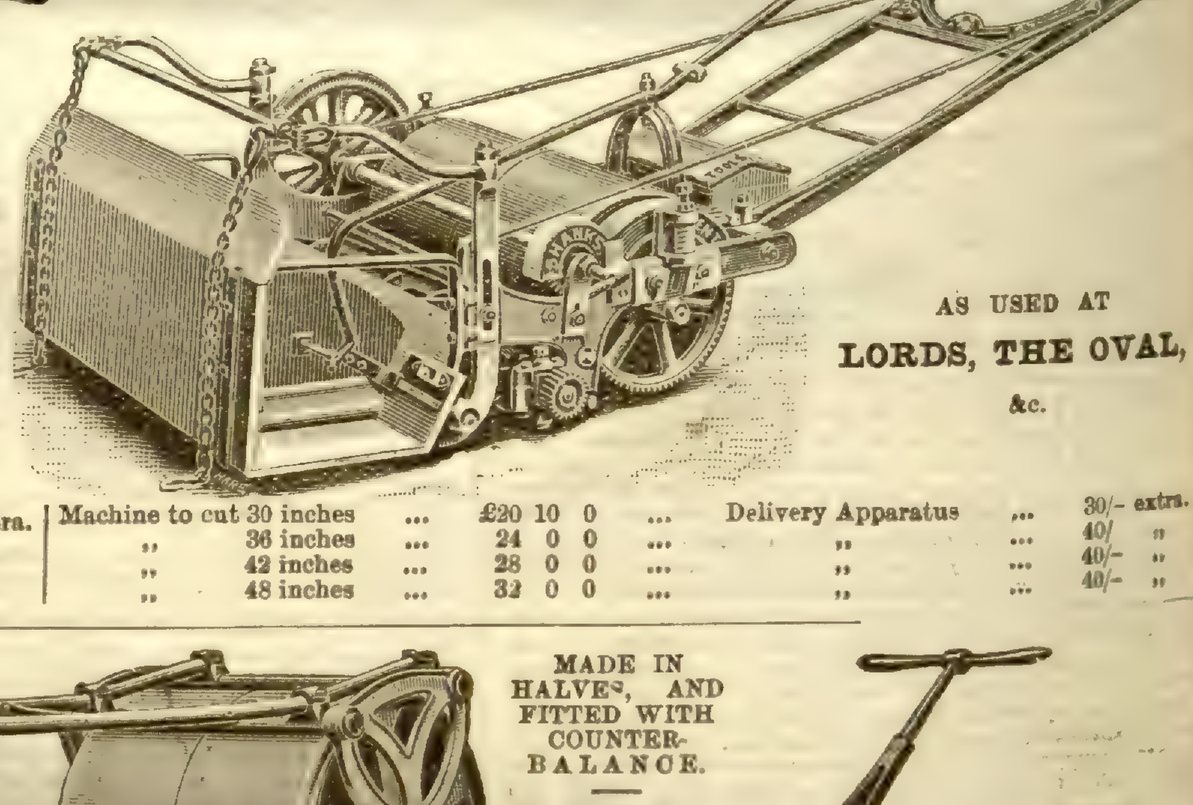

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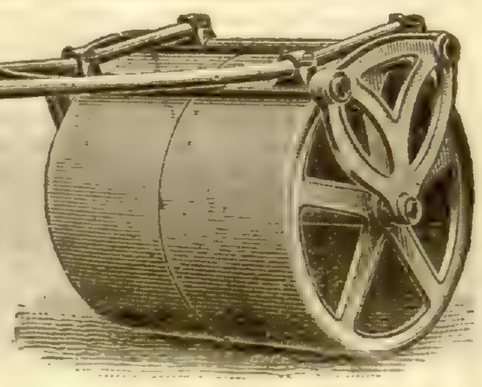

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DICKSONS IMPROVED MUSHROOM SPAWN of excellent quality. Price per bushel of 14 Cakes, 5s. Two bushels and upwards, carriage paid. One Selected Cake, 9d.; 3 Selected Cakes, 2s.; 6 Selected Cakes, 3s. 6d., free by Parcel Post.—DICKSONS, Chester.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Highest Market Prices. Prompt Cash.

ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

CARNATIONS.—White Clove, 10s. per 100; Raby Castle, 16s. per 100, strong layers, from open border. A. McCULLOCH, Newstead Abbey Gardens, Notts.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—

W. L. LEWIS AND CO., Southgate, London, N. PRICE LIST free.

B. S. WILLIAMS AND SON have posted their New and General PLANT CATALOGUE for 1895 to all their customers. A copy will be forwarded, gratis and post-free, on application to any who may not have received one.—Victoria & Paradise Nurseries, Upper Holloway, London, N.

CLEMATIS.—Strong Plants, in 48-sized pots. Jackmanni, 12s. per dozen, 75s. per 100. Fifty other best kinds, 12s. to 18s. per dozen, 75s. to £3 per 100. The new crimson kind, Madame Edouard André, 3s. 6d. each.

Also fine stocks of IVIES, HONEYSUCKLES, JASMINES, ROSES, WISTARIAS, MAGNOLIAS, ESCALLONIAS, CEANOTHUS, and all other hardy Climbing and Wall Plants. Priced List free by post.

WM. PAUL AND SON, Waltham Cross, Herts.

NOW is the TIME to PLANT GLADIOLI, DELPHINIUMS, PYRETHRUMS, GAILLARDIAS. Catalogue of KELWAY AND SON, Langport, Somerset.

WANTED to Purchase, large ORANGE TREES, 5 to 7 feet; in bloom and fruit.—Apply by letter, G. D. TAVINER, F.R.H.S., Bayswater Hill, W.

WANTED, 50 to 100 NIPHETOS, strong, healthy, well-established, in pots. S. C., 41, Wellington Street, Strand, W.C.

WANTED, Seedling BRIAR or MANETTI STOCKS (strong). Lowest cash price per 1000 to P. H. AND J. COOPER, Avenue Road Nursery, Bexley Heath.

WANTED, an offer for 400 BEGONIA TUBERS (Laing's Strain), 300 IRESINE LINDENII, and a large IMANTOPHYLLUM MINIATUM with 9 growths, carriage paid.—Apply to GARDENER, Trafalgar, Salisbury.

WANTED, CUT BLOOMS of MARÉCHAL NIEL ROSES through season. Price, &c. to GREAVES AND HAYNES, Florists, Beeston, Notts.

WANTED, "CASSELL'S POPULAR GARDENING" (Second-hand).—State lowest price to J. F., 41, Wellington Street, Strand, W.C.

PLANTING SEASON.—Immense Stocks of HARDY EVERGREEN and DECIDUOUS TREES and SHRUBS of all kinds, all well transplanted, and in excellent condition for removal. Rhododendrons off Loam a specialty. Priced Descriptive Catalogue free by post.

WM. PAUL AND SON, Waltham Cross, Herts.

GERANIUM Madame Jules Chrétien.—The finest and most distinct novelty. Perfect bedder. Excellent for winter flowering. Strong plants in flower ready April 15th. Delivered package and carriage free per dozen, 16s., cash with order. Apply direct to—

AUGUSTE NONIN, Horticulteur, Chatillon-sous-Bagneux, Seine, France.

NEW SENSATIONAL AMERICAN CHRYSANTHEMUM, "PHILADELPHIA."—Received Highest Award on every occasion exhibited. Strong plants, 5s. each, 6 for 27s., 12 for 50s.—B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Wholesale Vegetable and Agricultural Seeds.

H. AND F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of VEGETABLE and AGRICULTURAL SEEDS of 1894 growth, which will compare very favourably with those of other English growers.

SEED-GROWING ESTABLISHMENT, WISBECH.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

1,000,000 SIR JOSEPH PAXTON STRAWBERRY PLANTS. Well rooted and true. 1s. 6d., 50; 2s. 6d., 100; 7s. 6d., 1,000; 60s. per 10,000. Packed and carriage paid.

TILES, Fruit Farmers, Orpington, Kent.

WREATH, CROSS, and BOUQUET BOXES, PROPAGATING TRAYS, &c.

HORTICULTURAL TIMBER MANUFACTURER.

Prices on application to—

EDWARD TAILBY, 76, Summer Row, Birmingham.

LILIUM AURATUM, Clearance Sale.—Grand Stuff, reduced prices, 2s. 3d. and 3s. 6d. per doz., 15s. and 20s. per 100. Enormous bulbs, 1s. each. Palms, Seedling Latanias and Coryphas, 10s. per 100.

F. ROSS & CO., Merstham, Surrey.

STRAWBERRIES — STRAWBERRIES.—Gunton Park and Lord Suffield both gained First-class Certificate, Royal Horticultural Society; 50 of each, 5s., carriage paid. Paxton's Noble and Ruskin, true, 10s. per 1000, any quantity.—W. HORNE, Cliffe, Rochester.

CARNATIONS.—For the Best New and Old Varieties apply to J. DOUGLAS. Thirty-one First-class Certificates and Awards of Merit in 1894.

CARNATION and PICOTEE SEED, 2s. to 3s. 6d. per packet.

AURICULA PLANTS, Show and Alpine, to name.

AURICULA, PRIMROSE and POLYANTHUS SEED, 1s. to 2s. 6d. per packet.

CARNATIONS, Seedlings, to flower in summer, from best named varieties, 3s. 6d. per dozen; 25s. per 100. Packing and carriage free. Send for CATALOGUE, post-free.

JAMES DOUGLAS, F.R.H.S., Edgeside, Gt. Bookham, Surrey.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Wednesday Next.

CONSIGNMENT FROM JAPAN.

16,980 LILIUM AURATUM.

600 L. aur. platyphyllum, L. aur. macranthum, 100 L. elegans incomparabilis, L. elegans semiplena, 110 L. Batemanniæ, L. Brownii, L. tigrinum flore-pleno, L. Krameri, L. speciosum rubrum, L. sp. album, L. longiflorum, and others; also

28 NELUMBIUM SPECIOSUM (NYMPHÆA)
122 CAMELLIAS (double, white, crimson, and pink)
135 CYATHEA SPINULOSA
3 Cases CYCAS REVOLUTA

The contents of 200 Cases just received in grand condition. Also 20 Lapageria alba, 8000 Double and Single Begonias in great variety, 1000 Seakale, 350 Carnations, Gladioli, Spiræas, Hardy Climbers, Schizostylis coccinea, L. Brownii, Anemone japonica alba, 300 Standard, 300 Half-standard, and 500 Dwarf Roses.

1000 Gloxinias, Latanias, Dracænas, Aspidistras, and Genistas from Belgium, choice named Cannas, 30 lots of Greenhouse Plants, home-grown Lilies, Tigridias, Calochorti, &c., together with—

15lb. GREVILLEA ROBUSTA
1500 CORYPHA MACROPHYLLA
3000 LIVISTONIA ROTUNDIFOLIA
} Seeds just received in fine condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 3, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

FRIDAY, APRIL 5.

ABSOLUTELY WITHOUT RESERVE.

GREAT UNRESERVED SALE of ORCHIDS.

BIG IMPORTATIONS.

DENDROBIUM SPECIOSISSIMUM (Rolfe).

A grand new Denbrobe, offered for the first time. Flowers very large, pure white, orange-red, and very fragrant. A grand addition to the genus. Our importation will be SOLD WITHOUT RESERVE.

CYPRIPEDIUM VOLONTEANUM.

A beautiful Cypripede, combining both beauty of flower and foliage.

CATTLEYA YELLOW (AUREA?).

Fine masses from near the same spot where was obtained the famous HARDYANA of Hamar Bass, Esq.

DENDROBIUM AGGREGATUM MAJUS.

A delightful Dendrobe, of compact habit, bearing very attractive flowers.

DENDROBIUM FORMOSUM GIGANTEUM,
D. FARMERI ROSEUM (very fine plants),
D. FINDLAYANUM, D. SUAVISSIMUM, &c.

CATTLEYA LUTEOLA ROEZLII.

Flowers very brightly coloured.

CYPRIPEDIUM DAYANUM SUPERBUM.

Of all the beautiful and numerous varieties of this splendid species superbum is without doubt the most magnificent.

ODONTOGLOSSUM KARWINKSHII, and
DENDROBIUM SPECIES NOVA,

a new species from the Kina Ballii Mountains, will also be included, besides a grand importation of

LÆLIA ANCEPS,

in splendid condition; bulbs plump, eyes dormant, leaves green and fresh.

Many other popular and beautiful ORCHIDS will also be offered.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 5, at half-past 12 o'Clock, by order of Messrs. F. Sander & Co.

Catalogues may be had, and the Plants viewed, on the morning of the Sale.

Havana Cigars.

SALE of nearly a Quarter of a Million CIGARS of well-known and approved brands, by order of Messrs. John Hunter Wiltshire & Co. (Limited).

To GENTLEMEN, LICENSED VICTUALLERS, and the TRADE.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY and FRIDAY NEXT, April 4 and 5, at 12.30 o'Clock, 220,000 HAVANA CIGARS; also Mexican, Manila, and British Cigars, a portion damaged in the late fire at Messrs. John Hunter Wiltshire & Co.'s premises, 55, St. Mary Axe. The damage is merely nominal, and the catalogue will comprise the following brands:

19,000 Cabal y Cabal, 37,000 Crespusculo, 18,000 Corona, 6,000 Española, 10,000 Flor de Cuba, 5,000 Legitimidad, 5,000 Lopez Garcia, 29,000 Manuel Garcia, 7,000 Partagas, 26,000 Paz de China, 7,000 Romeo et Julieta, 5000 Rosa Santiago, 4,000 Vidal y Vidal, 4,000 Villar.

37,000 British Cigars (various), 9,000 Mexican, and 8,100 Porto Rico Cigars, and 9,000 Manilla Cheroots.

Samples may be obtained at the Sale Rooms, at stated prices, one week prior to the Sale. Catalogues can be had on application to the Auctioneers and Estate Agents, 67 and 68, Cheapside, London, E.C.

Monday Next.

120 Half Standard, and 600 Dwarf ROSES, 36 AZALEA INDICA, 50 A. MOLLIS, 48 CAMELLIAS, KENTIAS, DRACÆNAS (Green and Variegated) from Belgium, 70 lots choice FERNS, PALMS and GREENHOUSE PLANTS, trained FRUIT TREES, home grown and imported LILIES in variety, American PEARL TUBEROSES, hardy BORDER PLANTS, double and single BEGONIAS for exhibition, CARNATIONS, SPIRÆAS, TIGRIDIAS, DAHLIAS, GLADIOLI (Kelway's HYBRID, GANDAVENSIS and OTHERS), ANEMONES, GLOXINIAS, &c.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, April 1, at Twelve o'Clock.

On view Morning of Sale, and Catalogues had.

The Selwood Collection of Established Orchids.

PRELIMINARY ANNOUNCEMENT of an unusually IMPORTANT SALE, by order of the Executors of the late G. D. Owen, Esq., without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on WEDNESDAY, April 24, and FOLLOWING DAYS, on the premises, Selwood, near Rotherham, Yorkshire, the above valuable collection of Established Orchids. The collection was formed by the late Mr. Owen, with great care and judgment, regardless of expense, and, as is well known, it is celebrated for the richness of the varieties of the plants, many having secured First-class certificates and Awards of Merit.

A List of some of the principal Plants appeared in this paper last week.

The Plants are in the best possible condition, none will be sold privately before the Sale, and the whole will be offered entirely without reserve.

Catalogues may be obtained of Mr. WATTS, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

The New Yellow Arum Lily "PENTLANDI."

IMPORTANT CONSIGNMENT of 500 BULBS of this New and Beautiful YELLOW CALLA.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received advices of the despatch of this Valuable Consignment, which they will SELL by AUCTION at their Rooms at an early date. The sender writes that he came across them in their flowering season, and thus was able to select the very best and largest-flowered ones. Having collected them himself he states that buyers can put full confidence in what is offered. He calls attention to another painting of it in the *Garden* for Nov. 24.

Further particulars will appear in future advertisements.

Wednesday Next.

GREAT SALE of ORNAMENTAL SHRUBS, ROSES, BORDER PLANTS, &c.

A Splendid Importation of Hardy Ornamental and EVERGREEN TREES and SHRUBS, in variety, from Holland, including a number of well-grown RHODODENDRONS, AZALEAS, Standard and other HYDRANGEAS, Green and Coloured HOLLIES, ACERS, ELDERS, ELMS, WEIGELAS, Standard and Dwarf ROSES, &c.; GOOSEBERRIES, RASPBERRIES, PEACHES, Standard APPLES, MULBERRIES, CURRANTS, LILIUMS, &c.

A Surplus Stock of well-grown English Small OrnaMENTAL SHRUBS, consisting of a large variety of EVERGREENS and CONIFERS, of all sorts and sizes.

Also

A Grand Collection of 2000 Choice named Standard, HALF-STANDARD, DWARF and CLIMBING ROSES, from a celebrated and trustworthy Dresden Nurseryman, comprising a fine assortment of the newest and best sorts of Hybrids, Perpetuals, Teas, Noisettes, &c.

A Consignment of Palms, Azaleas, Begonias, &c., from Ghent. A collection of Stave and Greenhouse Plants, LILIUM AURATUM from Japan, Home grown LILIUMS, Pearl and African TUBEROSES, ANEMONES, ARUMS, DAHLIAS in variety, GLOXINIAS, SPIRÆAS, CARNATION SEED, TIGRIDIAS, CYPRIPEDIUM SPECTABILE, &c.

500 Lots of Border Plants, comprising a Choice Collection of CARNATIONS, PINKS, PICOTEES, HOLLYHOCKS, IRIS of Choice Sorts, and a large collection of Novelties.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 3, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Roslyn House, Lyndhurst Gardens, Hampstead.

BUILDING MATERIALS and MISCELLANEOUS EFFECTS.

MR. G. W. POTTER will SELL by AUCTION, on the premises, as above, on MONDAY, April 1, 1895, at 12 o'Clock precisely, a large quantity of excellent BUILDING MATERIALS, Plants, and Miscellaneous Effects, including about 50,000 sound old stock Bricks, 2500 edging Tiles, about 28 squares of excellent slating Timber, Quartering, Boarding, Doors, Sashes, Partitions, Roof Principals, Iron Hurdles and Fences, and useful Ironwork, the Materials of four Greenhouses, with Boilers and Hot-water Cisterns, Piping, a quantity of Stonework, a Barouche by Holmes, and a Park Phaeton by Morgan, a large number of Stove and Greenhouse Plants, Laundry and Garden Machinery and Implements, Iron and other Tanks, a quantity of Firewood, and a variety of useful effects.

May be viewed the Saturday preceding, and the morning of the Sale, and Catalogues obtained on the premises and of the Auctioneer, 22, High Street, Hampstead, N.W.

WANTED (North London), SHOP for FRUIT and FLOWERS. Dwelling-house, Stable and Outbuildings preferred.—CLARK AND SONS, Hemingford, St. Ives, Hunts.

WANTED, to Rent, a few GLASS-HOUSES, suitable for Tomato and Cucumber Growing.—Particulars to C. KELLAND, Broomfield, Derby.

WANTED, GLASS NURSERY, to Rent on Lease, suitable for Growing Tomatos, Cucumbers, &c. A. B., Mr. W. Unwin, Covent Garden Market, W.C.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses and Propagation-house, &c., heated by hot water; Stable and Shed. A reasonable offer accepted. Apply to—
W. H., Park Row Nursery, Greenwich.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

KENT (Lee).—TO BE SOLD, a Compact LEASEHOLD NURSERY, with House, Cottage, Stabling, and Outhouses, the whole comprising Three and a Half Acres. Lease, 65 years to run, partly at a Peppercorn and partly a Ground Rent of £95 per annum. Price, £2,000.
Apply, MESSRS. PRALL, Estate Agents, Dartford, Kent.

FLORIST, FRUIT and JOBBING BUSINESS, doing good trade. Eighteen years' Lease. Seed and Bulb Trade could be added with advantage. Excellent Shop, and good dwelling accommodation, with about 300 feet run of Glass well stocked with Plants. Stabling for three horses. Rent £45. Part of Stabling let off at £25. Good reason for selling. Price for Stock and Goodwill £300.
T. P., 41, Wellington Street, Strand, W.C.

TO LET.—TWO Valuable NURSERIES, suitable for Beginners or others. Situate within easy distance of London, at low rents. £20 and £30 per annum. Capital opportunity for an energetic man. Full particulars of ROBERT PECKITT, 45, Plumstead Road, S.E.

TO LET, a WALLED GARDEN, about 1½ acre, well stocked with Fruit Trees and Plants, with Vinery, Peach-house, Stove and Greenhouse, all heated from one boiler; Potting-shed, &c.; comfortable Dwelling-house, Piggeries, and Out-buildings; also 20 acres of excellent Pasture-land (partly Orchard), situate in a village, 5½ miles from Craven Arms, and 8 miles from Ludlow.—For rent and particulars, apply to Mr. WYLEY, 2, School Chambers, Shrewsbury.

FOR SALE, a Good Second-hand 30-inch LAWN-MOWER, two years' light wear (Ransome's). £12, or a reasonable offer.—J. C., Mona House, Sutton, Hull.

STRAWBERRY ROYAL SOVEREIGN (LAXTON).—Well-rooted Runners, 3s. per doz., 20s. per 100; STRONG FRUITING RUNNERS, 6s. per dozen, 40s. per 100; free cash.—S. HAMILTON, Mayfield Gardens, Perth, N.B.

CHRYSANTHEMUMS.—Well-rooted Cuttings. Source d'Or, Elaine, Peter the Great, Félicité, Princess Teck, and Fair Maid. 3s. 6d. per 100, cash, free.
BARNARD, Florist, Southgate, London, N.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN, 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

NEW OUTDOOR TOMATO.—LAXTON'S "EARLY PROLIFIC;" this variety, raised by crossing our "Open Air" × "Challenger," is a better-shaped, earlier, and most prolific "open-air Tomato." The earliest to ripen out-of-doors, of good shape, very prolific, and undoubtedly THE VARIETY for out-door growth; sealed packets, 1s. 6d. Full Catalogue of the best Vegetable and Flower Seeds, gratis; free carriage.—LAXTON BROTHERS, Bedford.

13,000 CHRYSANTHEMUMS, CHEAP, to CLEAR.—Leading kinds, Exhibition and Market; well-rooted, in 60's, 1s. 3d. per doz., 8s. per 100.
6000 CARNATIONS, in 48's, 6s. per doz.; in 60's, 8s. per doz.
5000 ARUMS, in 54's, 25s. per 100; in 32's, 45s. per 100.
4000 WHITE CYCLAMEN GRANDIFLORUM, full of bloom and bud, in 48's, 6s. per doz. Grand stuff.

7,000 TOMATO PLANTS.—Splendid stuff. Challenger, Empress of India, and Regina, 1s. 6d. per doz., 10s. per 100.
CUCUMBER PLANTS.—Rochford, 5s. per doz. All for cash.
JAMES GREEN, Reliance Nurseries, March.

PALMS, FICUS, FERNS, &c., in any quantity.—Palms, mixed, 3s., 6s., 12s., 15s., and 18s. per doz.; Ficus elastica, 12s., 15s., 18s., and 24s. per doz.; Adiantum cuneatum, 2s., 6s., 9s., and 12s. per doz.; Pteris, various, 2s., 5s., 6s., and 9s. per doz.; Aralia Sieboldi, 2s., 6s., 9s., and 12s. per doz.; Aspidistras, 24s., 30s., and 36s. per doz.; Cyperus Grass, 2s., 6s., and 9s. per doz.; Auriculas, mixed, 2s. and 4s. per doz.; Heaths, Cyclamen, Genistas, Deutzias, Marguerites, Spiræas, &c., 12s., 15s., and 18s. per doz. Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

ORCHIDS

Of every description, from 1s. each; samples, post-free, 1s. 3d. RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

THE LEEDS ORCHID CO.,
ROUNDHAY, LEEDS.

BRITISH QUEEN and other STRAWBERRIES. — Strong Runners, at moderate prices. GRAPE VINES, FIGS, ASPARAGUS, TARRAGON, &c.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

HILL LILY OF JAPAN, CRIMSON-SPOTTED AND GOLDEN-RAYED WHITE LILY (L. auratum); fine Bulbs for producing many flowers, sent Carriage paid, 12 for 5s. 6d.; 40s. per 100.
BARR AND SON, 12 and 13, King Street, Covent Garden, W.C.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

BOOKS ON ROSES, by Wm. Paul, F.L.S.—THE ROSE GARDEN, 9th edition, royal 4to, 20 coloured plates, and numerous wood engravings, 17s. 6d.; the same, imperial 8vo, without coloured plates, 8s. 9d. ROSES IN POTS, 7th edition, illustrated, 2s., post free. ROSES, AND ROSE CULTURE, 7th edition, illustrated, 1s., post free. "The best works on Roses are those by Mr. Wm. Paul."—*Journal of Horticulture.*
WM. PAUL & SON, Waltham Cross, Herts.

WINTER-FLOWERING CARNATIONS for Market Growers.—La Neige, pure white, remarkably free, 3s. per dozen, 10s. per 100, £4 10s. per 1000. William Scott, fine cerise-pink, very profitable and free flowering, 5s. per dozen, 30s. per 100. Duke of York (May), largest crimson, grand for winter work, 6s. per dozen. Uriah Pike, fine deep crimson, 5s. per dozen, 32s. 6d. per 100. Miss Joliffe Improved, fine flesh-pink, 12s. per 100, £5 per 1000. All well-rooted stuff, fit for 3-inch pots. Cash with order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

STRAWBERRY RUNNERS (Sir Joseph Paxton and Scarlet).—Good plants at 10s. per 1000.
MANN AND SONS, Whitton, Middlesex.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

Strawberries and Raspberries.

H. CANNELL & SONS have all the best new and old sorts in great quantities, in the very finest condition, and at very low prices; orders solicited.
SWANLEY, KENT.

PRIMULA CUTTINGS.—Marchioness of Exeter, 2s. 6d. per doz. Lord Beaconsfield, 2s. per doz. Ivy-leaf PELARGONIUMS, Madame Crousse and Albert Crousse, 4s. 6d. per 100. All good cuttings, sent post free for cash with order.
GEO. DRABBLE, Ketton Hall Gardens, Stamford.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed this season. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

SURPLUS STOCK!—SURPLUS STOCK!—The Head Gardener has a few hundred TOMATO PLANTS left at 10s. per 100; GERANIUMS, a few thousands of Flower of Spring, Crystal Palace Gem, and Vesuvius, autumn-struck, 65s. per 1000; Cuttings, strong, half-price, for Cash with Order.
Dashwood, Gravesend, Kent.

BURMESE LILIES.

GRAND IMPORTATION JUST RECEIVED,

IN SPLENDID CONDITION.

Comprising L. WALLICHIANUM SUPERBUM (SULPHUREUM), L. NEPALENSE, L. LOWI (very rare), L. BAKERI (new, white flowers), &c. As these Lilies are found growing together, no attempt has been made to keep them separate; but, from the Collector's descriptions, we have no doubt that all the above varieties will be found amongst them, and possibly others, especially from the smaller sizes.

Fine Bulbs, 8s. per dozen; Grand Bulbs (7 to 8 inch), 15s. per dozen; Magnificent Bulbs (9 to 10 inch), 2s. 6d. each; 24s. per dozen.

SPECIAL OFFER, with full particulars, Just Out.

R. WALLACE & CO., COLCHESTER.

GROWING PLANTS WITHOUT EARTH.

IN JADOO FIBRE

PLANTS GROW QUICKLY, BLOOM FREELY, AND HAVE GREATER BRILLIANCY OF COLOUR THAN IN EARTH.

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WOLVERHAMPTON CHRYSANTHEMUM SHOW will be held in the Drill Hall, on WEDNESDAY and THURSDAY, November 6 and 7, 1895.
For Schedules apply to—
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The Gardens, Glen Bank, Tettenhall, Wolverhampton.

CENTAUREA MACROCEPHALA, fine strong Clumps to clear, at 3s. per dozen, 20s. per 100, packing free.
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For cash with order, to—
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APRIL 4, 10, and 18, 1895.

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About 150 **LEAN-TO and SPAN-ROOF PORTABLE GREENHOUSES and CONSERVATORIES**, various sizes, entirely new, with everything complete, ready for erection by any handy-man or Gardener in a few hours. (Every house will be erected, and on view.)

About 30 **POULTRY HOUSES**, new and complete.

About 50 **CUCUMBER FRAMES**, new and complete.

About 250 **GARDEN LIGHTS**, glazed and unglazed, various sizes.

And Several Thousand **PLANTS, FRUIT TREES**, &c., put up in large and small lots, to suit the Trade and Amateur Buyers.

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Special Offer.

RHODODENDRONS, Hybrid named kinds, Choice varieties, 9 to 12 inches, 12*s.* per doz.; 12 to 15 inches, 15*s.* per doz.; 15 to 18 inches, 18*s.* per doz.
RHODODENDRONS, SEEDLINGS, 9 to 12 inches, 4*s.*; 12 to 15 inches, 6*s.* per doz.; 15 to 18 inches, 8*s.* per doz.
KALMIA LATIFOLIA, 12 to 15 inches, 8*s.* per doz.
ANDROMEDA FLORIBUNDA, 15 to 18 inches, 12*s.* per doz.
AZALEA PONTICA, 12 to 15 inches, 6*s.* per doz.
STANDARD APPLES and PEARS, leading kinds, 18*s.* per doz.
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HORIZONTAL-TRAINED PEARS, leading kinds, 30*s.* per doz.
DWARF-TRAINED PEACHES, NECTARINES, & APRICOTS, 36*s.* per doz. All F. O. R., and packing free for cash.
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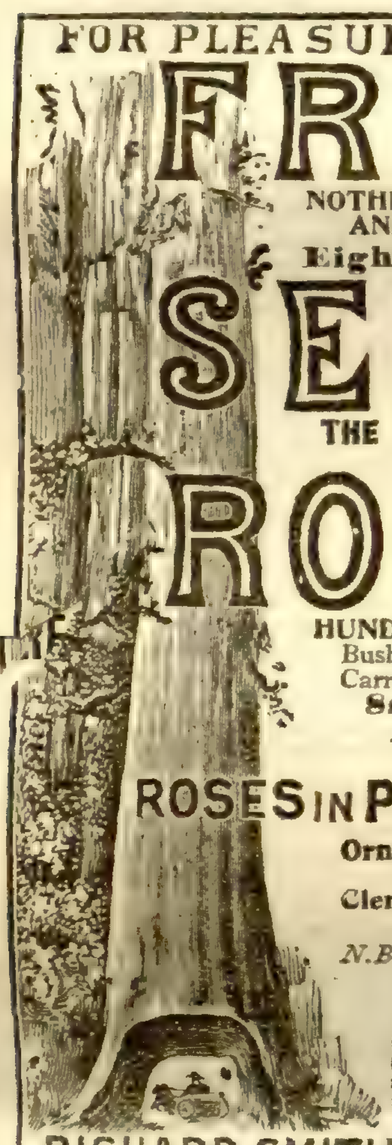

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Splendid Hard Bulbs. Every one in perfect condition.

	Per doz.	Per 100.
AURATUM, fine bulbs, 9 to 10 inches ...	2 6	16 0
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,, monster bulbs, 13 to 15 inches, 2*s.* and 3*s.* each.		
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SPECIOSUM RUBRUM, fine bulbs	5 0	30 0
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Half-dozens and Fifties at same rate, all carriage paid.
FULLY DESCRIPTIVE LIST now ready, and post-free.

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ROSES in POTS.—A magnificent Stock of extra strong plants, established in 8-inch pots, suitable for present forcing or greenhouse culture. TEA-SCENTED and NOISETTE varieties (dwarf and climbing kinds), 30*s.* to 60*s.* per doz. HYBRID PERPETUALS, 24*s.* to 42*s.* per doz.
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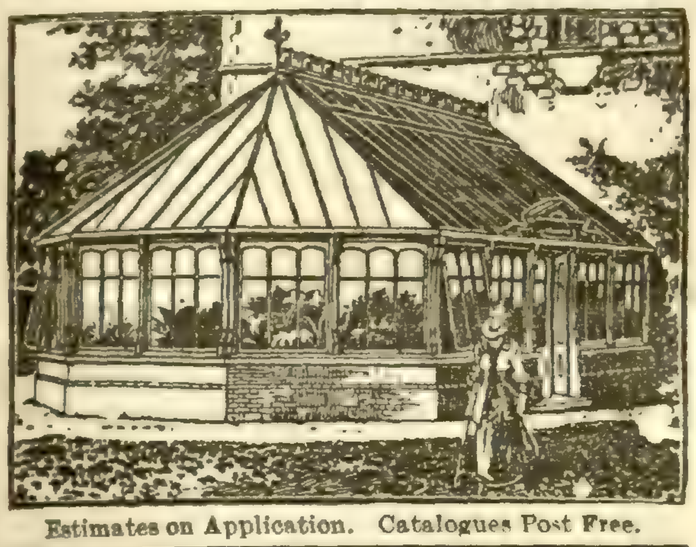

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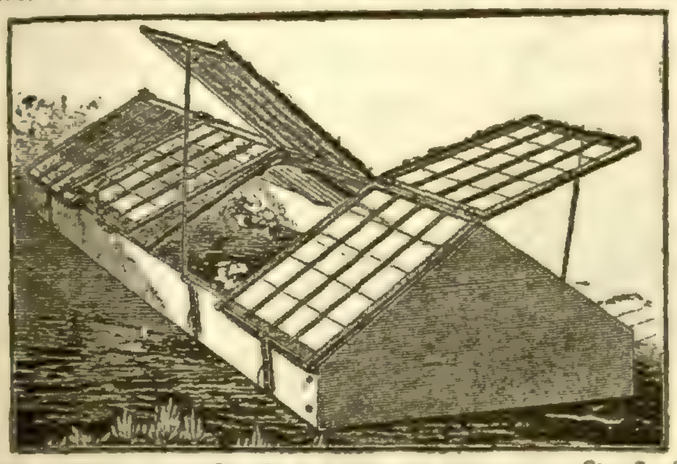

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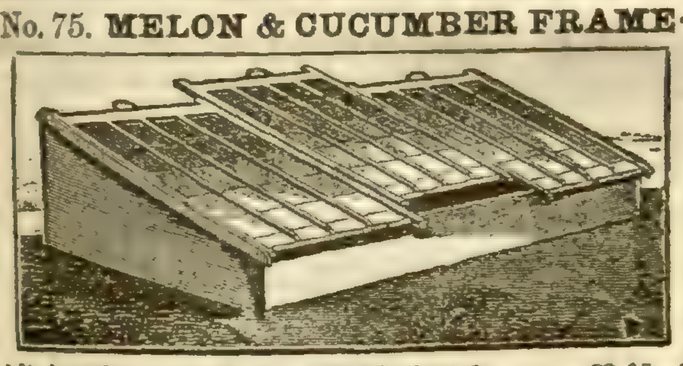

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Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½d. per foot run. Garden Utensils. Trellis, Ironmongery, Paints, &c. Catalogues free.

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OF ALL SEEDSMEN AND FLORISTS.

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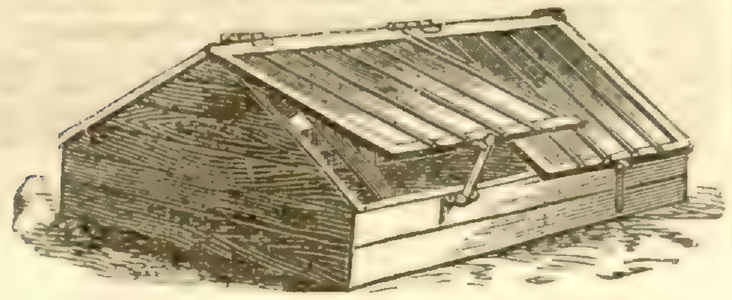

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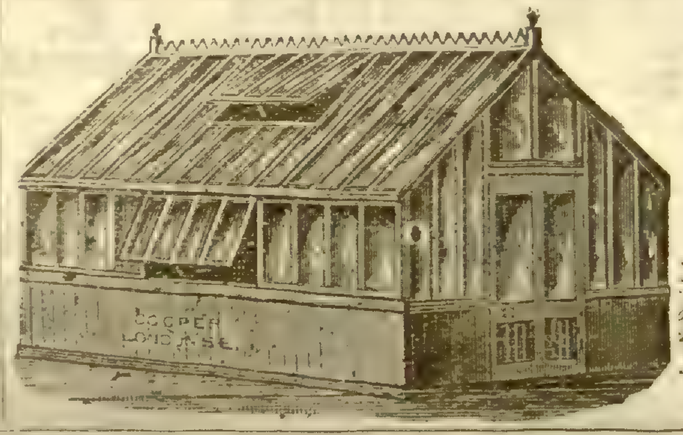

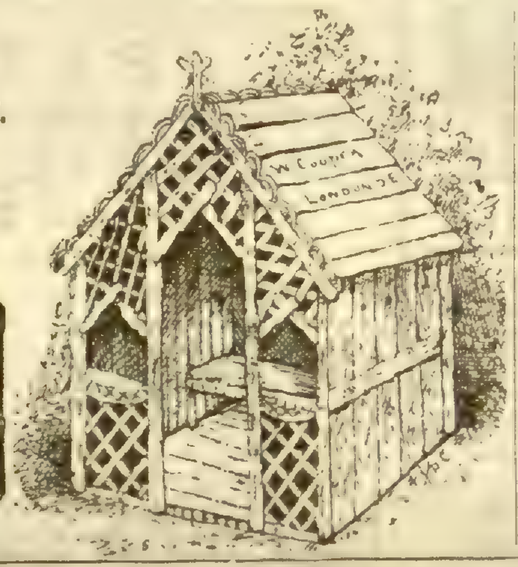

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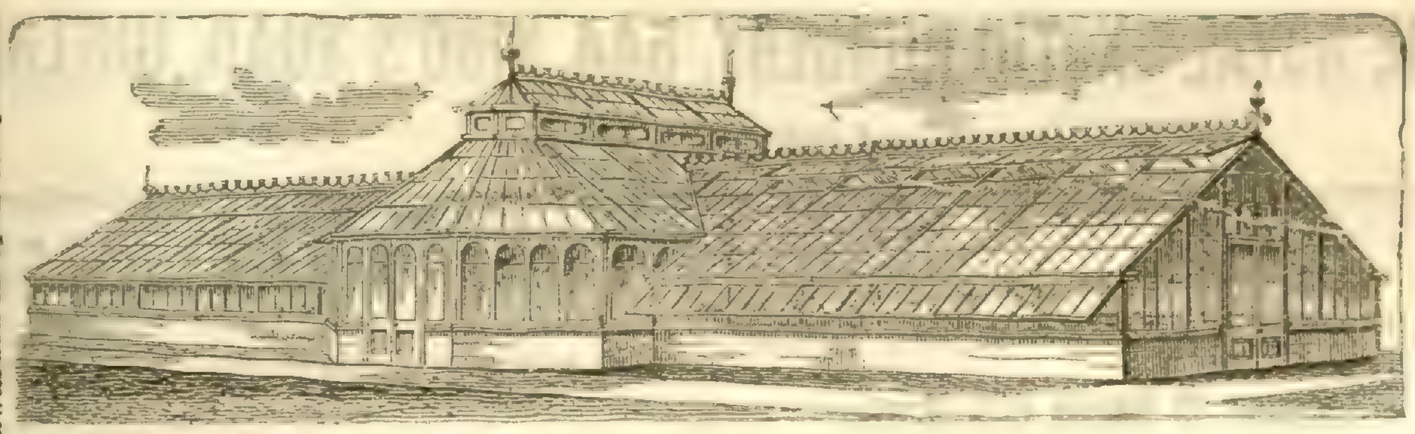

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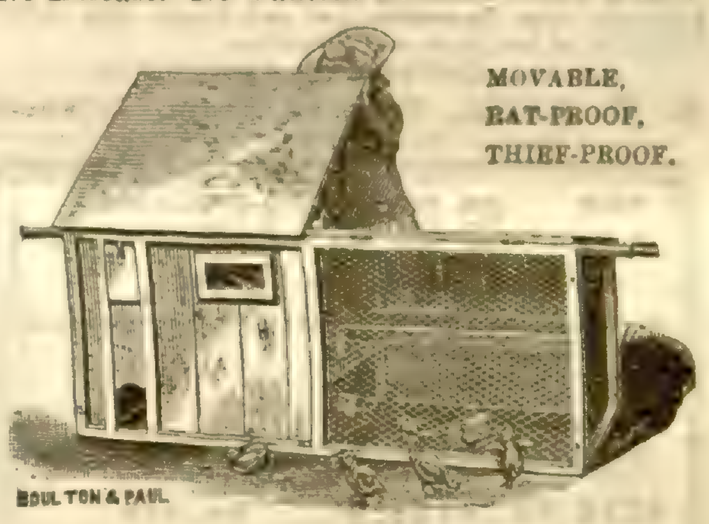

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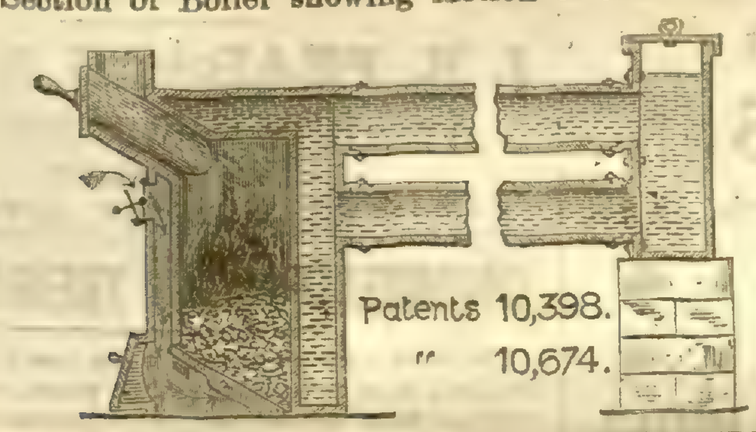

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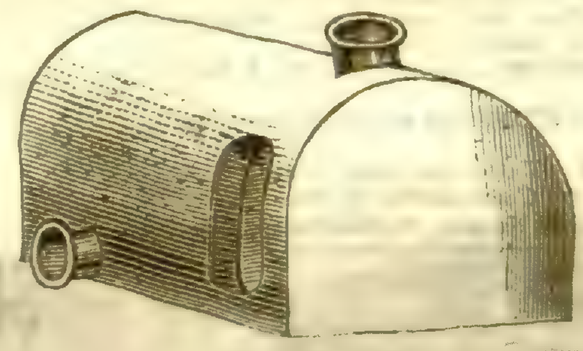

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TEN DAYS IN LILYLAND.

AGAIN the lengthening day is with us, and there are tokens of spring abroad. Markets, shops, and street corners are aglow with the golden tones of the early Daffodils. There is no surer sign of the advent of spring than the fragrant hillocks of the flower "that comes before the swallow dares." From the present to mid May. tons of these elegant flowers will arrive at Covent Garden weekly. There are, we are assured, at least 500 varieties, "a host of golden Daffodils," got together by that enthusiastic collector, Peter Barr, of King Street, Covent Garden.

If any portion of the British Isles deserves the title of "Lilyland," it is the group of isles scattered along the verge of the Atlantic some 30 miles west of the Land's End. There, in portions of St. Mary's and Tresco, in the Scilly Isles, the "Lilies," as the natives call them, are grown by millions.

Long before spring has greened the bough at home here, before the keen March winds have swept over the gloomy and sodden fields, and the "rathe Primrose" has peeped, the sunny slopes of the "Tin Islands" rejoice in the sunlight of the Daffodils, and there is a busy scene on the wharves of St. Mary's and Penzance. It is scarcely a quarter of a century since an enterprising Scillonian sent his first box of blooms as an experiment to Covent Garden Market; and now in the height of the season—say, Easter—some tons arrive weekly.

A trip by steamboat to High Town, St. Mary's, is most enjoyable in fair weather. There are two boats, the *Lyonnesse* and *Lord of the Isles*, which make the passage three times weekly from the pier at Penzance, the voyage taking about four hours. One gets in this way a capital view of the magnificent cliff scenery from Penzance to the Land's End. In the course of a few minutes we are opposite to quaint old artist-haunted Newlyn, with its colony of hardy, blue-shirted fishermen. Mousehole, with its curious cave, and the little harbour of fishing craft; the beautiful Lamorna Cove, the stupendous cliffs of Tol-ped-n-Penwith and Porthgwarra are passed, and the dark storm-beaten promontory of the Land's End looms in sight.

One begins to feel there the swell of the Atlantic, and, unless a good sailor, take refuge in the saloon below. In another hour we catch a first glimpse of the Scillies, lying in scattered groups like long, low banks of purple clouds. St. Martin's, with its "Day-mark," a structure resembling a lighthouse, is erected on the nearest point. One after another the isles come in view, the surface of the Atlantic being dotted over with them for leagues. Each is partly engirt with silver crested waves, Longfellow's "white lips." There are, it is said, upwards of three hundred of the isles, varying in size from St.

Mary's with a circuit of nine miles, to mere cones of granite, scarcely affording room for the watchful cormorant to spread its dark wings.

Brett, who loved to haunt the neighbourhood, seems to have greatly exaggerated the colours of the granite. Not even in the brightest sunlight could one see the rose-tinted granite purple-veined and coated with amber-green turf, which he delighted to paint.

Five only of the islands are inhabited, St. Mary's, Tresco, Bryher, St. Martin, and St. Agnes. Sampson, the scene of Walter Besant's *Armorel of Lyonnesse*, is at present uninhabited; the ruins of cottages and some remarkable stone cists still remain.

The climate is delightful; the air full of a mellow golden light which casts no shadows; whichever way one walks even in February there is abundant evidence of the genial climate. Frost is comparatively unknown, and Potatos are occasionally dug in March. Many of the cottagers have plots of garden ground devoted to the growth of spring-flowers—Narcissus, Wallflowers, Stocks, Ixias, and other bulbous-rooted flowers. A marked feature of the landscape is the oblong plot of ground, protected by the tall hedges of Escallonia, Veronica, and Tamarisk. The former is common enough in the South of England. It is a handsome glossy-leaved evergreen, bearing clusters of trumpet-shaped, crimson flowers. It is of remarkably free growth, forming an excellent fence from cuttings in the course of three to four years. The fences serve chiefly to protect the flowers from storms of wind.

What strikes one more especially in walking about St. Mary's is the absence of trees. A few lend a friendly shelter to the churchyard of the old town, where lie buried the remains of the ill-fated fleet of Sir Cloudesly Shovel, wrecked close by, on their return from the capture of Gibraltar.

The wayside hedgerows and walls are covered with a luxuriant vegetation, and an abundance of flowers. Conspicuous among these is the Mesembryanthemum of various kinds and colours. They ramble over the banks and stone walls, and by the handsome church where the spaces between the rocks are filled with brilliant masses of colour. One of the tribe, which bears a large canary-coloured flower, puts a dense carpet of foliage and flowers along the margin of the sandy bays.

Near to the ruins of the ancient church is the principal bulb-farm of the island. The Daffodil requires a loamy soil with a plentiful admixture of sand. The early flowers are raised in boxes, the bulbs planted very thickly in the loam and placed under glass. Some weeks before Easter, however, the blooms are gathered out-of-doors, or rather the opening buds, and allowed to open in a warmer atmosphere under cover. The salesmen, it is said, prefer the Scilly flowers; they arrive fresher and in better condition.

The coast scenery around St. Mary's is magnificent. One may stand on the granite cliffs and watch the huge breakers roll in with thundering sound, and beat themselves into yeasty foam below. Last year a Logan rock was discovered several times larger in cubical contents than the famous one on the Cornish coast. One may see the spot where the wreck took place, and where the ill-fated admiral's body was found. The story runs that an elderly seaman predicted the wreck if they persisted in the course chosen. He was hanged from the yard-arm by order of the admiral, after begging permission to say a few words of prayer.

Ferns are not plentiful, but the Osmunda or Royal Fern, may be found in the marshes, and the Sea-Spleen Wort along the cliffs.

The largest bulb-farm on the Isles is that of the Lord Proprietor, Colonel Dorrien Smith, who succeeded that kindly autocrat, Augustus Smith, of Tresco Abbey. It is to him that the prosperity of the Islands is chiefly due. He introduced a system of compulsory education, which resulted in raising the condition of the Islanders from ignorance and poverty to comparative comfort and wealth.

While standing on the quay of St. Mary's, one sees across the Sound, about two miles distant, a richly-wooded island, in the midst of which stands a stately house. This is Tresco Abbey, the home of the Lord Proprietor. A smart little steam-launch, his property, crosses daily. Here is one of the most beautiful gardens in Europe, and at the back of it, sheltered from "all the airts," is the "Home of the Lilies." Acres upon acres, in several hundred varieties, are grown here, with nothing to protect them but reed or lath fences, or the Escallonia hedges aforesaid.

The flowers vary greatly in shape, size, and colour, from the noble Sir Watkin, Emperor, and Empress, 5 to 6 inches across, to the tiny Angel's Tears, barely half an inch. The colour, too, varies through all the golden tones from deep orange with crimson-margined corolla, to the purest snow white. Codlins-and-cream, butter-and-eggs and the ordinary Daffodil of the cottage garden, are all here, down to the chastely elegant wilding of the English meadows; probably the same that Wordsworth sings of—

> "Beside a lake beneath the trees,
> Fluttering and dancing in the breeze."

The Narcissus tribe, however, are not the only flowers grown; Hyacinths, Tulips, Freesias, Ixias, Gladiolus, and Anemones, are also grown. The last-named, A. fulgens, is a very early bloomer, and of the most brilliant scarlet. Then there are acres of Wallflowers and Stocks, which arrive at Covent Garden Market some weeks in advance of those grown at home.

By the "Lily gardens" there are ten spacious glass structures, in which are grown the earliest flowers. The latter are followed by enormous crops of Tomatos, which also find a ready market in London and the great provincial towns. Most of the able-bodied men on the island find employment here. New varieties are raised yearly from seed, the flowers being artificially impregnated and protected from interference by the bees. Several years, of course, must elapse before the flower appears, and several more before a sufficient stock is raised for market purposes. After a time, however, the increase is in a geometrical progression, and the new varieties are purchasable at moderate prices.

It has become a fashion of late to plant various kinds of Daffodils on the margins of shrubberies, by woodland walks, and by streams. Perhaps the latter is best suited to display their elegant forms and graceful habit. If the bulbs are planted and allowed to remain undisturbed for a few years, they produce delightful masses of colour. A mound near the museum at Kew is thus planted, and affords one of the most delightful glimpses of the famous gardens in early spring.

A striking testimony to the dangerous character of the surrounding coasts is the array of figure-heads of vessels wrecked close by. One of these, representing a woman, was part of a large Spanish merchantman. The only survivor was a poor seaman, who clung to the effigy and was washed ashore.

Tresco, although only four miles in circuit, contains some hundreds of acres of wild moorland bounded by rugged cliffs. There is a singular cavern called Piper's Hole, which runs several hundred feet into the interior, and is traversed by a subterranean lake, which may be crossed by means of a boat kept for the purpose.

At a point of the island opposite to Bryher, there is a circular fortress known as Oliver's Castle. It is of enormous strength, and has embrasures for cannon. Some fourscore yards above it is a dismantled fortification, said to have been occupied by a Royalist garrison, the commander, rather than submit to Cromwell's soldiers, blew it up—such is the story. The truth probably is, that from its position it commanded the more recent forts, and it was thought best to destroy it.

There are some magnificent views from the flagstaff by the village, and especially in a storm, when the huge Atlantic waves are driven with terrific violence against the rocky islets, and the sea is one vast cauldron of white water.

The Scilly Islands offer a splendid field for the naturalist. Bird-life and fish are abundant, and one may pass a fortnight very pleasantly, Crusoe-fashion, without tracing a single footprint on the dove-coloured sands. *T. W., H.*

KEW NOTES.

Sternbergia Fischeriana.—Bulbs of this rare species of Sternbergia, received at Kew last autumn from Mr. Whittall of Smyrna, are now in flower in a warm south border in the open air. The flowers are as large as those of the largest form of the variable S. lutea, not so dark a shade of yellow, and with numerous thin parallel lines, almost colourless, and suggesting striation in the segments. The leaves are half an inch wide, decidedly glaucous, and contemporary with the flowers, as in S. lutea. The most marked difference between this and the other species of Sternbergia is in the time of flowering, in which respect S. Fischeriana has perhaps the advantage, for whilst they flower in autumn, this one flowers in March. There is a difference between the Kew plants and S. (Oporanthus) Fischeriana as described by Herbert in his *Amaryllidaceæ*, p. 412, but he seems to have known it only from a poor, dried specimen. At any rate, Mr. Whittall's plant is a most useful addition to hardy spring-flowering bulbs. A figure of it has been prepared for the *Bot. Mag.*

Tulipa violacea.

This rare little species of Tulip, a native of North Persia, has long been known to botanists, but has only recently been introduced into gardens, thanks to Herr Max Leichtlin. Bulbs of it presented by him to Kew are now in flower in a border outside, and also in pots in the Alpine-house. The bulbs are small, with dark brown tunics, and the leaves 5 inches long, by half an inch in width. The flowers are produced singly on rigid erect scapes 5 inches long, and they are cup-shaped, with segments 1½ inch long, coloured dark crimson, with a tinge of purple in the nerves and on the upper margin; at the base inside there is an eye-like blotch of dull brown-purple. The claw is hairy inside, and the anthers are purple-coloured. The species may be recommended to lovers of alpine plants; but as garden Tulips go, it is lacking in brilliancy of colour. It is a near ally of T. sylvestris, *Bot. Mag.*, t. 1202.

Asarum maximum.

This beautiful little plant is now flowering for the first time in Europe, in the Begonia-house at Kew. It was described by Mr. Hemsley in the *Gardeners' Chronicle*, April, 1892, p. 422, in a paper which dealt with the whole genus. It was not then in cultivation; Mr. Hemsley's description being made from specimens collected in Ichang, Central China, by Dr. Henry, according to whom it is used medicinally

by the Chinese, who call it "Ma-ti-hsiang." It is the largest of the genus known, the leaves being 8 inches across and 18 inches high. At Kew the leaves have short petioles, and the blade is cordate, 6 inches by 4 inches, smooth, dark green above, pale beneath, and odourless. The flowers, which are produced in a cluster among the leaves, have short stalks, and a curiously-inflated urn-like perianth with three fleshy sub-triangular spreading lobes, forming a limb 2½ inches across, the colour of which is deep velvety-maroon, with a large white boss-like patch at the base of each lobe. The other species, of which there are about half-a-dozen grown at Kew, are chiefly of botanical interest, but A. maximum is certain to become popular with cultivators of indoor plants.

EULOPHIELLA ELISABETHÆ.

Two plants of this new Madagascan Orchid are now in flower in the Orchid-house at Kew, one bearing two the other three spikes, the strongest spike carrying sixteen flowers and buds. Although the flowers are smaller and less highly tinged with crimson than in published pictures of this plant, they are large enough and beautiful enough to rank among the choicest of tropical Orchids. Whether the plant will be easy to cultivate remains to be proved. The Kew plants have made comparatively small pseudobulbs, notwithstanding the excessive heat and moisture they have had from the first, and they are quite as large as any I have seen. Madagascan Orchids are not, as a rule, as easily grown as Cabbages, as witness the failure of most cultivators with the Phaiuses peculiar to that country. The Eulophiella may, however, prove an exception. One thing is quite certain, it cannot be grown successfully in an ordinary stove.

PHAIUS BERNAYSII.

There is a healthy plant now bearing two tall spikes of flowers in the Orchid-house at Kew, which is labelled P. Blumei var. Bernaysii, but which differs in colour from the type of that name figured in the *Botanical Magazine*, t. 6032, and in behaviour, from what is said of it in *Veitch's Orchid Manual*, pt. vi., p. 11. The Kew plant was sent from Fiji by Mr. Yeoward, curator of the Botanic Garden there, who found it growing wild in the woods in that island. It differs from P. grandifolius in having flowers of a soft Primrose yellow colour, the outside of the lip being white, and the inside yellow; in all other respects it resembles P. grandifolius. It is the most beautiful of all the Phaiuses of this section, and the flowers last quite as long as any of them. The plant, introduced by Messrs. Veitch, and figured in the *Botanical Magazine*, was found in Queensland by Mr. Walter Bernays, then curator of the Botanic Garden at Brisbane, and it was named in compliment to him by Sir Joseph Hooker. Possibly the Fijian plant is distinct from this. *W. W.*

ANTHOCERCIS VISCOSA.*

THIS plant, of which we give an illustration (fig. 51), from a specimen furnished by Mr. Holden, gardener, at Pendell Court, is a native of West Australia, whence it was introduced by Allan Cunningham, who collected seeds at King George's Sound during Captain King's fourth voyage, and sent them to Kew in 1822, where it flowered in May, 1824, and was figured in the *Botanical Magazine*, at t. 2961, on January 1, 1830. It is a soft-wooded shrub, growing to a height of 6 or 8 feet, with a clammy exudation on all parts. The leaves are alternate, somewhat fleshy, 1½ to 2½ inches long, 1 to 1½ inch broad, broadly obovate and very obtuse, green and thickly gland-dotted on both sides. The flowers are large, they are solitary in the axils of the leaves, and have pedicels 1 to 1½ inch long. The corolla is 1½ inch in expanse, with a campanulate tube, 9 to 10 lines long, and ½ inch broad, and five spreading ovate acute lobes; the colour is white, marked with numerous green lines inside the tube. It is not a common plant in cultivation, but is well worth growing by those interested in curious plants, for botanically it is rather an interesting plant. In its external appearance and

FIG. 51.—ANTHOCERCIS VISCOSA: EVERGREEN GREENHOUSE SHRUB; FLOWERS WHITE.

* *Anthocercis viscosa*, R. Brown, *Prodromus*, p. 448; *Botanical Magazine*, t. 2961; *Botanical Register*, t. 1624; Maund., *The Botanist*, v. 2, t. 59; Miers, *Illustrations of South American Plants*, v. 2, t. 82; Bentham, *Flora Australiensis*, v. 4, p. 476.

gland-dotted leaves it bears a considerable resemblance to the genus Myoporum, but its numerous ovules proclaim its affinity with the order Scrophulariaceæ, in which family Lindley placed it. Bentham and Hooker, however, have placed the genus Anthocercis at the end of Solanaceæ, together with some allied genera which form a little group connecting the two orders.

Orchid Notes and Gleanings.

ORCHIDS AT PERCY LODGE, WINCHMORE HILL.

In the gardens of Walter C. Walker, Esq., one of the most compact and thriving little collections of Orchids in the north of London is to be found. In it an unusually large number of good and interesting things is to be seen in flower at all times. Throughout the whole of the late severe winter the show of flowers in the Orchid-houses has not failed, many having also been shown from these gardens at the Royal Horticultural Society's meetings. Scarcely has the hard weather departed when a very fine show of Orchids come out here, some of the spikes of Odontoglossum, &c., which have been kept an unusually long time in bud on account of lack of sunshine, now with the brighter weather rapidly developing and expanding.

The commodious intermediate-house, span-roofed range, in two divisions, built on a plan designed by Mr. Geo. Cragg, the gardener at Percy Lodge, suits the class of plants grown admirably, the great masses of Lælia purpurata in the first division, and the Odontoglossums in the second, being sufficiently vigorous to satisfy even such an exacting amateur as Mr. Walker, who daily renews his acquaintance with the plants, and is therefore keen to detect either improvement or decline.

In front of the first house, and extending far back on each side, is a splendid—and we must say artistically arranged—display of Orchids, the slender stems of the brilliant scarlet Epidendrum radicans carrying its fine heads of bloom far up to the roof, where they mingle with the bright yellow of Cattleya citrina, and other plants in flower suspended overhead. On each side hang over long sprays of very fine varieties of Cymbidium Lowianum, and beside them tall branched spikes of Oncidinm ampliatum majus. In front are a grand specimen of the fine white Chysis bractescens, two superb examples of that prettiest and most fragrant of the C. labiata section, C. l. Schroderæ, and some very richly-coloured C. Trianæi; fine plants of Dendrobium Wardianum, D. nobile, and very large-flowered forms of D. crassinode Barberianum; varieties of Cœlogyne cristata and Lycaste Skinneri; a plant of L. gigantea in bud, not usually seen flowering in such a smal state; a first plant of Cattleya Mendelii; Lælia harpophylla; a compact plant of Arpophyllum giganteum, with four strong spikes—the plant has not been repotted for years, and hence, probably, its free-flowering qualities, for too-frequent repotting prevents this and many other reputedly shy-flowering Orchids from flowering. A like instance is seen in a fine plant of Lælia Boothiana (Cattleya lobata), which is here showing for flower profusely, though many keep it for years without seeing it bloom. Also in flower in the same house are Dendrobium Dalhousianum, Cypripedium callosum, good specimens of Vanda Amesiana, V. suavis, Oncidium Cavendishianum, a very large-flowered form of Cymbidium eburneum, varieties of Cypripedium insigne, and various other attractive things.

In the cool-house division is a great show of flower-spikes on the Odontoglossums, at present in bloom being O. triumphans, O. maculatum anceps, O. Pescatorei, O. cirrosum, a number of plants of Lælia albida, Odontoglossum Cervantesii lilacina, Sophronitis grandiflora, &c. Here the specimens of Oncidium macranthum and Odontoglossum Edwardii thrive remarkably well, and show strongly for bloom. On the last occasion of flowering, one spike of the latter had 240 flowers.

In the small lean-to warm-house a batch of Messrs. Sander's last importation of Dendrobium Phalænopsis Schroderianum are growing most vigorously, and many other things are in bud; at present in flower being Cypripedium caudatum, C. Chamberlainianum, C. concolor, C. Lawrenceanum, and other Cypripediums; Cattleya Forbesii, Broughtonia sanguinea, Dendrobium McCarthiæ, a very fine specimen; D. Brymerianum, and other species.

Mr. Walker has an intimate knowledge of his plants, and he and his gardener work together, and the results being satisfactory to both, the desired object in gardening is more nearly attained than in the majority of suburban gardens.

SWEET PEAS.

No one has done so much toward the improvement of Sweet Peas as Mr. Eckford, at his seed-ground at Wem, in Shropshire. His aim in raising new varieties is to obtain extra stout and long stems, and as many closely-set blossoms on each stem as possible. Some few sorts are furnished with as many as four blooms on a stem, and this 15 inches long. Concurrently with an improvement in the colour of the flower, a different method of culture has obtained, and in place of being grown in rows of mixed colours, they are now frequently grown in clumps of one colour only.

Sweet Peas respond liberally to good culture. It is not uncommon to see single plants carrying 200 fully-developed flower-stems at one time. Next to a judicious selection of varieties, good culture is most essential, with a view to having an unbroken supply of flowers from the middle of June to the same time in October. A frequent mistake is to sow the seed too thickly. Sweet Peas, like edible Peas, require sufficient space for development of the haulm, so that abundance of side-shoots may be developed, as from these a continuance of bloom is assured. I sometimes see plants 8 feet high, and side-shoots 5 feet long. There are so many convenient means of utilising Sweet Peas as decorative garden plants, that no cultivator need have any difficulty in adapting some of them to local conditions. I grow my plants in clumps of two of each variety by the side of the paths in the kitchen garden, where they make a charming display, and are conveniently attended to. Some gardeners sow the seed in October, with a view to getting an early crop of flowers in June. The method may be successful in sandy soil, but I would not advise the system in the case of soil that is heavy and retentive.

Four plants in one clump will give much better returns than will double that number. The seed should be sown by the end of February, to allow the plants a long season of growth. I prefer to sow five seeds in 3½-inch pots, and start them in a cold frame. The soil here is heavy and retentive, and outdoor sowings are much hindered in their early growth, but when started in pots, the plants are strong, and free from the ravages of slugs. To encourage a quick growth, I provide shade for a time until the plants are above the soil, when all the light and air available are given to induce a strong and stocky growth. When the pots are full of roots, I transfer the plants to pots 5½ inches in diameter, employing a compost of two parts loam to one of partly-decayed horse-manure. When potting, I remove the fifth plant from the pot, as this was sown to guard against a possible failure. Directly tendrils are visible, I afford some climbing material; nothing is better for this than a partly worn-out birch-broom. By this time the plants are standing in the open, supplied thoroughly with moisture at the root. In the meantime, the sites in the open ground will have been prepared. A space of 3 feet between each clump is allowed, the soil is dug out 15 inches deep, a shovelful of partly-rotted manure is placed at the bottom of the hole, this having been first broken up 6 inches deeper. The roots run fully 18 inches deep, and during a dry summer they require much moisture. By planting-time a small basin-shaped hole will be seen, this will be of use when watering the plants during the summer. Directly the plants are put out their permanent stakes should be affixed, so that no check to the climbing of the haulm is allowed. The stakes should be quite rough, and instead of drawing them closely together at the top, as is generally the practice, they should stand quite free, allowing space in the centre for the plants to grow freely. The growth, as it is made, should be arranged to cover the whole of the space, tying here and there a leading shoot or side-growth to the outside twigs. The haulm grows much stronger with an increase of light and air, and the yield of bloom is in proportion. Should the weather be dry, abundance of water ought to be given to the roots, and occasional doses of liquid manure, and a mulching of partly-rotted manure. Many persons make a mistake in not cutting the blooms sufficiently often. The more they are cut the longer and better they continue to give flower. Varieties are very numerous; I will, however, name the most striking as a guide to those who have not given Sweet Pea culture much attention. Foremost of all in usefulness are the white-flowered kinds. The American-raised Emily Henderson is, no doubt, the finest white Sweet Pea in cultivation; although run hard by Blanche Burpee. The flower is especially stout in both the flowers and stems, and of the purest white. Queen of England is another excellent free-flowering variety. Duchess of York, a late introduction of Mr. Eckford, is a charming variety; exceptionally vigorous in growth and strength of its flower-stem. The standards are white deeply striped pale pink; the wings are white with a faint trace of blush. Mrs. Eckford is the nearest approach to yellow we yet have, although this is but primrose in its colour; the flowers are especially well-formed, the standards being quite round. Her Majesty is a soft rosy-pink self, very strong in habit and free-flowering. Princess May, pale heliotrope or lavender, suffused with purple. Firefly, glowing crimson in colour, with just the faintest tinge of purple on the wings. Stanley, deep maroon self, short stiff flower-stems, very effective. Lady Penzance is somewhat small, on short stout stalks; the colour, bright rose self, is pleasing. Emily Eckford, cœrulean blue, standards suffused reddish-mauve, buds dull pink; a much branching and freely-flowered variety, showy either growing or in a cut state. Monarch has stout standards of bronzy-crimson, wings a rich deep blue, veined with rose; a strong-growing and freely-flowering variety. Novelty has orange-rose standards, wings of pale mauve, deepening to rose at the edge. Lady Beaconsfield, standards salmon tinted rose, wings and keel pale yellow; quite one of the best in every respect. Countess Radnor has pale mauve standards, wings pale lilac, or delicate mauve; habit of growth good, and free-flowering. Eliza Eckford, standards are rose, the back of each deeply tinted or flaked with same colour on a white ground, wings blush-white; three blooms are borne on erect stems. Princess of Wales is one of the best of flaked varieties. The ground-colour is white, shaded and striped mauve; vigorous habit, flower-stems 15 inches long, carrying three and sometimes four blooms. Mr. Joseph Chamberlain also belongs to the flaked section; in this case the ground-colour, white, is heavily flaked with bright rose or crimson. Lemon Queen has delicate blush standards, and wings a trifle paler, evidently a misnomer. Orange Prince, standards bright orange-pink, flushed with red, wings pale rose—very showy in a mass, either cut or growing upon the plants; much damaged by continued cold and wet weather. Mr. Gladstone has delicate pink standards, wings blush; towards autumn the blooms assume a deeper tinge of pink. Duke of Clarence has extra large blooms, standards maroon-claret, wings purple-rose with pale blue keel. Gaiety much resembles Mr. J. Chamberlain, except that the stripes are purple instead of rose. Salopian has wings of bright rose, and purple shaded standards—good. Royal Robe is a pretty peach-coloured self, quite a charming colour. Mikado, bright rose self, veined with blush or white. Blushing Beauty, blush-coloured self, deeper on the standards than wings. *E. Molyneux.*

AERIDES CYLINDRICUM (Lindl.).

We are pleased to be able to give an illustration (fig. 52) of this pretty and delightfully fragrant Orchid from material obtained in the gardens of the Rt. Hon. Lord Rothschild, Tring Park, where it is now flowering for the second time. With the exception of the plant which flowered with Sir Trevor Lawrence last year, no other instance is known of the true plant having been flowered under cultivation, and we avail ourselves of the opportunity to give a figure in order not only to show the beauties of the plant, but to set at rest the popular error that it is identical with A. Vandarum, a totally different species, but which is, notwithstanding that figured in the *Botanical Magazine*, t. 4982, as A. cylindricum. The flowers of A. cylindricum have the sepals and petals firm and wax-like in substance; white, sometimes tinged slightly with rose at the back. The lip, which is a remarkable feature in distinguishing it from any other species, is white at the base, the side lobes being streaked with light purple. The middle lobe of the lip is thick and fleshy, in colour bright yellow, marked at the tip with crimson.

The plant comes from a high altitude in southern India, and presumably from an unfrequented locality, or it would have been plentiful in gardens.

Mr. E. Hill, the gardener at Tring Park, grows it with the Vanda teres, which there make such a fine show when in flower, and he states that Aërides cylindricum is free to grow and flower if treated in the same way. *J. O'B.*

BERLIN.

CONVALLARIA MAJALIS.

Fricke's Variety of Lily of the Valley.

At the last meeting of the Horticultural Society of Berlin, Mr. Fricke, of Wildpark, near Potsdam, exhibited flowering specimens of this remarkable variety, to which was awarded a small Silver Medal. The variety differs from the type by its oblong-lanceolate, much-more-acute leaves of dark green colour, yellowish root-stocks, with a very pale rose hue, and spikes of seventeen to twenty and more flowers. One specimen of this variety bore twenty-eight flowers in one spike. Another advantage of this new variety is this, that the biennial root-stocks are already flowering and forceable, whilst generally roots of Lily of the Valley can only be forced when 3 years old.

Cut Flowers from New York at Berlin.

At the last meeting of the Horticultural Society of Berlin, there were exhibited cut flowers of the new Rose Belle Siebrecht (Mrs. Grant). The Roses were cut at New York, February 12, arrived at Berlin *vid* England on February 26, and were exhibited on February 28, in the evening. The flower-stalks stood in little cylindrical glass tubes of 3¼ inches in length and 1 inch diameter, into which was pressed a moistened sponge. The flower-bearing shoots bore leaves also. They were wrapped up with the glass tube, in waxed paper, which was closed at both ends by gutta-percha rings. Eight of such packings were laid in a box, which had at each end a little hole. One flower was wrapped up without a sponge and glass-tube in waxed paper. Of the latter the petals fell off on opening the waxed paper; the other still had quite fresh leaves, and the flowers, if also not quite fresh, were so good, that their merits could well be estimated. The colour was somewhat bluish-red, but the sweet scent, so much praised of this sport, was lost; indeed, the flowers had the smell of the waxed paper. Though this first trial was not a full success, it showed the possibility of sending cuttings or scions of rare trees or shrubs in this way to very long distances.

Primula floribunda, Wall. var. grandiflora.

This is a very fine variety of Primula floribunda from Kumaon, Kashmir, and the western Himalaya and Afghanistan, where it grows up to an altitude of 6000 feet. The young seedlings must be planted in pots, where they grow rapidly and begin to flower after the fourth or fifth leaf. The plant is a little dwarf, but the inflorescences form a globe of about 3 to 4 inches, and are beset with numerous bright yellow flowers of about half an inch in diameter.

Fig. 52.—Aërides cylindricum: flowers white, sometimes tinged with rose.

Curiously enough, the plants produce still smaller flowers if planted out into the ground.

The Influence of the Different Kinds of Mineral Manure on the Flavour of Fruits.

In the last issue of the *Pomological Monthly*, by F. Lucas, we find noted the following remarkable results of the use of different kinds of mineral manure upon the flavour of fruits. Strawberries manured with 8 per cent. nitrogen and 12 per cent. phosphoric acid had an agreeable sweet flavour, but those manured with 3 per cent. nitrogen, 9 per cent. phosphoric acid, and 11 per cent. potash, had a still more agreeable sweet sugary flavour and more aroma. Pears, manured with 16 per cent. chilisalpetre (nitrate of soda), were crude in flavour without sugar or aroma; a manure of 50 per cent. potash in the form of kalimagnesia (kainit), imparted to them an insipid sugary flavour with a little aroma; a manure of 16 per cent. superphosphate imparted sugar and a slight aroma. A mixture of 48 grammes chilisalpetre and 48 grammes kalimagnesia renders Pears insipid, sugary, with a faint aroma; a mixture of 48 grammes chilisalpetre and 48 grammes superphosphate gave the fruits a strong concentrated sugary flavour and an aroma; a mixture of 48 grammes kalimagnesia and 48 grammes superphosphate, imparted a more agreeable sugary flavour and aroma; whilst a mixture of 48 grammes superphosphate, 48 grammes kalimagnesia, and 48 grammes chilisalpetre makes the fruits very agreeable, the unpleasant taste is removed, the sugary taste is of an agreeable nature, and the aroma is well marked. The best results were produced by a mixture of 48 grammes chilisalpetre, 48 grammes kalimagnesia, and 72 grammes superphosphate. *U. D.*

FRUIT NOTES.

APPLE RYMER.

This culinary variety is undoubtedly an excellent late variety. It was shown in good condition by Mr. Turton at the Reading spring show, March 19, plump and high-coloured.

Apple Adam's Pearmain.

This is one of the best late dessert Apples; and although considered to be in season from December to February, it is really good at the end of March, a time when good English Apples have got very scarce. The fruit is conical in shape, and carries a bright colour. *E. M.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

CUCUMBERS. — The same general treatment required for Melons will suit Cucumbers, with the exception that a more porous soil is required, as more water is necessary in their culture. Stop the plants at the fourth leaf, and all side-growths at the second or third joint. The plants should not be shaded unless they flag very much, when a slight protection from the sun at mid-day may be necessary, but should be avoided as much as possible. Successional plants may be raised from cuttings placed singly in thumb-pots, and placed under a bell-glass, in the frame, or another sowing of seed may be made.

TOMATOS.—Winter fruiters, if in a healthy condition, may be top-dressed, and as they are now growing freely, the young growth should be given plenty of room to develop the flower-trusses by cutting out old wood and foliage; but if space is limited, and there is a good batch of strong young plants in 32-sized pots, it will be better to destroy the old plants and encourage the young ones. Pot them on into 9-inch pots, or they may be planted on the side stages, if a light airy house, a foot apart, and grown with a single stem. A narrow ridge of soil between two rows of bricks placed edgeways will be sufficient to start them, and they may be drawn further apart as more soil is required. Do not overwater the plants, give plenty of air, and no syringing is required. Sow more seed thinly for later crops.

GRAPE VINES.—The fruit on the Vines which were the earliest started in point of time, will soon begin to colour, and more air should be afforded whenever the weather is favourable for so doing. It is a great mistake, however, and one that is often made, to maintain a dry air in the vinery at this stage, the suddenness of the changes from a moist atmosphere to dry being unnatural, and therefore injurious to the Vine and the crops, especially when the hot-water pipes are over-heated to bring about this dryness. A Vine should go on from first to last without check to growth in leaf or fruit, and this is impossible

with a sudden change in the aërial condition of a vinery. It is necessary, to enable the Grapes to attain to a large size, that a certain amount of moisture should be present in the air, the foliage being sustained and kept in health to a great extent by means of the moisture absorbed by it. Moreover, an over-dry air is productive of red-spider, than which scarcely any pest is worse. Less moisture will be needed in the air as the bunches come to the ripening point, but for a time continue to damp the paths and walls on bright days, and in much less degree or not at all on dull and wet days. Afford weak manure-water to the roots at regular intervals, reducing the strength of these applications as perfect maturity approaches. There is always a certain amount of moisture given off from the borders, and transpired by the foliage at night, which, if allowed to condense, would cause spotting of the berries, and to avoid this a small amount of ventilation should be permitted at the top of the vinery. The house may be entirely closed for a couple of hours in the afternoon during sunlight, so as to husband the sun's heat, and render artificial heat at that time unnecessary, the top ventilators being slightly opened again as the sun passes off the vinery. White Grapes require plenty of light to ripen them properly, and give them perfect colour; but the bunches must not be exposed suddenly to bright sunshine by tying back the foliage that shades the bunches, or scalding of the berries will probably occur. If it is necessary to hasten their ripening, the leaves may be drawn on one side, but the bunches should be protected from the direct rays of the sun with tissue paper; and by this means a bright amber colour is given to the berries, which is not always obtained when the bunches are shaded by the leaves. Black Grapes, especially Hamburghs, have a better finished appearance, and carry a thicker bloom when allowed to ripen slowly, and shaded with the foliage. Early forced Grapes of this variety, however well they may be finished, soon lose some of their black colour if exposed continually in bright weather; and to keep them in perfection, a slight shading should be afforded them daily for a few hours in the hottest part of the day till the fruit is cut. When the bunches are ripe, the border should be thoroughly watered with clear water, afterwards covering it with clean, dry straw, to check in a measure evaporation. Afford plenty of ventilation in calm weather, but avoid a rush of air through the house, as it is often the cause of delicate white varieties being rusted.

LATER HOUSES.—Close attention must be paid to disbudding, stopping, tying down the shoots, and thinning the bunches. If any one of these operations is neglected at this season for only a few days, the foliage gets crowded, and a large quantity of useless growth will have to be cut away, all of which is easily avoided by timely pinching out the points of the growths at the proper time. The wholesale removal of foliage which neglect entails is, at any time in the career of the Vine, an evil which checks the growth. Thinning the bunches should commence as soon as the berries are set, when the work can be quickly done, and there is less danger of causing injury to the berries with the points of the scissors. The varieties Gros Colmar and Gros Maroc must be thinned freely at the first, as the berries of these attain to a very large size, and it is not an uncommon thing with some gardeners to commence thinning these varieties whilst the Vines are in flower. Madresfield Court is a free setter, and should be thinned early. By leaving plenty of space between the berries, to a great extent the berries of this grand Grape will be prevented from cracking.

THE KITCHEN GARDEN

By John Lambert, *Gardener, Powis Castle, Welshpool.*

MINT.—Now will be a good time to make fresh beds of this, old beds should be destroyed about every fourth year at the longest, or it becomes weak and of a bad colour. Dig up one of the old beds and select the young strong growths with a few inches of stem and roots attached, plant these about 6 inches apart, and give sufficient water to settle the soil about the roots. Mint may also be raised from cuttings and planted out, but the first is least trouble and answers quite as well, where plenty of stock is found to work from.

RHUBARB.—Where new plantations are required the work should be taken in hand at once. To have Rhubarb of the best quality and to facilitate forcing operations, I would prefer plantations of not more than six years standing. The ground selected for a plantation of Rhubarb should be trenched and well manured, and if possible exposed long to sun and air. To prolong the season of supply a few roots of the early varieties should be planted on a warm border, and a similar quantity planted under a north wall. I prefer plants for new plantations to have been raised from seeds, which having been transplanted once from the seed beds, by the second or third year answer admirably for the purpose, having a greater quantity of fibrous roots attached, and not being mutilated as the older stools would have been. Where old stools are used, however, either from necessity or otherwise, select as far as possible the outer crowns, as they may be more easily detached, and they have the greater quantity of fibrous roots. Plant in rows of about 5 feet apart and 3 feet from plant to plant, which distance may be slightly decreased for the weaker sorts. A liberal quantity of manure may be given to each stool when being planted in addition to that already trenched in. Some of the best varieties are:—Early, Johnston's, Martin's, Kershaw's Paragon, Royal Albert; Late, Myatt's Victoria, and Champagne.

BEET.—Make a first sowing of the Turnip-rooted variety outside, and give it a dressing of lime or soot, as a deterrent to slugs. Rows of Beet may often be worked in among other crops, to be cleared off about the same time.

TURNIPS.—A sowing of the Early Milan variety may now be made on a warm south border. The ground should not be over rich, and the seedlings should be well thinned out, as early-sown Turnips always have a tendency to run to seed. Give a good dressing of burnt refuse and lime at the time of sowing.

TOMATOS.—Make sowings to supply good-sized strong plants in 6-inch pots for planting out against all spare walls or fences; besides which, in the south, they may be planted in favourable positions in the open, and trained to a stake. The plants should be showing flower at time of planting.

CELERY.—Sowings should be made for the first main batch, using light, sandy soil, containing plenty of well-rotted leaf-soil. The middle of April will be quite soon enough to sow that intended to stand the longest. Hardy dwarf compact varieties, well proven, should be selected for this late sowing. A hot-bed is a good place to raise these, and if sown in boxes, they are easily moved about.

PEAS AND BEANS.—If fine weather, free from frosty nights, occur, Peas and Beans, which have been raised inside, providing they are thoroughly hardened off, may be planted outside. The operation must be done with care, staking them at same time. For the dwarf varieties, like Chelsea Gem, worn-out birch-besoms will make admirable pea sticks; and a few Spruce-fir boughs should be at hand for protection in case of frosty nights, but these should be removed during the day.

HERB BORDERS will require overhauling, and if the border is several years old and young plants are at hand, a new one should be made. Mint, Sage, and other herbs are best when taken from young strong-growing plants. Make sowings also of all kinds that are in request, or cuttings may be put in of most kinds. Pennyroyal should be transplanted each year, or it soon runs out. Tarragon requires a deal of attention to keep it strong; a certain portion of this should be taken up each year, divided and re-planted in good rich light soil in a good position.

MUSHROOM BEDS.—Another bed may yet be put in the Mushroom-house, but avoid fire-heat as much as possible. Secure all droppings obtainable, and prepare them under cover for outside beds.

SEAKALE.—Cuttings in bundles should now be untied, and if boxes can be spared for this purpose, put the cuttings upright in them, fairly close together, working in amongst them some leaf-soil sufficiently deep to cover the crowns. Place them in a temperature of about 50° in any convenient place. When the growths are from a quarter to half an inch in length, they may be removed for planting, when, with a sharp knife, remove all the young shoots except two of the most promising. The ground should previously receive attention by bastard trenching, or being deeply dug and well manured. When the soil is dry enough, they may be planted with a dibber, making a hole 7 inches deep. If the cutting be dropped into such a hole, and the cuttings are 5 inches long, the crown will be 2 inches below the surface. Seakale being fond of a fairly stiff rich soil, the surface-soil is not fine enough for filling up these holes, and a man should follow with a wheelbarrow of fine soil prepared for the purpose. When the shoots appear, thin them to one if good heads are required, and give a dressing of salt broadcast. If the plants are wanted for lifting, plant on the flat in lines 18 inches apart, and 8 inches from plant to plant, if ground is plentiful. Should it be intended to plant from seedlings once replanted, or fresh from thinly-sown seed-beds, these make good plants, but the crown must be removed, or the plant will produce a flower-head instead of leaves. Beds getting old which are forced annually under pots by hot manure for late supply, should be replaced by new ones of two or three pots in width, planting three good sets in a triangle of about 9 inches from point to point. The clumps should be 2 feet apart in the lines, and the lines 2½ feet apart; this will give them fair room, but allow 3½ feet for paths if more than one bed is made. Seed should be sown in line 15 inches apart, and thin out to 6 or 8 inches; keep clean of weeds, dress the ground well, and the following winter remove the crowns. By the second year the plants will be ready for lifting for forcing, if in a suitable soil.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

THE DECIDUOUS SECTION OF CALANTHES must be repotted as soon as the new growths are about 1½ inch long, before new roots are made, or these will probably be injured. Turn the plants out of the pots and shake them out of the old soil, cut off the dead roots to 1 inch, which will help to keep the plants firm in the new compost. The soil should consist of one-half good fibrous loam, one-fourth dried cow-manure, and the remaining fourth of finely-chopped sphagnum moss, small crocks, and a good sprinkling of coarse silver sand, the whole being well mixed together. If good loam be not procurable, use fibrous peat instead, but rather less than of loam, and more moss. This compost should be placed for a few days in a suitable place to get warm, otherwise the pseudobulbs may receive a check by potting into a cold compost. Select good clean pots, in sizes according to the requirements of the cultivator, but 7 inch or 8-inch pots are most convenient, as if larger are used the soil is liable to become sour before the season is half over. In a 7-inch pot place five or six moderate-sized bulbs; if very large three or four would be sufficient. In 6-inch pots put the same number of bulbs, but of a smaller size. If space is of little moment, it is an advantage to grow them singly in pots, as during the growing season each bulb can be treated separately, and when in bloom a better arrangement made in order to display the spikes to perfection. The latter has been my practice, using pots in proportion to the sizes of the bulbs. In either case good drainage is essential. The pots should be rather more than half-filled with clean broken crocks, over which place a thin layer of turfy-loam. In filling the pots, the soil should be shaken down moderately firm to within an inch of the top, then place the bulbs on the surface and add a little soil, so that the base of each plant is just covered; this will leave about half an inch of space for a top-dressing of turfy-loam when the plants have become thoroughly established. After potting, give these Calanthes the best position available in the hottest house, but give no water at the roots, merely damping round them until the growths show signs of advancement. Afterwards, by slightly sprinkling the soil, the roots soon obtain a firm hold of the sides of the pot, and when thoroughly well-rooted, abundance of water is necessary. Some experienced cultivators slightly syringe the new growth overhead, but I would caution the beginner, not against the practice, but to use every care in its application, especially as regards the afternoon sprinkling, which should be avoided if the night is likely to be chilly, because the spot and disease, which frequently attack these plants, are sometimes brought about by this practice. Calanthes may readily be increased by taking off the old back bulbs and inserting them thickly in pots filled with sphagnum-moss. When they commence to grow, they may be re-potted as advised for those above.

SEED-BEARING PLANTS.—Plants bearing capsules should be stood in a sunny position to mature and ripen the seed. When the pods appear to be bursting, a piece of tissue-paper should be tied loosely around them to prevent loss of seed. It is not always advisable to cut off the mature capsules

immediately they open, but to let them remain until the old flower-stem commences to die down. By that time, under favourable circumstances, many of the plants treated as above, will have made a considerable number of roots, and the seed should be sown on the best-rooted plants. Until the seed germinates, which is usually in about two or three months, the plants must be very carefully watered, using a fine rose for the purpose. When the seedlings are up, and have become fairly rooted, they may be treated as regards moisture similarly to the older examples, but they must not be disturbed until the following spring. Seedlings from last spring should be potted off now. The best method is to place several of these young plants around the edge of the smallest size pots, and to suspend them well up to the roof-glass of the house. When the new roots appear, the plants must be attended to with the most assiduous care.

BLETIA HYACINTHINA may be repotted in the same compost as advised for the Calanthes. Keep the plants well exposed to the light, and in the coolest position available. Other species of Bletia should be repotted as they show signs of growth, and when growing they require the temperature of the intermediate-house.

PLEIONES, ETC.—The cool-growing species, as P. humilis, P. Hookeriana, should, as soon as new growth commences, be repotted. Place them in shallow pans, and suspend them near to an open ventilator in the Odontoglossum-house. Any plants of Sophronitis grandiflora requiring fresh material should be attended to now, as they are rooting from the new flowering growths. Pot in well-drained peat and sphagnum moss. Give them a light position in the cool house, preferably upon the stage, as these plants do not appreciate the cool dry air which they are subjected to if suspended to the roof-glass. Keep them well supplied with moisture at the root at all seasons.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

AQUILEGIAS.—Though not generally grown in pots, there are few plants more lovely. Sow rather thinly in a shallow box of loam, leaf-soil, and sand. When the seedlings are about an inch high, prick them off into boxes 3 inches apart each way, and when the plants have grown to touch each other, pot into 48-size pots, using good loam, leaf-soil, cow-manure, and coarse sand. Afterwards they may be placed outside. Towards the beginning of June they should be potted into 16-sized pots, using the same compost as before. In the winter, when the plants have lost their leaves, the pots should be removed to a cold frame. The following spring they should be placed in the greenhouse or vinery, and when the plants commence to grow, they should receive liberal supplies of water, with manure-water occasionally. Treated in this manner, they throw five or six flower-spikes, which last a long time cut, and the plants are very light and beautiful for the conservatory. When the flowering season is over, select two plants of each variety for seed, and the rest may be planted in the herbaceous border or shrubbery.

PRIMULAS.—The first batch of seed should now be sown in clean, well-drained pans, using for the purpose a compost consisting of one-half loam, and one-half leaf-mould, with abundance of sharp sand. The surface of the soil should be slightly pressed, and made even, and a gentle watering sufficient to wet the whole mass should be afforded. When the water has drained away, and the soil become firm, sow the seeds lightly, and cover with fine soil. A piece of glass may be placed on each pan to prevent a too rapid loss of moisture, and the pans put in a hotbed on the greenhouse shelf, and kept shaded till the seedlings appear, when those in the hotbed should be removed to a somewhat cooler frame, still keeping lightly shaded in sunny weather. When any of the plants have two true leaves, pick them off into other pans or shallow boxes, leaving less-forward plants still undisturbed. When four or five leaves have formed, pot the plants singly into 60's, place them in a cold frame near to the glass, and shade during the hottest part of the day, slightly syringing the leaves in bright weather. Double-flowered varieties of Primula may now be propagated. First shake away all the old soil from the roots, then divide the root-stock with a sharp knife, inserting the pieces thus obtained in small pots, plunging the latter in cocoa-nut fibre in a warm, close frame. Another manner of propagation is to mound-up the base of the plant with sandy leaf-soil, and place on a shelf in a warm greenhouse. Roots will soon form, and the plants may then be divided with a knife, each piece with a portion of the roots. Pot into 60's as before, using one-half loam and one-half leaf-soil, with a sufficient quantity of sand to keep the soil porous. Place in a warm frame, and keep close for a week or two, that is, till roots push into the soil, when more air and light may be gradually afforded.

CARNATION SOUVENIR DE LA MALMAISON.—Old flowering plants should have plentiful supplies of water, with weak manure-water afforded twice a week. And if aphides appear, fumigate once in three weeks with Richards' Compound; for if this pest be not kept in check, it will soon spoil the flowers, and also render layering difficult. This compound will not affect the scent of the flowers as tobacco-paper would—a very essential point. Those plants of the variety which have finished flowering should be removed to a cool vinery or frame, and be afforded air and light freely, so as to mature the wood previous to layering. Layers taken from such plants will make fine plants before next winter, and have filled their pots with roots long before those layers taken from the young plants; and they may also be brought into flower quite six weeks earlier next spring.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

DECIDUOUS AND EVERGREEN PLANTS SUITABLE FOR PLANTING AGAINST WALLS.—In deciduous species the showy and beautifully sweet-scented Magnolia conspicua and M. conspicua Soulangeana, M. stellata, syn. Halleana, should, in cold localities, be placed on southerly or westerly aspects, the evergreen Exmouth or grandiflora varieties on a south one. The border for these plants should be as well made as if for fruit trees, well drained, of good depth and width, and consisting of pasture loam, partly-decayed crushed bones, and coarse sand. The roots, if the plants are in pots, should be spread out horizontally, and not placed lower than 1 foot, many much less deep in the border.

IVY.—As an evergreen climber, this is without an equal, and it may also be put to a variety of purposes, such as edgings to shrubberies or flower-beds, basket-beds on the lawn for filling with flowering-plants, planting against pillars, covering arbours, old ruins, trailing over natural or artificial rocks, or planted against the walls of the mansion or cottage, or trained into standards in the form of standard Roses. Planted wherever it may be it is a beautiful evergreen, yet always changing its foliage and colour with the seasons. There is no plant that is more suitable for planting against damp walls than Ivy, its numerous roots and dense growth helping to keep them dry. It requires but little care in training the second year after planting, as it clings as well to bricks and roughly-dressed stone, but on the surface of very smooth stone or cement it does not cling very well, and is apt to get blown down; and when it it is required to cover such surfaces, iron holdfasts should be fixed in the joints, and some of the strong-growing shoots tied to them. The present is a suitable season for planting Ivy. The plant likes good rich loam, with plenty of manure afforded when planting. Hedera canariensis, and the common Irish Ivy, the quickest grower, are the best species for covering large surfaces in a short space of time. The small cut-leaved and variegated varieties have a pretty effect when mixed wish those having large green leaves. Good varieties are Hedera azorica, H. digitata, H. Beauty of Huntingdon, H. Cavendishii, H. Crippsi, H. dentata, H. Emerald Gem, H. Golden Queen, H. palmata, H. p. Silver Queen, H. pennsylvanica, and H. taurica. Old plants of Ivy, which will in most cases have pushed out shoots to some distance in front, should now be clipped with the shears close to the wall. This operation will give them a rather bare appearance for a few weeks, but they will be made tidy for the whole year, and the young foliage will have a very nice appearance. Other evergreen climbing plants worthy of a place on a wall are Azara crassifolia, A. integrifolia variegata, A. microphylla, which do well on a south aspect; Crataegus pyracantha, an evergreen Thorn, bearing bunches of scarlet berries during the winter; C. p. fructu-luteo, the yellow-berried variety; C. p. Lelandi, a fine variety; also Cotoneaster microphylla, C. Simonsi succeeds well on east or west aspects if planted in good garden soil. Elæagnus reflexa, and the variegated form, are very good plants for south or west aspects; Escallonia macrantha, with pink flowers, and E. philippiana, with white ones, do well on a wall facing the south; and Garrya elliptica will do well on east or west aspects.

SEED SOWING.—Seeds of Sweet Peas, Mignonette, and Candytuft, may now be sown on outside borders. The plants will succeed in the matter of flowering those raised in pots at an earlier date. Half-hardy annuals, i.e., those which are benefited by being sown in a little artificial heat, may now be sown. Under this heading are included Ten-week, East Lothian, and Intermediate Stocks, German Asters, Zinnias, Marigolds, Phlox Drummondi, &c. Sowings of these may also be made on a warm border towards the end of April or beginning of May, but in most parts of the country it is better to sow them in shallow boxes under glass, and transplant when the danger from frosts is passed.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

FORCED STRAWBERRY PLANTS.—Early forced Strawberries, when properly hardened off, should be planted in beds or borders as soon as possible, so as to secure a crop of fruit in the autumn, when a few dishes are sure to be welcome at the dessert. Before planting see that the soil in the pots is moist, and when planting it suffices to just cover the old ball with soil, treading firmly the soil around it. If the weather be dry, one good watering after planting will generally suffice. The surface of the beds should afterwards be loosened with the hoe. Amongst the most useful varieties for autumn fruiting are Keen's Seedling, King of the Earlies, and Vicomtesse H. de Thury, the last being the best.

NEW VARIETIES OF STRAWBERRIES.—New or choice varieties which may have been lifted from the open ground and sent by post or rail, ought to be potted and grown under shelter for a time, so as to become established before planting them out of doors. In planting be careful not to bury the small crowns or hearts of the plants, and to plant firmly. These should not require mulching the first season, but an occasional hoeing between the plants will be of great benefit, all flowers and runners being pricked off as they appear.

AMERICAN BLIGHT, ETC., ON APPLE TREES.—Apple trees should be examined now for American blight, and any that may be seen to have escaped the winter's dressing, should be destroyed. [The dressing of rosin and spirits mentioned in our pages last week deserves a trial. Ed.] It is also a good time to search for and destroy the eggs of the lackey-moth where troublesome, the eggs will be found on the smaller branches, glued to the bark, like bands or rings of rubber.

PYRAMID PLUM TREES.—Although Plums are not commonly met with as pyramids, it is a form of culture to which most of the varieties lend themselves readily, and for which some of the best varieties are well adapted, except the latest to ripen. Care should be taken at the commencement to ensure a good foundation for the proper furnishing of the base, and no difficulty will be experienced in the formation of handsome specimens. If the young newly-planted tree be not well furnished with strong branches at the base, it should be at once cut back to 18 inches or so from the ground, and suitable breaks secured. Any growths not required for extension should be pinched at the third or fourth leaf. Some of the best for this purpose are the Green, Bryanston, Purple, and Transparent Gages, Early, and Late Rivers' Prolific, Kirke's, Denyer's Victoria, Belgian Purple, and Diamond.

THE WEATHER AT THE CAPE.—A correspondent writing from Cape Town, March 6, 1895, says: "The weather here is very dry, and the heat has been something awful for the last week. The past February is the first I have known during the many years I have been at the Cape, in which we have not had one good rain. The town is on short allowance of water, and there are many other consequent little inconveniences, but with plenty of sunshine and a clear pure atmosphere, we manage to pull through; and old colonists prefer it to the rigours of the climate of the old country, about which we are now hearing, to us marvellous tales of its ice-bound condition."

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

THURSDAY, April 4—Linnean Society.

SHOW.

WEDNESDAY, April 3 { Royal Caledonian Soc. Spring Show (2 days).

SALES.

MONDAY, April 1 { Roses, Azaleas, Ferns, Palms, Tuberoses, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, April 3 { Consignment of Lilies from Japan, Begonias, Carnations, Spiræas, Gladioli, Gloxinias, and Palm Seeds, at Protheroe & Morris' Rooms.

THURSDAY, April 4 { Sale of 250,000 Havana and British Cigars, by order of Messrs. John Hunter, Wiltshire, & Co., at Protheroe & Morris' Rooms (two days).

FRIDAY, April 5 { Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—46°.

The Slime Fungi.

But for the rather important fact that it is doubtful whether the creatures thus called are fungi at all, the epithet would be more generally acceptable than either "Myxotozoa" or "Myxomycetes." The work to which we would now call attention is intended for the use of proficients, to whom such names offer no terrors. Complaints on this score generally come from those who have no knowledge, and only the feeblest desire to possess any. Experience shows that the obstacles that names and terminology may present are the most easily overcome of any that beset the path of the student. These slime-fungi, if we may be allowed so to call them, have a special interest to cultivators, from the destructive powers possessed by some of them. We have seen a long propagating pit, full of cuttings, overrun within a very few hours by what gardeners call "flowers of tan" (Fuligo, or Æthalium varians). This is to the naked eye a yellow frothy or foamy mass, developed on the decaying tan, and, as we imagine, deriving its nutriment rather from that than from the living plants. Mr. Lister, however, tells us that he has seen the "swarm-cells" protrude their arms (pseudopods), lay hold of the neighbouring bacteria, and withdraw them into the interior, where the bacteria are duly digested, a very animal-like procedure. The general use of hot-water pipes and the disuse of tan as a plunging medium are reasons why the creature is now rarely seen in propagating houses.

Another plague belonging to this group is that which produces "club" in Cabbages, and the diseases and distortions known as finger-and-toe, and which is botanically known as Plasmodiophora brassicæ. Speaking in general terms, these creatures are more nearly akin to the animal than to the vegetable kingdom. At one period of their existence they are mere masses of jelly or contractile protoplasm of irregular form and size, without visible structure, and without any indications of cell-wall or vessels. This is the "plasmodium" in which a rhythmic flow of fluid is observable, and which has a very marked locomotive power. Presently, the jelly-like plasm breaks up into minute fragments, around each of which a cell-wall is formed, and ultimately either a spore-case or a spore is formed, and the creature comes to rest for a time. When the spore germinates, the cell-wall cracks, and the protoplasm emerges in the form of a fine thread or cilium. Sub-division takes place, so that many new cells are formed, and the protoplasmic contents of this, after a time, coalesce to form the plasmodium as above described.

We cannot here enlarge upon this outline sketch, as without specimens or careful drawings it would be impossible to give clear notions of the extent and direction of the variations in appearance and structure presented in the different genera and species of this singular group. The details may be most profitably studied in a work prepared by Mr. Arthur Lister for the trustees of the British Museum, and entitled, "A Monograph of the Mycetozoa" (Longmans). After an introduction, in which the general characters of the group are clearly set forth, Mr. Lister proceeds to describe in detail the several species.

In dealing with nomenclature, Mr. Lister has followed the rules laid down by Alphonse de Candolle, and accepted by the Botanical Congresses at Paris and elsewhere. Considerable alteration of names has in consequence resulted, but as this is based upon a clearly-defined principle, and at the same time the synonymy is very fully worked out, the changes will not be found objectionable at present, and the nomenclature will acquire in the future a stability and constancy not otherwise to be secured.

Rightly to estimate the value of such a monograph, it is necessary that it shall be used—not merely looked at or referred to—by the student. Anyone accustomed to use and consult monographs, can estimate the care and judgment which have been bestowed on this, which, indeed, may be cited as a model to be followed in similar productions.

There are numerous small wood-cuts illustrative of the genera, and no fewer than seventy-seven collotype reproductions of water-colour drawings, made with the aid of the camera lucida by Miss Lister. These beautiful drawings greatly enhance the value of the work, which in all ways is creditable to British science.

Wag Water Valley in Jamaica (see Supplementary Illustration).—The river valley depicted in the photograph is one of the prettiest in the beautiful island of Jamaica. It is in the heart of the lower slopes of the Blue Mountains, where the Mango-trees of India are re-clothing the land once cleared for Coffee plantations. Close by are the lovely Castleton Gardens. In the foreground is a negro-hut surrounded by Banana trees, over topped here and there by lofty Cocoa nut Palms. Along the banks of the streams are tall trees of the Horse-wood (Calliandra latifolia) species of Anonaceæ and Malvaceæ, with the rampant cable-like growths of Entada scandens, the "Cocoon" of the negroes. The feathery plumes of Bamboo shoot up from the water's edge, both softening the aspect of the scenery, and marking the devious course of the stream. The late Prof. Froude visited this beautiful valley in 1886. He says, 'Wild nature was luxuriantly beautiful. We picknicked by the river, which here is a full rushing stream, with pools that would have held a salmon, and did hold abundant mullet. We found a bower formed by a twisted vine (Entada scandens) so thick that neither sun nor rain could penetrate the roof. The floor was of shining shingle, and the air breathed cool off the water. It was a spot which nymph and naiad may haunt hereafter, when nymphs are born again in the new era . . . . . the scene remains upon the memory like some fine finished work of art." *D. M.*

Linnean Society.—On the occasion of the meeting on Thursday evening, April 4, at 8 P.M., a paper will be read on the "Cyrtandraceæ of the Malay Peninsula," by Mr. H. N. Ridley, F.L.S., &c.

The Surveyors' Institution. — At the ordinary general meeting held on Monday, March 18, 1895, Mr. J. Shaw (Member of Council) in the chair, a paper was read by Mr. E. M. Leman, on "Agricultural Credit Banks." A discussion followed and was concluded, and a vote of thanks was unanimously passed to Mr. Leman for his paper.

Presentation to Mr. W. G. Head.—A few friends of Mr. W. G. Head—exhibitors, judges at the Crystal Palace Flower Show, and others, met at the Restaurant, Victoria Station, S.W., on the evening of the 22nd inst., having invited Mr. Head to dinner. In the unavoidable absence of Mr. William Marshall, who was confined to his bed through illness, Mr. Richard Dean, the treasurer of the fund, occupied the chair, supported by Messrs. A. F. Barron, G. Wythes, A. W. G. Weeks, J. Willard, W. Coomber, W. Whalley, H. Herbst, J. Hudson, B. Wynne, and others. In presenting Mr. Head with a purse of money on behalf of the subscribers, the chairman briefly sketched Mr. Head's horticultural career. He went first to Arundel in 1853, under Mr. McEwen, then to Shrubland Park, Ipswich, in 1856; from whence Mr. McEwen sent him to Drumlanrig, under Mr. McIntosh; from thence he went as gardener to Castle Dykes, Dumfries, but owing to failing health he returned to the South in the spring of 1863, and took a foreman's place at Abernant, South Wales, subsequently becoming foreman to Mr. J. Wilson, at Arundel. In 1867 he was on the staff at Chiswick, from thence he went to take charge of the flower garden and general decorative department at Kew. In 1873 he went out to Calcutta, and there formed a new garden and nursery for the Agri-horticultural Society of India. He remained there six years, coming home in 1879, and soon after became superintendent at the Crystal Palace in succession to Mr. George Thomson. The chairman eulogised Mr. Head's work at the Crystal Palace, and concluded by handing Mr. Head the purse of money with the assurance of their hearty good wishes.

'The Cottagers' Calendar.'—A new and revised edition of this little book, of which 280,000 have been already issued, is in the press, and will be published speedily. It was originally drawn up by the late Sir Joseph Paxton, and has been repeatedly revised and brought up to date by the staff of the *Gardeners' Chronicle*. It is particularly suited to the needs of cottagers and allotment-holders, and forms an excellent manual for County Council lecturers and their pupils.

Artistic Display in Advertisement Competition. — With the view of encouraging the development of artistic display in advertisements, the Meisenbach Co., Limited, West Norwood, London, S.E., offer the sum of £30 in cash prizes for the three best-displayed specimens of advertisements, 1st prize £12 10s.; 2nd prize £5; 3rd prize £2 10s. The prize specimens will be inserted in the leading journals devoted to printers' interests, together with the names and addresses of the prize-winners, and firms from which the specimens emanate. It will be apparent to all competitors, that in an open national competition of this kind, the distinction accruing to

the winners of the prizes will be great, and the extensive advertisement of considerable value to the firms mentioned. The following gentlemen have kindly consented to examine the specimens sent in for competition, and make the awards: Mr. Robert Grayson (*The British Printer*); Mr. Geo. W. Jones (*The Printing World*); Mr. W. John Stonhill (*The British and Colonial Printer and Stationer*). The competition is limited to printers.

Presentation.—On Sunday, March 17, Mr. Wilson, Steward and Gardener to the Earl of Lindsay, Uffington House, a post he has filled for twenty-six years, was presented by his Lordship with a handsome watch and chain, a tripod lamp, also a scarf pin from the Ladies Bertie, on his leaving Uffington for Bank Hall, Tarleton. A silver inkstand formed a gift from the villagers.

Individual Hardness of Plants.—If one will examine an Osage Orange-hedge, after the first frost, some plants may be noticed as having retained all their leaves perfectly green, while the other plants have had their leaves frost-bitten and destroyed. We say these plants are hardier than those which have lost their leaves. This variation in degrees of hardiness is common to all kinds of plants. The common Purslane, after the first frost, may be noted as having a few plants still green and fleshy, while the majority are killed, though still retaining the green leaves, often to be found intertwined with those which have been killed. This shows a few plants hardy enough to resist a little frost, while the rest are more tender. This fact can be taken advantage of by the improver, for all variations in plants have a more or less hereditary tendency. If a very hardy race is desired, these hardy ones should be selected for seed. There is, of course, a limit to even this form of variation; and species usually killed by frost, or which may have a few individuals capable of resisting two or three degrees, are not likely to get much beyond this. Cultivators of the Orange or Lemon in California or Florida, might well profit by facts like these. *Meehans' Monthly for February.*

An Aged Elm at Uffculme.—An Elm tree, said to have stood several hundred years on the parsonage estate, Uffculme, was on Saturday, the 9th inst., felled. Its greatest girth was 25 feet, and it was 120 feet high.

Honour to the Trade. — Mr. Gustav Wermig, of Egley Nurseries, Woking, and 154, 155, Wholesale Flower Market, Covent Garden, one of the best known Covent Garden men, having been elected Chairman of the Woking Urban District Council, qualified as a Justice of the Peace at the Surrey Quarter Sessions on the 18th ult. at Kingston, and took his seat on the Bench.

New Method of Preserving Fruit.—M. Petit has noticed that by keeping fruits—Grapes, for instance—in a sealed vessel, filled with the vapour of alcohol, the said fruits keep well. On October 31, 1894, that is, at a very late season, some Chasselas Grapes were cut and placed in a cellar, closed as firmly as possible by a wooden door; in the cellar was a jar containing 100 cubic centimètres of alcohol; the Grapes were placed on wooden frames. In two other similar cellars, one closed, the other open, but where there was no alcohol, the Grapes were similarly arranged. The temperature of the caves ranged from 8° to 10° C. (50° F.). On November 20, in the open and in the closed cellar, where there was no alcoholic vapour, the Grapes were spoilt and rotten, whilst in the cellar in which the alcohol was placed, the Grapes were in perfect condition, and free from mouldiness. On December 7 the Grapes were in still finer condition; tasted by critical connoisseurs, they were found excellent, and of perfect flavour. In laying these notes before the Société d'Agriculture, M. Tisserand drew attention to the simplicity of this mode of preserving fruit; it can be practised anywhere, and needs no special apparatus. In every place where an uniform low temperature can be assured, Grapes can be stored in closed compartments, adding alcohol either in a jar, or even, according to M. Tisserand, saturating with it the wooden framework which support the Grapes. The cost of the alcohol is, it appears, very small. *Revue Scientifique.*

New Electro-cultural Experiments.—M. Lühnenschloss has been making, at Christiania, certain experiments with a particular apparatus not unlike that used by M. Paulin. A pole 8 mètres (about 26 feet) high, was placed in the middle of the ground, which was a square area of about 400 mètres. The elevations which rose on either side were irregular, and reached a height of from 5 to 20 mètres (16 to 64 feet), one side was open to the sea and the other close to a wooded height rising some 15 mètres (nearly 49 feet). The soil was sandy, pebbly, poor in humus, but rich in marine algæ. Placed in July, 1893, in a Potato field the apparatus which diffused the fluid in the earth by means of strands of galvanised iron, 2 mètres apart, produced an increase of 11½ per cent., and a remarkable richness in starch of 23·7 per cent. against 20·7 per cent. in the best plot. The tubercles thus influenced were in form similar to those not affected by the electric current, but the skin was more glossy and of a much brighter red colour than that of the others. Another apparatus placed by M. Lühnenschloss in a kitchen-garden ensured the produce of much richer vegetation, although it was impossible to record the exact increase. Other favourable results traceable to the apparatus were noted at Brönö (Norway) in 65° 30′ N. lat. Finally, M. Wattiez, at Outremont, near Montreal, Canada, obtained, through use of this same apparatus placed in Tomato plantations covering three-quarters of a hectare (nearly 2 acres), a crop a fortnight in advance of the usual season. *Revue Scientifique, March* 9, 1895.

Washing at Home.—To those who reside in the country, and who believe in the advisability or economy of "washing at home," we can cordially recommend a little book (*Hints on Family Washing and Spring Cleaning*, by Mrs. J. G. Baker). Mrs. Baker gives plain and intelligible directions for this work, which appears so formidable to most of the wives and mothers of the present generation. This little pamphlet also includes some hints on spring cleaning. Mrs. Baker directs that all the pictures shall be taken down, and our favourite armchairs swathed in dusting-sheets as the first proceeding. Having read thus far, we handed the book over to the ladies of our family, who assure us it is "full of useful hints," especially at this time of year, when the much-dreaded but very necessary annual purification is coming nearer and nearer.

Home Correspondence.

Vitality of Cobœa scandens variegata.—It may be interesting to state that when looking over a collection of plants in the greenhouses of a gentleman near to Birmingham, I noticed that the main stems of two large and vigorous plants of the above, subsisting, each on a mere narrow strip of bark, which was entirely detached from the wood for about 18 inches, commencing near the ground. From the latter circumstance, I concluded that the decay of the wood was occasioned by the dampness of the border, an opinion also shared by the gentleman's gardener. Apparently, the hanging shred-like woody bark exhibited no sign of life, but on examination comparatively faint traces of living tissue were remarked—a striking illustration of how small a portion of the sap vessels are required to carry on a vigorous growth; but this, possibly, may not equally apply to all kinds of plants and trees, under the conditions above noted. *William Gardiner, Harborne, Birmingham.*

Profitable Wood Management.—Mr. Elwes, of Colesborne—an extensive owner of woodlands, and as shrewd and keen an arboriculturist as I have met with—fearlessly speaks the truth in saying that he "would consider it as absolute gambling to plant with a view to profit on ordinary land as long as the present conditions prevail, and that we shall see a great deal less planting in the next ten years than formerly." Enthusiasts may write to the contrary, but speaking from practical experience and from an intimate knowledge of the working of the woods' department on several of the largest English estates, timber culture is by no means a profitable undertaking; and the owner of fully half the land and woods of a southern county said to me only the other day that if it was not for the shelter and appearance they afford, he would make a clean sweep of every plantation on his estate. Almost every class of forest produce has become considerably reduced in value of late years; indeed, with the exception, perhaps, of Larch and Ash, every other kind of timber has fallen off several pence per cubic foot during the last fifteen years, as will be seen from the table I recently compiled for the *Timber Trades Journal*, which were derived from returns from almost every county in Great Britain. In England, Oak bark at present averages £3 7*s*. 6*d*. per ton, whilst fifteen years ago it stood at £5 4*s*.; and Coppice wood that in recent years fetched £10 per acre, can now hardly be disposed of for half that amount. There are thousands of Fir trees at the present time in Scotland that cannot be sold at the ridiculous figure of 4*d*. per cubic foot, and from no less than fifteen stations the remarks come "market glutted," "timber a drug in the market," "Fir-wood hardly saleable," &c. In face of such, it seems ridiculous for anyone to say that timber-growing can be reckoned as a profitable investment at the present time. Certainly there is much to say on the opposite side, as so few of our plantations are grown solely for economic purposes, but muddled up with game-coverts, ornament, and shelter, about which, however, I have no time to write at present. *A. D. Webster, Boxmoor, Herts, March* 18.

The Scarlet Trumpet Honeysuckle.—At the recent show held at Reading, a pretty effect was made, by an exhibitor—Mrs. Walker, intermixing the flower-trusses of this plant with blooms of Narcissus and Ferns, and long trailing shoots of Asparagus prostrata. As was remarked by the writer in last week's *Gardeners' Chronicle*, it is a wonder that this species of Honeysuckle is not more generally cultivated. *E. M.*

Nomenclature for Garden Use.—The difficulties of this matter would seem to be:—(1) That there are already in existence several different systems upon which garden plants are named, *e.g.*, vernacular names, tri- and quadri-nomial Latin names, Latin binomials, mostly in anum, and for hybrids the names compounded of those of both parents; and (2) that there is an equally complete lack of uniformity in the methods of forming or choosing "the ordinary specific Latin names given by botanists." Under the circumstances, it seems, in my humble opinion, the most practical step towards a solution of the difficulty would be to write "f.," for "forma" or "form," before all garden names, in which case all Latinised names should have a feminine termination. This would be recognised by all botanists as a waiver of any claim to specific rank, or, indeed, to any rank of any precise systematic grade. Another method would be to add "h.," for "hortorum," "hortense," or "hortensis," after the name, which has the advantage of being of common gender. It might, however, be inconvenient, when, in questions of synonymy, it was desirable to quote authorities after the name. If the former expedient were adopted, names of any form or system might be retained, and there are many formed on diverse systems which it would be difficult to supersede; but it would at once be recognised by all that for new names the shortest procurable, i.e., Latin binomials, would be the best. As to imperfectly-known plants, it would always be possible (with the prefixed "f.") to use comparative terms, such as those ending in "oides," "flora," "folia," place-names, or personal names. Where the parentage of a simple specific hybrid is known, there seems to me an overwhelming advantage on the score of precise information in the old compounded name, long though it be; but if this compounding is to be logically extended to the generic names of bigeners, by all means let us have the prefixed "f.," or some of us will be turning over the pages of the *Genera Plantarum*, or the *Kew Index*, in a desperate but futile search. *G. S. Boulger*, 18, *Ladbroke Grove, W.*

Pea Tops as a Green Vegetable.—In conversation with a noted gardener the other day, he stated that so bad was the outlook as regards green crops in the garden under his charge and others in his neighbourhood, that he had sown a rather large breadth of Peas broadcast with the intention of

picking the tops soon after they were above ground as a substitute for Spinach. In his garden the Spinach and Cabbage crops suffer to a serious extent in most years, from frost. *E. M.*

APPLES COLOURING.—Allow me to thank those correspondents who have replied to my inquiry on the colouring of Apples on p. 115. The opinions expressed by them, combined with their experience, with one exception only, point more or less to soil influence. It will be remembered that I said I was sceptical about the usual means attributed being the sole cause of colour in fruit, meaning, of course, direct sunlight, air, and atmospherical agencies. With these forces of Nature at work in the year 1893, Apples here refused to put on that inviting appearance which is so desirable, which led me to suspect that something more in Nature's laboratory was wanted, which has been shown by the remarks of your correspondents. I will briefly allude to two statements made by different contributors:—"W. R," at p. 178, who writes very emphatically, and concludes by saying, "some Pears and Apples are always green when growing on certain soils, and the same varieties are highly coloured in the same season from ferruginous and calcareous formations." Again, on p. 274, "J. M." mentions a case of a single tree of Wellington Pippin which gives highly-coloured fruit, out of over one hundred trees of the same sort which do not; and this tree which gives the highly-coloured fruit is induced to do so by a liberal use of soot and iron. These two quotations, I think, are sufficiently convincing to show that with the proper kind of constituents in the soil the colour of outdoor fruits may be much heightened. The substance of this correspondence points to the necessity of a warm soil, and as a help to attain this end, mention is made of substances employed on the surface of the soil to refract and retain solar heat; also a liberal supply of calcareous matter and iron are advised when such are not naturally present in the soil, as is the case here. Perhaps "J. M." will kindly say in what form he supplies iron to this single tree of Wellington Pippin. My impression was that soot contained sufficient iron for all practical purposes. [Soot contains, amongst other substances, much ammoniacal salts, and these give its chief value as a manure. Ed.] *J. Easter, Nostell Priory Gardens.*

THE GALE ON SUNDAY, MARCH 24, was most severely felt at Diddington Hall, Huntingdon, the seat of Arthur J. Thornhill, Esq. A heavy fall of rain came on about 1 PM, and was followed by one of the most disastrous gales that has been known here for many years, causing great havoc among trees, especially the many fine old Elms in the park. These trees began to fall in all directions, and for the space of an hour continued to crash down with a noise resembling that of field guns. Many of these trees were upwards of 100 feet high, and 16 feet in circumference of stem, and number 180; and the telegraph post and wires are entangled among them. The church spire of Buckden village was also blown down, and many narrow escapes are reported. *T. Lockie, Diddington Hall, Huntington.*

BEAUMONTIA GRANDIFLORA. — The excellent display of the flowers of this interesting plant made at the meeting of the Royal Horticultural Society on Tuesday last, suggests the remark that in East and North Bengal the fruits of this extensive climber yield a noted vegetable silk. This silk is composed of the seed-hairs, which are said to be the best known though least utilised. The hairs are very lustrous and purely white. They also possess a remarkable degree of strength. They are easily separated from the seeds, and are usually more than 1½ inch long. *D. M.*

ORIGIN OF TEA ROSE DEVONIENSIS.—For the information of "Wild Rose" anent the origin of the Tea Rose Devoniensis, it may be stated that this variety was raised in 1838, and sent out about the year 1840 (as well as I can recollect) by Messrs. Lucombe & Pince of Exeter, who purchased the stock from the raiser of the variety, a Mr. Foster of Stoke, Devonport, a retired official of the Plymouth Gas Company, after it had been refused at the price of £20 by Mr. Wm. Kendle, senior, of Plymouth. The parent of the Devoniensis was Smith's Yellow Noisette. *H. M.*

CARNATIONS.—As a young Carnation grower, I cannot but be greatly obliged to Mr. Douglas for his most interesting note respecting the yellow-ground Picotee, and thank him heartily for so much information. Will Mr. Douglas kindly tell us if his Carnation plants are still uninjured by the late severe frosts, as he said they were when writing on February 16, &c.? Growers in this district have suffered severely, as we have ourselves here, at Thame. *G.*

TURNIP GALL-WEEVIL.—On March 13 I had given to me by Mr. Dadswell, market-gardener, Brading, I.W., several Turnips whose growth was arrested by the formation of galls. On cutting through these swellings I found a maggot in each, but only one. On examination I found them to be without legs and yellowish-white in appearance, with deeply wrinkled bodies of a soft and pulpy nature, answering to the description of the maggot of the Turnip gall-weevil (Ceutorhynchus sulcicollis), as given by Miss Ormerod in her work, *Injurious Insects*. These maggots have withstood 23° below freezing-point without injury, and several which I immersed in paraffin-oil at the date above given were, in some instances, still alive on March 23. That being so, I feel confident no insecticide would be effectual in destroying these injurious pests without at the same time destroying the affected plants. Since March 13 I have heard of many complaints from farmers and gardeners in respect to the damage caused by this insect, which, as observation shows, is more common in Turnips that are grown in heavy soils than on a friable loam, or with those with an open or porous subsoil. All Turnips thus infested should without delay be either given to cattle or burnt, before the maggots have time to develop into weevils. The infested land should for some seasons to come be cropped with plants belonging to a different natural order. Deep trenching in the autumn, where the soil is of sufficient depth to allow of such an operation, would destroy a large number of these injurious creatures. A dressing of gas-lime would undoubtedly do a great amount of good, if applied in the autumn to land newly dug or trenched, which is to lay fallow through the winter. In applying any kind of lime to land it is much better to give small dressings at intervals of a few years than to give only one heavy dressing in a lifetime. Not more than 30 cwt. per acre of gas-lime ought to be applied at one dressing, though a great deal will depend on the soil, sub-soil, situation, mode of cropping and other things which are observed by successful and intelligent gardeners. *S. Heaton.*

Fig 53.—Cabbage and Turnip Gall Weevil: Ceutorhynchus sulcicollis.

CULTURE OF THE PINE-APPLE.

Well-grown specimens of the Pine-apple form a prominent feature in all collections of dessert fruit, whether displayed in the dining-room or on exhibition tables—indeed, no dessert or collection of fruit can be considered complete that does not include one or more good examples of the "King of Fruits," a merited distinction which is as applicable to the Pine-apple of to-day as it was when first bestowed upon the fruit by our forefathers.

In order to achieve the most satisfactory results in the cultivation of the Pine-apple, suitable accommodation must be provided for the growth of the plants, and a good knowledge of their cultural requirements in all stages of growth must be possessed by the cultivator. In these circumstances, Pine-growing is an easy and simple matter, involving less trouble and attention than any other kind of fruit cultivated under glass; and once a small stock of plants is established, the number is easily and quickly increased, and the annual cost of production is comparatively small. Moreover, satisfaction is experienced in the growing of one's own Pine-apples, and in the consciousness of the fact that the quality of the home-grown fruits is superior to that of imported ones. Notwithstanding the fresh condition in which the foreign fruits reach this country, they lack the rich juicy flavour, aroma, and brightness of colour peculiar to good English fruits.

For succession and fruiting plants I prefer lean-to houses, running east and west, about 9 feet high at back and 4 feet high at front from ground-line with a raised bed 10 feet wide, running along the middle of the house, and a pathway 3 feet wide at the back and 2 feet wide at the ends and front, the latter being 2 feet lower from the ground-line than the former, with three steps descending thereto at each end of the central bed, thus giving a space of 9 feet from floor to glass at back, and 6 feet in front, and a roof-angle of about 34°. The surface of the bed should be about 3 feet from the roof-glass, and from 3 to 3½ feet deep inside, a space of 1 foot being allowed to the bottom-heat hot-water pipes, and a covering of brick-bats, broken somewhat fine on top, to allow of the heat percolating through the plunging material, the remaining space being reserved for tan or fermenting leaves for plunging the Pine-pots to the rim in, in due time.

The length of individual houses should be governed by the number of plants which are intended to be grown and fruited each year. It is simply a question of demand and supply. However, I may say, for the guidance of readers of the *Gardeners' Chronicle*, who may feel disposed to add a pinery to their existing ranges of glass-structures, that a house of the description indicated above, 120 feet long, in four compartments, three of 32 feet in length each for summer fruiters, succession plants and suckers, and one of 24 feet long (nearest the heating apparatus), for winter fruiters, would meet ordinary requirements for Pine-apples. The three first-mentioned houses should be provided with four rows of 4-inch hot-water pipes, set at equal distances along the bottom of the central bed for supplying bottom-heat to the plants when plunged therein, three rows of piping in front and two at the back for top-heat, allowing two extra pipes, one in the front and one at the back, for top-heat in the house set apart for winter fruiters. The division reserved for suckers should, as indicated, be farthest from the heating-apparatus, and be 2 feet lower at back and 1 foot in front than the three preceding compartments, and should have a space ranging from 18 inches in front to 2 feet at back between the surface of the bed and the roof-glass, in order to bring the suckers well up to the glass when plunged in the bed. There should be a screw-down valve in each of the four divisions, and one in the flow-pipe, at the point where it enters the bed in the first house, to enable the gardener to regulate the bottom-heat.

A very important point in the successful culture of the Pine-apple, or any other plant, for that matter, is the obtaining of clean stocky young plants to start with. Therefore, great care should be exercised in the matter of procuring suckers only from perfectly clean, healthy, sturdily-grown plants. These should have the jagged ends, caused by detachment from the parent plants, cut off, and a few of the short leaves which surround their bases removed with the hand, so as to liberate the young, brownish roots concealed beneath. In doing this, place the suckers in separate lots, according to their respective sizes, in readiness for potting up forthwith.

A compost, congenial to the requirements of the plants in all stages of growth, will be found in sandy fibrous loam which has been [illegible] and stacked for twelve months, fresh soot [illegible] ones used

in the proportion of an 8-inch potful of fine charcoal, and the same complement each of crushed bones and soot to an ordinary-sized wheel-barrowful of the loam, the whole being well mixed before being used. The loam should be simply chopped down with a spade, and for use at this time of year several barrows filled with it should be stood in one of the hottest houses for twenty-four hours to get warmed before being used. More especially is the observance of this precaution necessary in the case of potting established plants, as the bringing of their roots in contact with soil much colder than that in which they are growing causes a serious check to growth.

In potting the plants in every stage of growth, it is very essential to healthy development and satisfactory results, that they should be provided with drainage and clean pots. This being so, potsherds to the depth of from 1 inch in 6-inch pots up to 2 or 2½ inches in the case of the fruiting (10 to 12-inch) pots should be placed in the bottom of each pot, putting a large piece of crock, hollow side down, over the hole or holes, and over this, smaller pieces to the required thickness, placing the smallest ones (those which have been passed through ½-inch and ¼-inch sieves) on the top, following these with a sprinkling of soot (to prevent the ingress of worms) and a covering of thin turves, grass-side down, or dry moss, thereby securing perfect drainage.

The potting of the suckers, as well as larger plants, should be proceeded with according to size, beginning with the largest plants and finishing with the smallest, the plunging of the pots being done in the same order, keeping the plants in all cases within a few inches of the roof-glass, and allowing sufficient space between the individual plants to ensure sturdy growth. Pots from 6 to 8 inches in diameter and depth should be afforded to the strong rootless suckers, and the ends of these should be buried from 2 to 3 inches deep in the soil, making the latter firm about them with a wooden rammer and allowing a space of rather more than half an inch from the rims of the pots for the reception of water when its application is considered needful. As soon as the roots begin to push freely into the soil, supplies of diluted liquid manure at a temperature of about 85° should be afforded at the roots up to the time the fruit begins to change colour; and occasional surface-dressings of approved kinds of artificial manure immediately before giving clear tepid water during the fruit-swelling period, will greatly assist in the development of large handsome fruits. The plants should not be allowed to become potbound before being placed in the fruiting-pots; those put in 8-inch pots in February or March may, as a rule, be shifted into their fruiting pots the following August, the plants in 6-inch pots being given a shift into pots one or two sizes larger according to circumstances, loosening the soil round the balls a little with a pointed stick to liberate any roots that may have become matted, and in every case ramming the soil firmly about the roots with flat and round rammers in potting, and choose favourable weather for doing the work, if obtainable, at the right time. After being potted, the plants should be shaded during the heat of the day for a fortnight or three weeks, and syringed slightly overhead and between the pots with tepid water before putting on the shading in the morning and after removing it in the afternoon, until signs of fresh growth are observed, when the shading may, except for an hour or two in the day during very powerful sunshine, be dispensed with; and instead, a gradually increasing free circulation of fresh air should be admitted to the plants during the heat of the day, that is, from the time the thermometer registers 80° in the morning until it indicates 85° or 90° in the afternoon, say from half-past two in March up to four o'clock in June and the two following months, when the houses should be closed, the plants dewed overhead, and the plunging material and house generally well damped over at the same time.

A bottom heat of 85° should be aimed at during the first nine months of the year, but it may be allowed to drop 5° or 10° (except in the case of winter-fruiters) during October, November, and December, and the plants should be kept uniformly moist at the roots during the same period; and water should be applied very sparingly in any form during October and the two following months—a time when the plants should be resting. During that time the night temperature should range from 60° in October, to 55° and 50° in November and December, with a rise of 5° by day with fire-heat, and 10° by sun-heat. The minimum temperature to be aimed at for these plants during the first nine months should range from 65° to 70°. Winter-fruiters should, as a matter of course, be afforded a night temperature of 70°, 75° by day with fire-heat, and 80° to 85° with sun-heat, running it up to 90° at closing time when there is a chance of doing so, distributing moisture in the house at the same time. The plants, too, must be kept well supplied at the roots with stimulating fare in a liquid state and at a temperature of 85°, and the individual fruits should be secured to two sticks—one on each side—by two or three ties, tying the top ties at an angle of about 35° from the top of the fruits to prevent their upright growth being hampered.

There can be no question in the minds of practical fruit-growers as to the advantages which modern built pineries have over the old-fashioned Pine-structures for growing and fruiting the plants in; although some of these are still doing fairly good service in different parts of the country.

H. W. Ward.

[Fig. 54.—Tree prepared for removal by means of a transplanting-machine or a trolley.

(see p. 402.)

OUR POULTRY.

By Harrison Weir.

(Copyright.)

(Continued from p. 272.)

Game Fowls.—The hen of the black-breasted red-game should be partridge-colour on th back, the breast near the throat of a ruddy brown-red, shading downwards to a cooler colour, the sides being a greyish-partridge colour; the wing, clear partridge, and the lesser and greater tail coverts, the outside webs of the primary and secondary wing-feathers also partridge; the inner webs black. The tail should be fan-shaped and black, excepting the two upper feathers, one on each side being partridge in colour and marking. The neck-hackle should be of a deep orange-yellow, each feather being striped with black; the comb small, thin, and serrated; the beak strong, and well set on, head fine, somewhat long; eye full, bright, and having an eager and defiant look; the neck not short or long, but medium; the shoulders broad, the back short, the breast full and round, and all tapering towards the tail; belly small, thighs full and muscular; the "beam" of the legs straight and strong; the feet clean, long, and flat to the ground; the whole bird sturdy, strong, yet graceful, and quick in movement, with a haughty look and "pride of going;" and I need scarcely add that the legs, feet, and toe-nails, should be of a clear ivory-white, with not a trace of colour. Such is the black-breasted red Derby hen;

or to the black-breasted light or ginger-red, the hen will be what is termed wheaten or clay.

It would be well here to mention a very common error of daily occurrence, being that of calling such birds as above described "Black-reds." They are nothing of the kind; the true Black-red is quite a different bird as regards colours. It should be of only two colours, black and red, the whole of the cock-bird being a jet-black, excepting the outside of the neck hackle, the back, saddle, and wing-bow feathers which should be of an intense glowing deep blood-red the face and comb dark, round about the eyes black, with the beak and legs black. This old-fashioned breed is now so scarce as to be seldom met with. But there are other white-legged varieties to be described. Among them, the old clear silver duck-wing, which used to have white, though sometimes blue legs and beak; there are also the piles. In these the cocks are white where the black-breasted reds are black, the other parts being red, yellow, or chestnut; the hens are white, with some slight colour on the hackle and wings and the upper part of the throat and breast. Mostly these have white beak, legs, and feet, though some have willow legs and beak; the white-legged are, however, preferable. There is also the pure white with pearl eyes, which, when good, are truly beautiful, if on a run or walk where they can keep themselves clean, such as a hill-side among the Heather. All the varieties should lay a slightly fawn-coloured egg, and four to six hens with a cock is sufficient, though it is not an infrequence to see more if matched up late in the season.

The game breed of fowls prefer and do best on an unlimited run or walk, and if partly wood or coppice, with a small brook or stream, it is best, especially when among the other bushes or trees there are Pines or Fir trees; for in these they delight to roost, if allowed to do so, having very much the habit of the common pheasant, keeping mostly in the wood or shaw during the day, and only coming out to feed in the morning or latter part of the afternoon or evening, when they are very energetic and quick in discovering worms and insects among the grass or herbage. My own when called for feeding would generally rise on the wing and fly out from the wood across the field to the ground where they were to be fed, or poultry-yard, the cock generally leading the way, closely followed by the hens. After eating as much as was thrown to them, or they required, they almost invariably again rose on the wing and flew back into the wood, or up into a tree or trees, some way in it. All the spring, summer, and autumn they generally roosted in the wood, and possibly might have done so during the winter had they not been enticed into, and shut in their poultry-house, to which they were loth to go at night, and most anxious to leave early in the morning. This method and treatment suited them admirably. They never had any disease whatever, being always full of robust health, in good condition, tight in feather, and their plumage had such gloss, that I have never seen excelled, and seldom equalled; their hackles, back and saddles fairly glittering in the sun at every movement. Either among the grass or perched about the hedgerows or trees, they always displayed that beauty which won for them on all sides unbounded admiration.

As layers, the game-fowl surpass many other breeds that claim higher averages, but much depends on the way they are fed and how they are kept, as indeed is the case with ordinary fowls; still, there are worse layers than they, and no eggs better in quality and flavour, while, as I have said, they are unequalled, much less surpassed, as table fowls.

In rearing their chickens they are careful, and most excellent mothers, and ever valiant in their de ence; and kept dry, or left to roam with the hen, i. the weather is favourable they seldom or ever lose any, wet and cold generally being fatal when very young, especially the former. In fact, this may be said of all young chickens, or even ducklings. As they, the "little ones," grow older the hen generally induces them to roost with her on some bush or low-growing thin-branched tree, and there they are off the damp ground and in other respects out of harm's way, from such as marauding rats, weasels, hedgehogs, and other vermin.

There are some people who prefer the yellow-legged game-fowl for flavour, but as they have yellow skins and yellow-tinted flesh with almost orange fat, they are however, scarcely saleable, when the foregoing can be got, their appearance being against them; particularly so when boiled, though they present a somewhat richer colour when roasted.

Cultural Memoranda.

SERICOGRAPHIS GHIESBREGHTII.

This plant is of easy culture, and produces spikes of scarlet feathery flowers at a time of year when they are most needed. The present is a good time to take off short-jointed cuttings, and insert five or six round the edge of 3-inch pots, crocked, and afterwards filled with light mould. Plunge the pots in a hotbed near to the glass or in a handlight placed in a

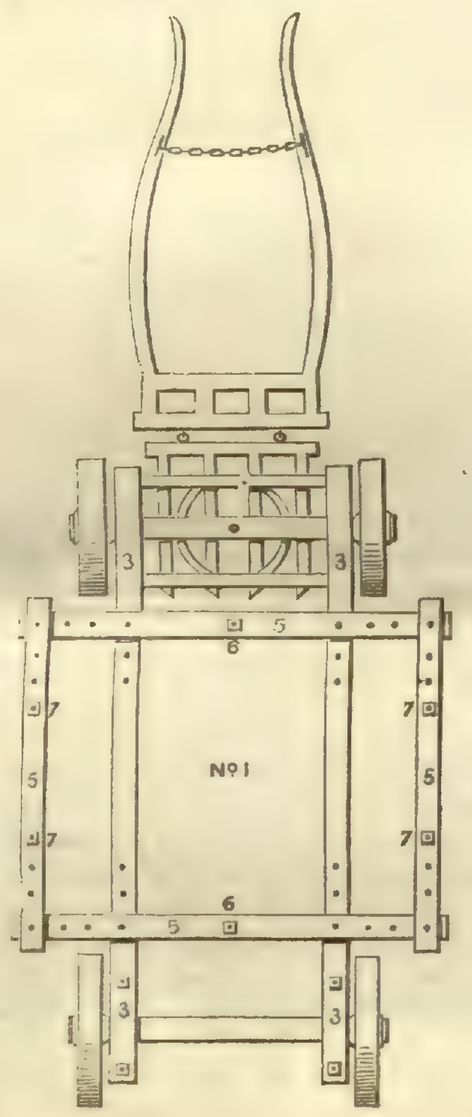


Fig. 55.—Reid's machine for moving large trees (see p. 402.)

stove, and three-parts filled with sawdust. When roots are formed, they should be potted singly into "thumb-pots," watered, and then placed on a shelf near the glass in a warm house. Afterwards they will require attention in watering, pinching, and when the small pots have become full of roots, the plants should be put into 5-inch pots, in which size they will be most useful for decoration. The plants should be well furnished with flower-buds by the end of September.

Sparmannia africana.

This greenhouse plant produces with perfect freedom throughout the year trusses of attractive flowers from the points of the young shoots. The trusses, borne on stout peduncles, consist of from ten to twenty white flowers, measuring nearly 2 inches in diameter each, rendered full and beautiful by globular tufts of gold and claret-coloured stamens, heavily tipped with the gold-coloured pollen. It is seldom that more than three or four flowers on a truss are open at the same time. The individual flowers may be used with great effect in the making of shoulder-sprays. The flowers are easily wired, and arranged on a ground of Asparagus plumosus are very effective, and where numerous button-holes and sprays are in demand every night in the year they help to make a pleasing variety. The Sparmannia is a strong and free-growing plant, has cordate leaves of a pale green colour, varying in size according to the culture afforded it. Cuttings taken off now and treated as recommended for Sericographis will make useful plants by the end of autumn.

Aspidistra lurida.

This is very popular as a vase and window plant not only on account of its large handsome leaves, but also by reason of its standing so well the confinement of a room. The plants remain fresh throughout the year, if the soil about the roots be kept uniformly moist, and the leaves sponged with tepid water once or twice a week. The plant is easily increased by dividing old-established plants and potting up the divisions into 3-inch and 4½-inch pots, according to size; employ a compost of about five parts light sandy loam, and one of leaf-mould, and make moderately firm. Put the plants in a warm pit or house, where they may be kept close, and shaded from sunshine until the roots begin to move, and in order to assist in this direction damp the plants gently overhead morning and afternoon with tepid water; as soon as they have become fairly well established at the roots the admission of air should be gradually increased.

Ophiopogon Jaburan fol. aureo-variegatis.

This herbaceous plant of the Liliaceæ order, well deserves extended pot-culture for decorative purposes, the erect, arching golden and variegated grass-like foliage being very effective. The plant is propagated easily by division of the roots. A compost of peat and light sandy loam is the best soil, and newly-divided pieces should be placed in heat for a time, affording water at the roots and overhead. Shade from sunshine during the heat of the day. Young leaves made at the present time in a forcing-house are very rich and beautiful in colour. *H. W. Ward.*

Societies.

ROYAL HORTICULTURAL.

March 26.—The usual fortnightly meeting of the committees was held on Tuesday last in the Drill Hall, James Street, Westminster. The exhibition was larger than any since the turn of the year, and the display of choice Orchids was a rich one. Spring flowers, some few from the open garden, but the majority from the greenhouse, constituted a feature of the meeting. Fruit was practically unrepresented.

Floral Committee.

Present: John Fraser, Esq., in the chair; and Messrs. C. T. Druery, H. B. May, H. Herbst, G. Nicholson, G. Stevens, C. J. Salter, R. B. Lowe, C. Jeffries, J. D. Pawle, C. E. Pearson, W. Briscoe-Ironside, C. E. Shea, C. Blick, J. Walker, G. H. Engleheart, and W. T. Leonard.

Messrs. J. James & Son, Woodside, Farnham Royal, contributed a group of Cinerarias, exhibiting a great variety in colour, and tints of novel and pleasing character. The quality of the strain was superb (Silver Flora Medal).

Mr. Geo. Wythes, gr. to the Right Hon. Earl Percy, Syon House, Brentford, exhibited a group of miscellaneous plants, including a good lot of spring-flowering bulbs. Ferns, Anthuriums, Palms, &c., with sprays of Acacia, helped to furnish the group (Silver Banksian Medal).

A collection of Narcissus blooms and other hardy bulbous flowers and plants was put up by Messrs. P. Barr & Son, King Street, Covent Garden. Noticeable were Narcissus Empress, Golden Spur, Princess, Sir Watkin, and others. N. minus and minimus were from the open rockery. Tulipa violacea, a rare species, was shown; the flowers are rose-crimson, with a brown base. Iris reticulata, Anemone fulgens, Galanthus Elwesii unguiculatus, &c. Among a few alpines were included the pretty little Saxifraga oppositifolias splendens, and the white variety; Megasea Stracheyi, Ficaria ranunculoides, fl.-pl. (Silver Banksian Medal).

Caladiums in a group were effectively staged by Messrs. John Peed & Sons, Roupell Park Nursery, Norwood Road, London, S.E.; Charlemagne, L'Automne, and Triumphe de Comte, had large leaves,

fully developed, and it being early for exhibitions of Caladiums, the group was satisfactory; Ernest Caille is a very pretty leaf of three shades; and John Peed, with dark coral centre and veins and green margin, is an effective large-leaved variety. A few capital plants of Bertolonia, and a pan of Sxobilanthes Dyerianus, were also included in this group (Silver Banksian Medal).

A group of excellent Cliveias was staged by Messrs. B. S. Williams & Sons, Upper Holloway, London, a very fine head of symmetrical blooms on a plant of a variety called Model was especially remarkable. In regard to colour and form of flower, this variety is one of the best (Award of Merit). Scarlet Gem is very richly coloured, and Madame Van Houtte is good, but there are few better than the tolerably old Ambroise Verschaffelt. A few varieties of single-flowered Camellias from Japan, and some plants of Boronia megastigma completed the exhibit (Silver Banksian Medal).

Mr. H. B. May, Dyson's Lane Nursery, Edmonton, was awarded a Bronze Banksian Medal for a group of finely-flowered Clematises. Mrs. Quilter, a medium-sized white-flowered variety; Gloire de St. Julien, and Madame Van Houtte, with larger flowers, also white; Lady Londesborough, a coloured variety, and several bearing striped flowers, were all good.

A lovely exhibit of Beaumontia grandiflora in large sprays of flowers was made by Earl Cowper, Panshanger Park, Hertford (gr., Mr. J. Fitt). Some of these flowering-branches were 3 feet long (Silver Banksian Medal). (See Fig. 129 in *Gardeners' Chronicle* for May 8, 1886.) A bunch of Azalea pontica alba, sprays of the crimson-flowered Clerodendron splendens, and a plant of Veltheimia viridifolia, were also from Earl Cowper's garden.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited half a dozen plants of Amaryllis, in distinct colours. Gorgeous, an excellent crimson flower, intensely coloured, well deserved the Award of Merit accorded the plant. Splendens, Medina, Phidias, Cupid, and Chimère, the two last-named being light-coloured varieties, were all of much merit. An Award of Merit was also given to Streptocarpus × gratus, a hybrid from Streptocarpus Dunni, and a garden hybrid; the leaves are very long, somewhat narrow, and the flower-spikes, about 6 inches high, are produced in great profusion; flowers are lilac-rose, the throat lined with dark crimson.

Messrs. Hugh Low & Son, Clapton Nurseries, showed a few plants of a white-flowering Mignonette, under the name of Bush Hill White; the plants were well flowered, growth rather slender as shown, and blossoms very fragrant (Award of Merit).

A most pleasing display was furnished by an excellent exhibit of Camellia plants and flowers, contributed by Messrs. W. Paul & Sons, Waltham Cross, Herts, about thirty plants of varying size and variety, all well grown and flowered, were included. Varieties C. M. Hovey, large double red; Marchioness of Exeter, red; Leopold Benucci, pink; Lady Hume's Blush, The Duchess, pale pink; Dona Camilla de Faria, white; Princess Charlotte, white; alba plena, conspicua, single red; Montironi, white; and Ninfa Egeria, were noticed amongst others (Silver-gilt Flora Medal).

Mr. J. Miller, gr. to the Right Hon. Lord Foley, Ruxley Lodge, Esher, made an exhibit of Neapolitan Violets, and was awarded a Vote of Thanks.

A large exhibit by Mr. Thos. S. Ware, from the Hale Farm Nurseries, near Tottenham, contained a rare lot of interesting and valuable hardy plants in flower. Saxifraga Burseriana is one of the best of the early varieties of this useful rock plant; very dwarf in habit, it produces a rare lot of white blooms of fair size. Muscari botryoides alba was exhibited well, and pans of Primula cashmeriana, P. rosea, Hepaticas in a number of varieties, all pretty, but differing in some small particulars, were noted. Daphne Blagayana filled a large pan; Sanguinaria canadensis, Fritillaria pudica, and Bulbocodium vernum, were in flower; Narcissus minimus, N. cyclamineus, and other larger varieties, were included (Silver Flora Medal).

Orchid Committee.

Present: Henry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (secretary), H. M. Protheroe, S. Courtauld, Major Mason, E. Hill, Jas. Douglas, W. H. White, De B. Crawshay, E. Ashworth, H. J. Chapman, H. Ballantine, Chas. Pilcher, H. M. Pollett, and A. H. Smee.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), showed a small but select group of rare Orchids, which were awarded a Silver Banksian Medal. The most extraordinary plant was a gigantic Bulbophyllum (an ally of B. Leysianum), provisionally named B. Burfordense, and which was unanimously voted a Botanical Certificate. The broad-hooded upper sepal was yellowish-olive in colour, with darker venation, and several white spots; the convergent lower sepals were reddish-cinnamon, with distinct reticulation. The rest of the organs were inconspicuous. In growth the plant is much like B. Leysianum of Burbidge, than which, however, it seems much larger, especially in the flowers. Sir Trevor Lawrence's group also contained a splendid example of Eulophiella Elisabethæ, Dendrobium canaliculatum, the pretty little Odontoglossum crinitum sapphiratum (Botanical Certificate), Schomburgkia crispa, Dendrobium cruentum, Vanda cœrulescens, &c.

Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), showed a group of very fine cut Orchids, among which were a magnificent spike of the unique Odontoglossum Leeanum, Epidendrum × Dellense, the fine white Cattleya Luddemaniana Schroderii, the Dell hybrid, Cattleya × Schroderæ (Trianæi × dolosa); another home-raised hybrid, Lælia × vitellina, of rich orange colour; the pure white Dendrobium superbum Dearei, and the blush-white D. s. Burkei; some grand forms of Odontoglossum luteo-purpureum, Sobralia macrantha, and Lycaste Skinneri (Silver Banksian Medal).

Messrs. F. Sander & Co., St. Albans, showed a grand plant of their new pure white, wax-like Bollea Schroderiana, with nine very large and delightfully-fragrant flowers. The peculiarly-formed lip was tinted light rose-pink, and the plant was the only one at the meeting which secured the honour of a First-class Certificate, a recognition which it well merited.

Messrs. Sander also received a Silver Floral Medal for a fine group of Orchids, among which were the marvellous Cypripedium Lawrenceanum Hyeanum, Sanders' var., a very large form of the almost priceless emerald-green and white C. Lawrenceanum Hyeanum; the new and singular Batemannia peruviana (Botanical Certificate), Pescatorea Lehmanni, Dendrobium nobile Cooksoni, D. n. Amesiæ, D. n. Sanderiæ, D. × Rolfeæ, D. Findlayanum, Eulophiella Elisabethæ, Lycaste Lawrenceana, L. Skinneri vars., Masdevallia Schlimii, M. × Measuresiana, a fine lot of Odontoglossums, Cattleya Schroderæ, C. Trianæi, the singular Microstylis tabulæformis, Cymbidium eburneum, and various other showy species.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, staged a group of hybrid Orchids, in which five strong plants of Cymbidium × eburneo-Lowianum were a telling feature. One of the prettiest in the group was Dendrobium × Cordelia (× euosmum leucopterum ♂, aureum ♀), an interesting plant, as in it the crossing is carried into the third generation. As might be expected, the form of the new hybrid approaches D. aureum. In colour it is glossy cream-white, with almost imperceptible blush of pink. The base of the lip is yellow, the disc of a peculiar russet-purple, the colour branching into the white apex of the lip (Award of Merit). Messrs. Veitch also showed a good home-raised Odontoglossum × excellens (Pescatorei × triumphans), Dendrobium × murrhiniacum, Reich. f. (nobile × Wardianum), and which does not differ much in flower from D. × Ainsworthii, but is interesting as showing that all lately shown as D. murrhiniacum are D. nobile Ballianum; D. × Cybele nobilius, (Findleyanum ♀, nobile nobilius ♂); the pretty Masdevallia × Asmodia (Chelsoni × ♀, Reichenbachiana ♂), Cypripedium × macrochilum, Cœlogyne hololeuca, Odontoglossum × Wilckeanum, &c. (Silver Flora Medal).

Elijah Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. H. Holbrook), staged a magnificent specimen of Dendrobium nobile nobilius, bearing three hundred and eighty-nine very fine flowers, the tallest bulbs being 3 feet 9 inches in height. A Silver Banksian Medal was awarded as a special mark of perfect culture. Mr. Ashworth also showed a pretty rosetinted form of the rare Dendrobium graciosissimum, covered with flowers; D. nobile Ashworthii, a splendidly-coloured form; D. n. Ashworthiæ, nearly white, and Dendrobium × Schneiderianum (Findleyanum × aureum) (Award of Merit).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., had an extensive group, in the centre of which was a grand specimen of Cymbidium eburneum, covered with flowers; behind were some very handsome specimens of Vanda suavis and V. tricolor, which are well grown at Holloway, and with them many fine forms of Dendrobium nobile, including Cooksoni and nobilius, D. × Leechianum, Cymbidium devonianum, Cœlogyne cristata alba, Angræcum modestum, Odontoglossum blandum, O. gloriosum, O. Andersonianum, O. asperum, Cypripedium Mastersianum, C. × Harrisianum superbum, C. × rubrum, C. Chamberlainianum, C. Ashburtoniæ expansum, C. × Morganiæ, C. × vexillarium superbum, C. × Huybrechtianum, C. × politum, C. × Williamsianum, C. × Bartelii, &c. (Silver Banksian Medal).

Messrs. Hugh Low & Co., The Nurseries, Clapton, staged a very effective group, composed principally of many fine forms of Miltonia Roezlii, Cattleya Trianæi, Odontoglossums, Dendrobiums, &c. (Silver Banksian Medal).

Messrs. W. L. Lewis & Co., Chase Side, Southgate, arranged a group of showy Orchids, prominent being Cattleya Trianæi splendens, C. T. plumosa, with purple feather in the petals, and other very richly-coloured forms; the pretty Vanda tricolor Lewisii, the large and striking Cypripedium × cilio-villosum; a pretty pan of the bright-yellow Dendrobium capillipes, Cymbidium Lowianum, Odontoglossums, Dendrobiums, &c. (Silver Banksian Medal).

Mr. Jas. Cypher, Queen's Road Nursery, Cheltenham, staged a group of magnificently-grown and profusely-flowered Dendrobiums, among which were

Fig. 56.—A truck for transplanting small trees and shrubs.
(see p. 402.)

D. nobile Statterianum, a large light form; D. n. pendulum, D. n. nobilius, D. n. pulcherrimum, D. crassinode Barberianum, D. Wardianum giganteum, D. × Ainsworthii vars. &c. (Silver Banksian Medal).

J. Bradshaw, Esq., the Grange, Southgate, N. (gr., Mr. Whiffen) showed the singular and beautiful Dendrobium Donnesiæ, which is a supposed natural hybrid between D. formosum and D. infundibulum. The very large flowers were pure white, with chrome-yellow at the base of the lip. The development of the front lobe of the lip is like that of D. infundibulum; the growth of the plant short and stout (Award of Merit); also a spotted form of Odontoglossum crispum, named Kathleen.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), showed his new Cypripedium × Olenus (bellatulum ♀, ciliolare ♂), a very pretty and distinct hybrid, with well-formed flowers, tinged with rich rose; the petals dotted, and the upper sepal lined with purple (Award of Merit).

C. T. Cayler, Esq., Ivy Mount, Leigham Court Road, Streatham (gr., Mr. H. Poulton), showed two fine specimens of Phaius grandifolius, grown in an ordinary plant-house.

W. C. Parkes, Esq., Llanberis, Lower Tooting, showed a splendid form of Cattleya Trianæi, with very large flower and richly-coloured lip (Award of Merit).

Wm. R. Lee, Esq., Beech Lawn, Audenshaw, Manchester (gr., Mr. Billington), sent Dendrobium × splendidissimum illustre (Leechianum × nobile nobilium) with handsome rose-tinted flowers (Award of Merit).

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed Odontoglossum × Ruckerianum "Juno," a noble form with rose-tinted richly spotted flowers. Walter C. Walker, Esq., Winchmore Hill (gr., Mr. Geo. Cragg), sent a fine form of Cymbidium eburneum. W. Vanner, Esq., Camden Wood, Chislehurst (gr., Mr. W. H. Robbins), showed Cypripedium × Vanneræ (? Selligerum majus × Curtisii), a fine flower of the C. × Youngianum class; and C. Rothschidianum. H. Weetmann, Esq., The Hawthorns, Little Haywood (gr., Mr. Bernard Dan), showed several forms of Dendrobium nobile and Odontoglossum luteo-purpureum, of which O. l.-p. amplissimum, a fine large form received an Award of Merit.

The Rev. E. Handley, Bath (gr., Mr, Kerslake) showed a three-flowered inflorescence of a grandly coloured C. Trianæi, and flowers of C. T. delicata; and T. W. Swinburne, Esq., Comdean Hall, Winchcombe showed, Cypripedium × Lady Hutt (Fitchianum × ♀, insigne ♂), a very effective flower, almost wholly of a clear Indian yellow colour; and Mr. W. Bennett, The Gardens, Rangemore, Burton-on-Trent, showed Cypripedium × bellatulo-venustum, which somewhat resembled C. × Marshallianum.

Fruit Committee.

Present: P. Crowley, Esq, in the chair; and Messrs. T. F. Rivers, W. Wilks, H. J. Pearson, G. W. Cummins, J. Cheal, G. T. Miles, J. A. Laing, W. Bates, W. Farr, T. Glen, J. Hudson, G. Wythes, F. Q. Lane, H. Balderson, J. Smith, W. H. Divers, and J. Willard.

Earl Percy, Syon House, Brentford (gr., Mr. Geo. Wythes), exhibited a dish of ripe St. John Figs (Vote of Thanks), and a bundle of Asparagus cut from permanent beds forced every year with fresh leaves (Cultural Commendation). Mr. J. Davidson, Iwerne Minster House, Blandford, Dorset, exhibited a dish of Tomatos, Veitch's Perfection (Vote of Thanks).

Mr. Balderson, Hemel Hempstead, exhibited two Onions, Ailsa Craig, and one of Rousham Park Hero. It was stated that all were frozen under similar conditions. The Ailsa Craig bulbs were soft and worthless, the other variety being sound and good (Vote of Thanks).

Lecture on Tree-lifting.

In the afternoon a lecture, by Mr. Thos. Crasp, on the "Lifting of Large Trees," was read by Mr. Weathers (assistant-secretary).

In introducing the subject, Mr. Crasp observed that when laying out new places, and in the formation of plantations, in order to secure a tolerable effect in a short time, it frequently happened that a system of close planting was followed. In many cases the after thinning, which thus became necessary, was neglected, and after long neglect, the only alternative to a sacrifice of many of the trees, was an extensive system of lifting. Again, when forming new plantations, the desire to acquire an immediate effect could be best met by the transplanting of large trees and shrubs, much larger than those usually employed. It frequently happened that such trees were available from a different part of the same estate, and possibly the trees were in absolute need of removal. The lecturer said, that although there were sufficient reasons why tree-lifting on a large scale should be common, gentlemen showed considerable reluctance in commencing such an apparently formidable operation. Undoubtedly, such work, if carried out by inexperienced hands, became expensive; but there were very many instances in the lecturer's experience where excellent work of this character had been done under proper supervision. In answer to an anticipated question, as to what trees may be moved after attaining large size, Mr. Crasp said there were extremely few that could not be so treated. Conifers and deciduous trees alike, from 20 to 50 feet high, had been moved successfully, the lecturer only mentioning one (Abies Pinsapo) which was doubtful, this tree often failing unaccountably. The autumn was the best time to carry out the operation, and it was by no means necessary to wait until the leaves had fallen. The first thing to decide upon was the size of the ball of earth necessary to remove with the specimen to be dealt with, and Mr. Crasp said that an exaggerated idea in this respect was prevalent. From 4 to 8 feet square was sufficiently large for almost any tree. At the distance determined on, throw out a trench 4 feet wide or more, and 4 feet deep, leaving an upright wall nearest the roots, and taking care whilst digging to preserve as many of the roots as possible. When this trench is completed, the work of undermining should be commenced. Bore 3 feet from the surface, under the centre of the tree, leaving pillars of soil at each corner. When this has been done, and the earth removed, planks should be passed under the centre, and raised on brick pillars until quite firm. The corner-pillars of soil should then be removed, and the ball at these points similarly supported. The manner of fixing or securing the ball for transportation was next described, and the system recommended for moderate-sized trees is illustrated in fig. 54, which represents a Weeping Ash prepared for removal under Mr. Crasp's direction when at Canford Manor, and figured in these pages in 1893. A windlass was recommended to lift the tree from the hole on to the trolley or machine, and afterwards it could be drawn by horses as far as was required. At the site to which the tree would be removed, a large slanting cutting, sufficiently wide to allow the trolley to be backed in conveniently, should have been previously dug out. The roots outside the ball should be spread out carefully, and the soil made firm under and around the ball, and it was absolutely essential that plenty of water should be given to thoroughly soak the entire mass of earth. For this purpose it was sometimes necessary to bore holes in the balls by means of iron rods. In the case of evergreen species or deciduous ones, lifted when in full leaf, an occasional spray of water over the entire tree was useful.

Mr. Cheal (Chairman) supplemented the lecture by some practical remarks upon the subject, in the course of which he observed that it was good practice to prepare trees it was intended to lift, by digging out a trench during the previous year, and filling it with fresh soil, which would induce a fine growth of fibrous roots. Araucaria imbricata was one of the easiest trees to move, but Mr. Cheal had also experienced difficulty in regard to Abies Pinsapo. A member of the audience incidentally mentioned the transportation of the huge old Yew at Buckland, near Dover, by Mr. Barron, some years ago. This Yew is still flourishing. Illustrations were given in our columns, May 1, 1886, pp. 564 and 565.

DEVON AND EXETER GARDENERS' ASSOCIATION.

March 20.—The second spring show of this Association was held in the Royal Public Rooms on the above date, and was in every way a very successful one. The entries numbered about 100, and the exhibits in the majority of the classes showed by their condition that the exhibitors had succeeded in overcoming the difficulties of the past winter. Competition was confined to members and subscribers who had joined before January 1, 1895, many of the prizes being special, and not in money but in kind. The amateurs were well to the fore, and were prize-takers in many of the classes. A notable feature of the exhibition was the collection of dessert Apples (not for competition) shown by Mr. A. George, late of Bicton Gardens, and who for the last two years has been lecturer on horticulture for the County Council of Devon. The fruit was in first-class condition, and had evidently been well kept. Specimen plants were rather an uneven lot, and foliage plants should have been better. The bouquets of Daffodils showed an improvement on those entered last year. Baskets of Daffodils and Narcissi were fair, but might have been better arranged, the 1st prize one being too thin and wanting in finish; and in the 2nd the basket was trimmed with yellowish moss that did not harmonise satisfactorily with the Daffodil foliage. An interesting comparison was forced upon the visitor by seeing ranged alongside each other Hyacinths grown in the new Jadoo fibre and Hyacinths grown in the usual compost for bulbs. Those grown in Jadoo were manifestly superior to the others, and it interested many gardeners to see that Messrs. Veitch took 1st with six Hyacinths grown in the Jadoo, while the patentee (Colonel Halford Thompson) came 2nd in the same class. Jadoo Limited, the new company just formed for the manufacture of the article, had a great display of plants grown entirely in this substance. They consisted of Dracænas, Crotons, Ferns, Coleus, Cyclamens, Richardias, Aralias, Narcissi, Hyacinths, &c., all looking perfectly happy. Some were shown in glass pots so as to show the roots. Among the exhibits from local conservatories not for competition—the Crotons, Palms, and foliage plants from Mrs. Thornton West, of Streatham Hall (gr., Mr. J. Franklin), were a grand show, many being 6 to 7 feet high, and 4 to 5 feet through. Mr. Thomas Turner, J.P., of Cullompton (gr., Mr. W. Madge), contributed another fine collection, notable in which was a Dendrobium densiflorum with sixteen flower trusses, which was awarded a Cultural Certificate. Mrs. A. D. Sim, of Knowle (gr., Mr. A. Williams), had a fine collection of Primulas, Cinerarias, and greenhouse plants.

The nurserymen's collections were large and good. Messrs. Robert Veitch & Son filled one end of the hall with an exceedingly well-grown lot of Hyacinths, and Narcissus and Tulips were well shown by them, some of the blooms of the latter, viz., White Joost Van Vondel and Ophir d'Or being very fine indeed. Their Cinerarias were exceptionally fine as regards brilliancy of colour, firmness of flower, and foliage. The exhibit was backed by a large number of well-grown Palms.

The Exeter Nurseries Co. (late Lucombe, Pince & Co.), staged a very fine lot of plants for conservatory decoration, well-grown, and full of flower.

Mr. W. Scott, Blackboy Road Nursery, showed a nice collection of greenhouse plants, suitable for small conservatories. The Vegetarian Society, through Mr. J. J. Pengelley, arranged an interesting stall of food exhibits, dried fruits, and other products, recommended by that body, which seems to flourish in Exeter. There was a large attendance, and the association is to be congratulated upon the success of its exhibition.

A Silver Challenge Cup, offered by Mrs. Thornton West, for the exhibitor making the largest number of winning points, three for a 1st, two for a 2nd, and one for a 3rd prize, was won by Mr. W. Madge of Cullompton. The Cup is held for a year.

THE GREAT BULB EXHIBITION AT HAARLEM.

(From Our Special Correspondent.)

March 22 to 26.—The seventeenth exhibition of flowering bulbs and bulbous plants, which opened at Haarlem on Friday, and closed on Tuesday, was full of interest, and generally regarded as one of the most successful which the Society ("Algemeene Vereeniging voor Bloembollencultuur te Haarlem") has got together. The great hall of the Societeit Vereeniging is simply an ideal place for a flower-show. One of the most notable facts in connection with this year's display is the considerable falling off in the number of competitors for the awards offered for Hyacinths, and a corresponding increase in the Tulip entries. This fact would seem to suggest that the popularity of the Hyacinth is on the wane, not only with cultivators, but also with the general public; certainly it is not on account of any deterioration on the part of the Hyacinth itself, for it may not yet be said to have reached its highest point of perfection. The exhibition excited the widest interest, not only in and around Haarlem, but throughout Holland, and on the opening day the place was crowded. Its interest and importance do not seem to have been generally understood in England, and not even the new Hook of Holland route, with the splendidly-equipped and fast steamers, seems to have attracted more than three or four Englishmen. One notable figure among the bulb-growers was absent from the show—we refer to Mr. J. H. Krelage, the Chairman of the Society, who, we regret to say, is very unwell. Mr. J. H. Kersten, the Vice-Chairman, was also absent, through domestic bereavement; and the opening ceremony was performed by Mr. Kruyff.

Hyacinths.

The first twenty classes comprised various collections of Hyacinths (in pots), of which, speaking generally, the numerous exhibits of the firm of Guldemond & Son, of Lisse, deserved not only all the Medals which the judges bestowed, but all the encomiums which the crowds of visitors lavished on them. This firm received a Gold Medal for a collection of one hundred varieties, eighty single and twenty double; a Silver-gilt Medal for a collection of twenty-five distinct single varieties; a similar award and also a Silver Medal for two collections of fifty varieties, thirty-five single and fifteen double; a Silver Medal for

a collection in six varieties, three specimens of each; a Silver-gilt Medal for a collection of eight varieties, three specimens of each; a Gold Medal for a collection of twenty-four varieties in large pots (or pans), each of which with ten plants; a Silver-gilt Medal for a collection of twelve varieties in as many large pots of ten spikes each; and a Silver Medal for a collection of six varieties in large pots of ten spikes each. In several of these classes, it may be mentioned, Messrs. Guldemond & Son were the only competitors. The most successful exhibitor of Hyacinths in glasses was Mr. G. van der Mey, of Lisse, to whom was awarded the 1st prize, a Gold Medal and twenty-five florins, for a collection of seventy-five varieties, sixty single and fifteen double; a Silver-gilt Medal for a collection of thirty-six varieties, twenty-six single and ten double, and also for a collection of twenty varieties, fourteen single and six double. In the last two classes Mr. P. A. C. van Velsen, Overveen, received a Silver and Bronze Medal respectively for two excellent displays, whilst the Silver-gilt Medal in the first of these three classes, went to Mr. W. A. van Kessel, also of Overveen.

The competition in two classes for new Hyacinths was by no means keen; indeed, no new double variety was staged. In that of single Hyacinths there were six entries, the prizes of Silver Medals going to Mr. C. A. Braam, Heemstede, for Generaal Vetter, a distinct and beautiful form, with large and symmetrical heads of very delicate waxy pink flowers; and to Messrs. J. H. Kersten, also of Heemsteede, for King of the Roses, a pinkish-red, not particularly noticeable. Messrs. E. H. Krelage & Son, received both the Gold and Silver-gilt Medals for their collection of thirty-six varieties in thirty-six pots (three plants in each). An extra prize of a Gold Medal was awarded to Messrs. J. H. Kersten & Co., for a collection of 100 pots of flowering Hyacinths.

Tulips.

The Tulips were distinctly the great feature of the show, only a single class out of the twenty-two being without one entry, whilst in the majority of instances the competition was extremely keen, and the entries very numerous. The work of the judges in this department must have been most onerous. The classes and results were as follows:—A collection of a hundred pots, eighty single varieties and ten double (of each variety only one pot), Gold Medal and 25 florins, Mr. J. W. Daudey, Haarlem; and the Gold and Silver-gilt Medals to the two collections of Messrs. L. van Waveren & Co., Hillegom. The most noteworthy variety in the best collection was La Précieuse, with its white perianth largely flaked with pink. In the second-prize exhibit, the two best specimens were Raphael, and Nelly, the former white, tinted with pink, and the latter a chaste pure white form. A collection of fifty pots of as many early single varieties, Silver-gilt Medal, Mr. H. J. Homan, Noordwijk; and Silver Medal, Messrs. M. van Waveren & Sons, Hillegom. A collection of thirty pots of as many single varieties, Silver Medal, H. J. Homan; Bronze Medal, M. van Waveren & Sons. A collection of fifty pots of double varieties (not more than two pots of one variety), Gold Medal, M. van Waveren & Sons; Silver-gilt, G. Blokhuis, Lisse; and Silver Medal, J. W. Daudey, Haarlem. In the collection of thirty-six pots of twenty-four double varieties, the two first prizes were awarded as in the last-mentioned class. Both Silver and Bronze Medals in the class of twenty pots of double in fifteen varieties, were taken by H. J. Homan. A collection of ninety double in thirty varieties, three examples of each sort, and only one bulb in a pot, Gold Medal, M. Van Waveren & Sons; Silver-gilt, C. G. Van Tubergen, junr.; Silver Medal, J. W. Daudey. A collection of fifty double varieties, one bulb in a pot, Silver-gilt Medal, C. G. Van Tubergen, junr.; and Silver Medal, M. Van Waveren & Sons. In the three classes of single and double Tulips in glasses, the first, and indeed the only prizes awarded were taken by Messrs. L. Van Waveren & Co., Hillegom. Likewise in the two classes of single and double varieties, in large pots or pans of ten bulbs in each, the two chief prizes were taken by J. W. Daudey; whilst in each case, Mr. C. G. Van Tubergen, junr., came a good second. The firm of Polman Mooy, Haarlem, was the only competitor, and consequently the only prize-winner in two distinct classes; first, "Een perk in muzaïkvorm," of 2 mètres in diameter of flowering Tulips, and secondly, for a collection of thirty-six pots of single early Tulips, Duc Van Thol, in nine varieties; this latter exhibit included several very beautiful little plants of a class which seems in danger of being neglected in consequence of more showy rivals. Messrs. E. H. Krelage & Son, Haarlem, received the four Medals offered for the collections of Darwin Tulips, and for collections of twenty-four flowers of fine late Tulips. For a collection of twelve pots of Montrose or parrot Tulips, the Silver-gilt Medal went to C. G. Van Tubergen, junr., and the Silver one to E. H. Krelage & Son. Doubtless the chief interest in the Tulip section centred itself into two classes; first, the collection of new or rare varieties, in which class the Silver-gilt Medal was awarded to C. G. Van Tubergen, junr., whose most striking exhibits were T. vitellina, T. Kauffmanni, with its huge white flowers, splashed on the outside with brownish-red, and the curious T. biflora afghanica, with its nodding flowers. Messrs. Krelage received an extra prize of a Bronze Medal for a very interesting collection, in which the most notable was Picotee, with pure white flowers, slightly edged with pink.

The second chief attraction was the class comprising six pots of a new early double Tulip, in which there were only two competitors, each receiving a Silver Medal of equal value; J. W. Daudey for Lord Rosebery, a bright pink form, with large globular flowers; and L. de Wilde, Heemstede, for Jeanne d'Arc, a variety with white flowers shaded throughout with pink, and with green tips to the perianth. Both the new varieties are distinct acquisitions. Mention should be made of the two special prizes, of a Silver Medal each, awarded to Messrs. Krelage, for two collections of fine Flemish Tulips—a "flamed" variety of the celebrated Darwin Tulips, in which, curiously enough, there are no bizarre forms, only those with white, rose, or violet grounds; it may be mentioned that the colours of these Flemish varieties are quite as brilliant as the types from which they sprung.

Narcissus.

The show of Narcissus was a poor one, on the whole, both in point of numbers and in the quality of the flowers. In many instances either no exhibits were staged, or the best prizes were withheld. The best collection of fifty pots of single and double varieties of the Tazetta group was that staged by Jan W. Roozen, Overveen; whilst the 2nd prize of a Silver Medal went to P. van der Meer, Noordwijk. Jan W. Roozen made another very good show in the class of twenty-four pots of single and double varieties (five bulbs in each pot), to which a Silver-gilt Medal was awarded, whilst P. van der Meer received a Silver Medal in the same class. Both Medals in the class of thirty varieties in glasses went to Peter van Velsen & Sons, Overveen. E. H. Krelage & Son received a Silver Medal for a collection of single Jonquils in pots; and V. Schertzer & Sons, Haarlem, received a Silver Medal for twelve pots of Narcissus tenuior. In the three classes each of Crocus and Fritillaria, only two prizes were awarded, J. W. Daudey taking a Silver-gilt in the former case, and J. M. Philippo, Hillegom, in the latter.

Miscellaneous.

A Silver-gilt Medal was awarded to C. Eggink, Voorschoten, for twenty pots of Lily of the Valley; a Silver Medal going to E. H. Krelage & Son, for a similar exhibit. The two best exhibits of twelve pots of Hoteia (Spiræa) japonica, were sent by Jan W. Roozen, Overveen. The best twelve pots of Dicentra (Dielytra) spectabilis coming from E. H. Krelage & Son, who received a Silver Medal. The Hippeastrum (Amaryllis) were exceptionally fine, and gave quite a brilliancy to the show. The classes were three in number, and six Medals were awarded, two Gold ones going to V. Schertzer & Sons, Haarlem, and one Gold, one Silver, and one Silver-gilt to E. H. Krelage & Son; and a Gold Medal was given to the only English exhibitor, Messrs. R. P. Kerr & Sons, Liverpool, for a fine display of choice varieties of this highly-decorative plant. The best collection of twelve pots of Richardia (Calla) æthiopica came from Messrs. Krelage.

For the best dozen varieties of Imantophyllum (Clivia), the only Gold Medal was awarded to C. G. van Tubergen, junr.; J. Ruijsenaars, Haarlem, received a Silver-gilt and a Silver Medal for two collections. The last-named received the only two Bronze Medals given for two pairs of Yuccas.

The class comprising new or uncommon bulbs or other plants propagated by roots, naturally excited a good deal of attention, and there were five entries for the three prizes, of which the 1st (a Silver-gilt Medal), was awarded to C. G. Van Tubergen, junr., for Lachenalias; the 2nd (a Silver Medal) to E. H. Krelage & Son, for Arum Eggeri; and the 3rd (a Bronze Medal) to Brothers Kuyk, of Hillegom, for Spiræa astilboides floribunda.

The possibilities of bulbous flowers in the way of table decoration, for bouquets, wreaths, crosses, and a number of other arrangements, were never so extensively demonstrated at this great exhibition. In this respect, however, the entire credit belongs to Mr. J. Ruijsenaars of Haarlem, whose collection of medals will have to be delivered to him in a railway-van! He won over two dozen of various degrees of value; and it must be admitted that his several exhibits not only displayed in themselves a very great amount of excellent taste, but added very materially to the interest and attraction of the exhibition, and, in fact, were alone almost worth the journey from England to see.

It was very generally conceded that the exhibition had proved in every respect a great success, in spite of the fact that the late exceptionally severe winter prevented competition of any kind in many of the classes.

BRIGHTON AND SUSSEX HORTICULTURAL.

March 26 and 27.—The word "new" is now omitted from the title of the Brighton Society, the original Society being at length defunct. This vigorous Society will, no doubt, become one of the leading societies of the South. We have seen some splendid collections of horticultural produce at these meetings, and when the severe frost is borne in mind, there is little need for complaint in the present instance. No table-room was empty, and the exhibits were of good quality throughout.

A miscellaneous group of foliage and flowering plants, not to exceed 60 square feet, was one of the leading features. A Silver Cup was presented here, and won by Mr. J. Miles, Victoria Nursery, Dyke Road, Brighton, with a remarkably pretty arrangement of Aralias, Amaryllis, and Asparagus, with Lachenalias and other flowers showing well above a groundwork of small Maidenhair Ferns. The common Primrose skirted the whole, and had a very pleasing effect. Mr. E. Meachen, gr. to Mrs. Armstrong, Woodslee, Preston, was 2nd, but had a rather heavy arrangement. 3rd, Mr. Fry, gr. to Mr. C. W. Catt, Brighton.

A handsome clock was presented by the Brighton inhabitants for a table of plants, and was secured by Mr. Jupp, gr. to G. Boulton, Esq., Upperton, Eastbourne. Good quality and tasteful arrangement were marked here. Mr. J. Hill, gr. to Marriage Wallis, Esq., was 2nd, with a pretty lot.

A smaller table, open to "single-handed" gardeners only, was well done by Mr. Anderson, gr. to S. Cowell, Esq., Melodia, Preston Park, Brighton. Mr. Wickens, gr. to Mrs. Dawson Rowley, Chichester House, Brighton, being 2nd.

Six distinct Orchids did not occasion much competition, but the piece of Dendrobium Dalhousianum from Mr. Garnett, gr. to R. G. Fletcher, Esq., Withdeane, was grand. Mr. Garnett was 1st, and Mr. J. Harper, gr. to Mr. Tucker, Preston, 2nd.

For twelve pots of Hyacinths, Mr. Hart, gr. to H. Head, Esq., Shoreham, scored with fine examples; Mr. Jupp, Eastbourne, following. Mr. Wickham, gr. to J. Humphrey, Esq., Highlands, Keymer, had a good collection of six pots, beating Mr. Gore, Polegate.

For Tulips, Mr. Rapley, gr. to Miss Visick, St. John's, Withdeane, was well in front in the class for twelve pots; and Mr. Hart, gr. to H. Head, Esq., Shoreham, in that for six.

Mr. G. Miles was the only exhibitor of Lachenalias, but they well deserved the 1st prize awarded. For six pots of Violets, Mr. Hart was closely run by Mr. Hill. As usual, Cinerarias were good, twelve plants from Mr. Murrell, gr. to Mrs. Macdonald, Manor House, Preston, being splendidly grown, and of a first-class strain. Mr. C. J. Inwood, Dyke Road, was 1st for six plants. For twelve pots of Lily of the Valley, Mr. Gore, Polegate, was 1st; and Mr. Meachen 1st for six pots. The 1st for six Spiræas went to Mr. Gore. In a class for twelve pots, there was strong and close competition, Mr. J. Knight, gr. to J. J. Gould, Esq., Hassocks, being 1st; and Mr. Hart, Shoreham, a good 2nd.

Pot Roses were not good, Mr. E. Meachen's being the only creditable lot. Azaleas were a feature, the grand examples of A. indica from Mr. Murrell, gr. to Mrs. Macdonald, in a class for nine plants, being exceptionally well done. Mr. G. Miles had some well-flowered specimens of Azalea mollis. Deutzia gracilis from Mr. E. Meachen and Mr. Murrell were also good, the 1st and 2nd going in the order named. Mr. Murrell and Mr. Harper had good pots of Callas. The former was 1st for six double and also for six single Primulas.

For twelve Cyclamen, Mr. Meachen was 1st, Mr. E. A. Golding taking similar honours for six ditto. A very neat lot of Genista fragrans came from Mr. G. Miles, and double zonal Pelargoniums from Mr. Murrell, 1st prize being awarded in each case after close competition.

Strawberries in fruit (six pots) found Mr. E. A. Golding, gr. to H. St. George Voules, Esq., Dyke Road, in front of Mr. G. Helman, gr. to the Right Hon. Viscount Gage, Firle, Lewes; but Mr. Helman was a good 1st for a dish of fruit.

For a single stand of table decorations, Mr. E. Meachen was placed before Mr. R. Miller, Mr. Miles following.

A collection of cut flowers (twelve varieties) was a close contest between Mr. Garnett and Mr. Gore, the result being as placed. A small group of plants for amateurs was pleasing, Mr. J. Lewis, 37, Preston Road, and Mr. Short, Crown and Anchor Hotel, Preston, being 1st and 2nd.

Among the numerous exhibits not for competition were life-like but artificial flowers from Madame Hastings, Poole Valley, Brighton; Messrs. Cheal & Son had fruit and seeds; Messrs. Tilley Bros. seeds; Messrs. Palmer & Co. a good collection of garden implements; while Messrs. Balchin & Sons, as usual, occupied the lower end of the Corn Exchange with a grand collection of miscellaneous plants, consisting chiefly of Orchids, Boronias, Ericas, and Hyacinths. They also decorated the stage.

Obituary.

Mr. Thomas Worth.—After a brief illness Mr. Thomas Worth, for many years past in the employment of the Liverpool Horticultural Co., and latterly of John Cowan & Co., of the Vineyard and Nurseries, Garston, near Liverpool, died on Saturday the 23rd inst., from a severe attack of influenza complicated with pneumonia and erysipelas, at the age of thirty-one years. His death is deeply regretted by his employers and fellow workmen. Mr. Worth was a young man of considerable promise; he was for some years in the employment of the late Mr. Enoch Harvey, and eventually became his Orchid grower, and when that gentleman sent his collection of Orchids to the Liverpool Horticultural Co. for disposal Mr. Worth went with it and remained there. After some years he became Orchid grower to the Company, and for the past two years he has acted as traveller for John Cowan & Co.

Mr. William Dean, Sparkhill, Birmingham, whose name has been so long associated with the culture of the Pansy and Viola, died somewhat suddenly on the evening of the 23rd inst., at the age of seventy years. During the latter portion of his life he had been a martyr to asthma and bronchitis, which weakened him considerably; the late severe weather kept him a close prisoner and a great sufferer. Still, when writing a few days before his death, he appeared to be hopeful of improved health, and was looking forward to the warm weather with confidence. With a severe attack of his old complaint, there was an absence of strength to resist it, and he succumbed to its effects.

For some years past he had been a prominent figure in midland floricultural circles, and was widely known among the cultivators and admirers of the Pansy and Viola. He last year organised a Viola exhibition and conference, which took place at the Botanical Gardens, Edgbaston, Birmingham, and proved highly successful. He invariably took a leading part in the exhibitions held in the Botanical Gardens, Edgbaston, sometimes acting as secretary, particularly in connection with the Midland Carnation and Picotee Society, as assistant to his old friend, Mr. Robert Sydenham. His services were much in request as a judge at horticultural exhibitions, including the York Floral Fête, Wolverhampton, &c. He was also a contributor to the leading horticultural journals, and at the time of his death was assisting Mr. H. A. Barberry, Highbury, Birmingham, in bringing out a new edition of his book on *Orchids and their Culture*. He also prepared for publication a full report of the Viola Conference, which will stand as a memorial of his active work in connection with that flower.

Mr. W. Dean was born at the Hill Nursery, Southampton, on July 8, 1825, the eldest of four brothers, the two youngest of whom survive him. His father was for some years foreman on the extensive outdoor nursery of Mr. W. Bridgewater Page, a celebrated horticulturist, botanist, and landscape gardener in his day. While quite young he was taken into the office, and so commenced his active horticultural career. In 1843, when eighteen years of age, he was engaged by Messrs. Scott Bros. as foreman, at their Belfast nurseries, but as his youth and nationality did not appear to be favourably regarded by the employés, he, after a short sojourn in the North of Ireland, came to London, and entered the service of Messrs. E. G. Henderson, then of the Wellington Road nurseries, St. John's Wood, ultimately becoming salesman and traveller. About 1851 he, in conjunction with Mr. Somerville, who had charge of the laying-out department of the Wellington Road Nurseries, went into business at St. John's Wood, but it was abandoned after two or three years, and at the end of 1853 he went to the Royal Nursery, Slough, as manager, under the late Mr. Charles Turner, leaving Slough in 1857 to establish himself in business at the Shipley Nursery, near Bradford, Yorks. In the year after, he received from Mr. Andrew Henderson, of the Wellington Road Nurseries, some new types of blotched Pansies he had obtained from France, with the request that he would grow them for him, as they could not be successfully cultivated at St. John's Wood; they were raised by the late M. Miellez of Lille, and they were so fine and distinct as to be in large demand, all the stock obtained at Shipley being sent to London. New sets came in 1859, 1860, and 1861, and then owing to the death of M. Miellez, the supply ceased. But Mr. Dean had commenced to raise seedlings, and they were then known as Belgian Pansies. In 1862 he sent out a batch of improved forms, several of which were figured in the *Florist and Pomologist* for December of that year; and though the older school of florists looked somewhat askance at them, they won their way to popular favour and have never lost it. While at Shipley Mr. Dean acted as one of the local secretaries of the International Horticultural Exhibition and Botanical Congress of 1866, and sent up to the executive committee in London, the second largest sum received from any district, viz., £78 4s. He also acted as one of the 110 jurors who made the awards at this historical exhibition, not one-tenth of whom are now alive. The business at Shipley was continued for several years, but abandoned about 1876, owing to failing health and other causes; and Mr. Dean then came to London to take charge of the London branch of the Lawson Seed Company in Southwark Street. When this was given up, he went to the Chad Valley Nurseries, Edgbaston, as manager to Mr. R. H. Vertegans. On leaving there he was for a time with Mr. Thomas Hewitt, nurseryman, Solihull, and later as manager to Messrs. A. Blizzard & Co., Mill Lane Nursery, Solihull. Leaving here he finally settled in the Dolphin Road, Sparkhill, Birmingham, as a florist and seedsman, where he died on the above date. At the end of 1859, Mr. Dean became joint-editor with the late Mr. John Sladden of *Gossip of the Garden*, and on that work ceasing to appear, editor of the *Florists' Guide*, until that monthly also ceased to exist. He was one of the founders of the Old National Floricultural Society, established in 1851, which was eventually dissolved in the early part of 1859, on the Royal Botanic Society announcing special meetings for making awards to new florists' flowers. Mr. Dean was twice married, having issue in both cases. His widow and some of his children survive him.

Alexander Goodman More, M.A., F.L.S., M.R.I.A.—It is with much regret, writes Mr. F. W. Burbidge, that we have to record the death of the above genial and well-known naturalist and botanist, which took place at his residence, 74, Leinster Road, Dublin, on March 22, at the age of sixty-four. Mr. More was a native of England, but had lived for many years in Ireland. Mr. More was for fifteen years senior assistant in the Dublin Natural History Museum, and eventually succeeded the late Dr. Carte in the curatorship, from which post he was unfortunately compelled by illness to retire some few years ago. His interest in ornithology and botany never relapsed, however, and we believe he had a second edition of the *Cybele Hibernica* in hand when he died, a work written and published in 1866, in conjunction with the late Dr. David Moore of Glasnevin. They also sent a most interesting report of "The Climate, Flora, and Crops of Ireland" to the International Royal Horticultural Society's Exhibition held in London in 1866, and published at p. 165 of the *Royal Horticultural Society's Report*. Mr. More was a painstaking worker, and one of the highest authorities on the British and Irish flora.

Trade Notice.

FISHER, SON & SIBRAY, LIMITED.

This company was registered on the 21st inst., with a capital of £50,000, to take over the old-established business of nurserymen, seedsmen, and florists, carried on by the partners of Messrs. Fisher, Son, & Sibray, at Handsworth Nurseries, near Sheffield, Fitzalan Square, Sheffield, Church Street, Rotherham, and elsewhere. The first directors are Messrs. Charles Fisher, Ernest Edward Sibray, Joseph Walker, Walter Earl, and William Atkinson.

The Weather.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending March 23.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	25	10	— 43	+ 308	6 +	52	8·4	21	25
1	4 +	31	11	— 82	+ 437	2 —	42	5·0	25	27
2	6 +	43	9	— 63	+ 315	1 —	51	6·7	32	27
3	5 +	53	13	— 61	+ 333	0 aver	46	4·7	39	29
4	5 +	53	13	— 84	+ 418	1 —	35	4·5	33	26
5	4 +	46	11	— 102	+ 370	2 —	35	4·0	34	26
6	5 +	32	4	— 77	+ 378	6 +	42	5·7	14	26
7	2 +	28	7	— 76	+ 338	6 +	41	5·2	13	25
8	3 +	41	8	— 122	+ 367	2 +	39	6·7	40	33
9	5 +	38	0	— 104	+ 288	3 +	49	6·4	8	26
10	4 +	43	0	— 154	+ 231	4 +	41	8·3	15	28
*	0 aver	29	3	— 145	+ 285	4 —	48	6·3	30	40

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending March 23, is furnished from the Meteorological Office:—

"The *weather* during this period was unsettled and changeable in the west and north, with frequent falls of rain; the amounts were, as a rule, small, but those measured on Saturday were very heavy at some of the western stations. In the south and south-east the conditions were generally fair or fine; much fog

was experienced, however, at most of the English Channel stations during the latter part of the week.

"The *temperature* was high for the time of year, exceeding the mean in all districts, excepting the 'Channel Islands.' Over the greater part of the Kingdom the excess ranged from 4° to 6°, but in 'England, S.W.,' it was only 3°, and in 'England, N.W.,' no more than 2°. The highest of the maxima occurred as a rule on the 22nd, and ranged from 66° in the 'Midland Counties and England, S.,' and 65° in 'England, S.W.,' to 56° in the 'Channel Islands,' and to 55° in 'England, N.W.' The lowest of the minima were registered during the earlier days of the period, when they varied from 25° in 'Scotland, E.,' and 26° in 'England, E.,' to 34° in 'Ireland, N.,' and to 36° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in all the 'Grazing' districts, as well as in 'Scotland, N.,' but was less than the normal in most of the 'Wheat-producing' districts and in the 'Channel Islands.'

"The *bright sunshine* was slightly in excess of the mean at most of our more-eastern and south-western stations, but showed a deficit in the west and north-west, and also in the 'Channel Islands.' The percentage of the possible duration ranged from 8 to 15 in 'Ireland,' and from 14 to 25 in 'Scotland;' while over 'England' it varied from 40 in 'England, S.W.,' 39 in 'England, E.,' and 34 in 'England, S.,' to only 13 in 'England, N.W.'"

MARKETS.

COVENT GARDEN, March 28.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	3 0	4 0	Mignonette, 12 bun.	2 0	4 0
Azaleas, doz. sprays	0 6	1 0	Orchids:—		
Bouvardias, p. bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 6	3 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Daffodils, double, dozen bunches ...	3 0	6 0	Pelargoniums, scarlet, per 12 bunches	6 0	9 0
— single, doz. bun.	4 0	6 0	— 12 sprays ...	0 6	0 9
Eucharis, per dozen	4 0	6 0	Pyrethrums, 12 bun.	3 0	4 0
Gardenias, per doz.	3 0	4 0	Roses, Tea, per doz.	1 0	2 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0	— coloured, p. dz.	2 0	4 0
Iapageria, 12 blms.	1 0	2 0	— yellow (Maréchals), per dozen	6 0	9 0
Lilac (French), per bunch	5 0	6 0	— red, per dozen	6 0	8 0
Lilies of the Valley, doz. sprays ...	1 0	2 0	— (French), red, per dozen... ...	1 6	2 0
Lilium Harrisii, per dozen	4 0	6 0	— (French), yellow, per dozen ...	1 0	2 0
Maidenhair Fern, per 12 bunches ...	6 0	9 0	Snowdrops, 12 bun.	1 0	1 6
Marguerites, 12 bun.	1 0	3 0	Tuberoses, 12 blms.	0 4	0 6
Mimosa (French), per bunch ...	0 9	1 0	Violets, Parma (French), p. bch.	2 6	3 6
Narcissus, Pheasant-eyed, 12 bun.	6 0	9 0	— Czar (French), per bunch ...	1 9	2 0
— Paper-white, p. 12 bun. ...	4 0	6 0	— doz. bunches	2 6	3 0
			— (English), per dozen bunches ...	1 6	3 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz ...	2 0	4 0
Aspidistra, per doz.	12 0	30 0	— various, doz.	6 0	12 0
— specimen, each	5 0	15 0	Foliage plants, doz.	9 0	24 0
Cinerarias, per doz.	9 0	15 0	Genistas, per doz.	10 0	15 0
Cyperus, per dozen	4 0	10 0	Hyacinths, per doz.	9 0	12 0
Dracæna, each ...	1 0	7 6	Marguerites, p. doz.	6 0	12 0
Erica hyemalis, dz.	12 0	18 0	Mignonette, p. doz.	0 0	6 0
— various, doz.	9 0	12 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	— specimens, ea.	10 6	84 0
Ficus elastica, each	1 0	7 6	Primulas, per dozen	4 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cobs, per 100 lb. ...	20 0	25 0	Pine-apples, St. Michael, each ...	2 0	6 0
Grapes, 1st quality, black, English, lb.	3 0	3 6	Strawberries, per lb.	8 0	12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 heads	8 0	10 0	Potatos, Channel Islands, per lb. ...	0 6	...
Beans, per lb. ...	1 6	2 0	Rhubarb, per dozen bundles	1 3	1 6
Cauliflowers, p. doz.	2 0	4 0	Seakale, p. punnet	1 3	1 9
Cucumbers, per doz.	3 0	5 0	Tomatos, Canary Islands, per lb. ...	0 3	0 6
Mint, per doz. bun.	6 0	9 0	— English, p. lb.	1 6	1 9
Mushrooms, per lb.	0 9	0 10			
Onions, per bushel	2 0	2 6			

OLD POTATOS.

Prices for home supply keep steady, but during the past week the continental arrivals, especially Germans and Belgians, have been fairly heavy, which may eventually cause a reaction for the home-grown.

NEW POTATOS.

Arrivals are steadily increasing in quantity, and prices not quite as firm as last reported. *J. B. Thomas.*

SEEDS.

LONDON: *March* 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now an active consumptive demand for the various kinds of farm seeds needed for spring sowing. Buyers appear gratified to find how moderate a level of values prevails all round, fine qualities this season being obtainable for little money. The trade for Tares improves. Of Harrisons, available stocks are getting rapidly exhausted. Peas keep steady. As regards Canary and Hemp seed, quotations decidedly favour holders. Scarlet and White Runner Beans are scarce and firm. Rape seed is strong. Mustard unaltered.

FRUITS AND VEGETABLES.

BOROUGH: *March* 26.—Quotations:—Savoys, 4s. to 8s. per tally; Sprouts, 1s. 6d. to 2s. 6d. per half sieve; Carrots, 1s. 9d. to 2s.; Turnips, 2s. 6d. to 3s.; and Parsnips, 2s. 6d. to 3s. 6d. per bag; Rhubarb, 1s. 6d.; Celery, 8s. to 12s. per dozen bundles; Horseradish, 1s. to 1s. 3d. per bundle; Onions, English, 4s. to 6s. per cwt.; do., foreign, 3s. to 4s. per bag; Apples, 3s. to 9s. per bushel; do., Canadian, 12s. to 18s. per barrel.

STRATFORD: *March* 27.—The supply to this market during the past week has been very heavy, and a good trade has been done at the undermentioned quotations:—Cabbages, 3s. to 7s. per tally; Savoys, 4s. to 10s. do.; Greens, 4s. to 5s. per bag; Cauliflowers, 1s. 3d. to 2s. per dozen; Spanish Broccoli, 3s. 6d. to 4s. 6d. per sieve; Turnip-tops, 4s. to 5s. per bag; Horse Radish, 1s. per bundle; Turnips, 20s. to 30s. per ton; Carrots, household, 20s. to 30s. do.; do., cattle-feeding, 15s. to 17s. 6d. do.; Parsnips, 9d. to 1s. 3d. per score; Mangels, 13s. to 16s. per ton; Swedes, 15s. to 20s. do.; Onions, English, 100s. to 110s. do.; do., Dutch, 3s. to 3s. 9d. per bag; do., Bordeaux, 4s. to 4s. 9d. per case; Apples, English, 4s. to 4s. 6d. per bushel; do., American, 15s. to 18s. per barrel; Watercress, 8d. per dozen.

FARRINGDON: *March* 28.—Quotations:—Cauliflowers, 6s. per basket; Greens, 3s. to 4s. 6d. per bushel; Leeks, 2s. 6d. per dozen; Horseradish, 1s. per bundle; Rhubarb, 1s. 9d. per dozen; Cucumbers, 4s. to 6s. per dozen; Apples, Canadian, 15s. to 18s. per barrel; the Golden Russet, 19s. to 21s. per barrel.

POTATOS.

BOROUGH: *March* 26.—Quotations ranged from 90s. to 130s. per ton.

STRATFORD: *March* 26.—Quotations:—Magnums, dark soil, 90s. to 95s.; do., uplands, 95s. to 105s.; Bruces, 95s. to 110s.; Main Crop Kidneys, 100s. to 120s.; Scotch Magnums, 85s. to 105s.; do., Bruces, 95s. to 105s.; do. Main Crop, Kidneys, 100s. to 105s. per ton; German Bruces, 5s. to 5s. 6d. per bag; do. Imperators, 5s. to 5s. 6d. do.

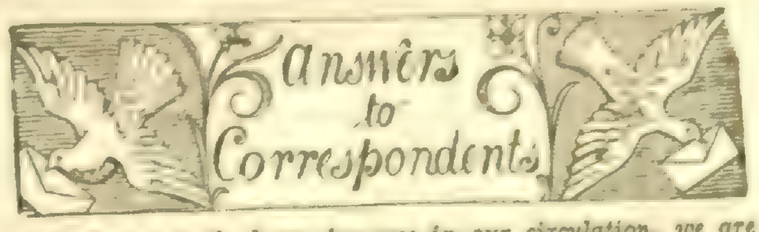
FARRINGDON: *March* 28.—Quotations:—Dunbars, 120s. to 140s.; Scotch Bruces, 100s. to 110s.; do. Main Crop, 110s. to 120s.; Reading Giants, 100s. to 110s.; Cambridgeshire Magnums, 90s.; do. Bruce, 90s. to 95s.; Kentish Hebrons, 120s. to to 130s. per ton.

LONDON AVERAGES: *March* 28.—Hebrons, 120s. to 150s; Magnums, 100s. to 120s.; Main Crops, 100s. to 130s.; Early Rose, 100s. to 130s.; Blacklands, 85s. to 100s. per ton.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

Les Tulipes de la Savoie, 1885, by M. Pillet. Where can this be obtained?



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ADDRESS: *W. M.* The journal about which you inquire no longer exists.

ASPIDISTRA LEAVES: *X. Y. Z.* The blotches on these leaves are caused by a parasitic fungus, which is, however, at present undeveloped; by next week it will probably be mature, when I will give its history and name. *Geo. Massee.*

BROAD BEANS CONTAINING GRUBS: The seeds have had their fleshy part eaten by the grub of a weevil—Bruchus granarius. The female deposits the egg in the bean when it is quite soft, the puncture soon heals over, and the resulting grub feeds on the flesh of the bean. Fortunately, the grub has its enemy in the shape of a small ichneumon fly, but you should not depend on this fly for clearing off the Bruchus grubs, but put all the old seed in the garden furnace.

CARNATIONS DECAYING: *G. H.* The symptoms point to eel-worms at the root. These creatures are present in the soil, perhaps in the loam which was employed in the potting. Burn all affected plants, do not take any cuttings or layers from them, and start with clean plants and also loam from untainted sources.

CARPET BEDDING: *W. H. A.* Mr. Cannell, of the Home of Flowers, Swanley Junction, supplies, we believe, plans for carpet beds.

CATTLEYA: *A. W. P.* Treat as a newly-imported plant by first inducing the plant to put forth roots by immersing the rhizome in a potful of clean crocks in a close warm moist frame, at a temperature of 65° minimum, and keep the pot and its contents moderately moist. After roots form and have grown several inches in length, the potting may be undertaken.

COLEUS: *Hortus.* The Coleus leaves are certainly very handsome, and the variety is well worth perpetuating; but whether it is distinct from any variety yet raised, we are unable to say. You omitted to send your name and address.

DOUBLE SPATHED ARUM: *J. A.* Not a week elapses in the season but cases of this kind are sent to us. We wonder gardeners do not endeavour to fix the variety.

FIRE BARS AND ANTHRACITE COAL: *T. R.* It is more a question of draught than of quality of iron, and the best way to prevent the too rapid destruction of the bars is to so arrange the draught by raising or lowering the height of the chimney as to be able to get the proper amount and no more, remembering that a tall shaft increases the draught. No rule can be laid down in this matter, the local conditions being the guiding factors.

INSECT ON ANGRÆCUM: *H. G.* The larva of Isosoma Orchidearum. Let the affected plant be isolated from others until it is seen no further injury is done. The grubs might be killed by inserting a piece of thin wire into the stem by way of the hole made by the grub.

INSECTS: *J. A. C.* You might water your Ferns with lime-water to see if it will drive the weevil grubs out of the soil, but you will fail to kill them by a solution of anything that would be safe to use. A correspondent tells us that, after keeping the larva in petroleum for more than a day, it was still alive. They must be very tenacious of life.

MARGUERITE AND CINERARIAS: *C. A. C.* The leaves sent are traversed in all directions by a leaf-mining grub of a fly. No cure; cut off all affected leaves and burn them.

NAMES OF PLANTS: *W. M.* Phaius Blumei var. assamicus. Some authorities place this under P. Wallichii, but for garden purposes at least it is distinct enough.—*M. C.* Senecio petasites.—*A. Edmunds.* Acacia dealbata.—*W. G.* 1, Probably Odontoglossum nebulosum, but no one could say for certain without seeing flower; 2, Odontoglossum Rossii; 3, Odontoglossum Pescatorei.—*E. A. B., Oxford.* The Oncidium insculptum flowers arrived quite fresh. It is the true plant. The Odontoglossum Rossii majus is a very fine variety, and all the others are good.—*J. R. R.* Leucoium vernum, the Snow Flake.

PEACH BUD-DROPPING: *W. M.* This casting of the flower-buds by Peach trees has long been and still remains a knotty question. Your experience is not by any means phenomenal. The tree of Waterloo having lost its buds whilst growing in the same border with other varieties which have set a good crop, is evidence only that some circumstance or circumstances that were sufficient to cause a check to that variety did not so affect the others in the same house. Waterloo and some other of the American varieties are known to have a tendency to bud-dropping, and the aggravating causes in the case are very numerous. Without thoroughly knowing all the circumstances attending the culture afforded the trees, it becomes quite impossible to say what may be the cause in your case. Has the tree at any time since last summer suffered from want of

water? or have you any reason to suspect that the roots are in a low and cold subsoil? Lifting and root-pruning have in many instances cured trees of this habit. Letters out of number have appeared in these columns on this matter, and you may read some by referring to the second volume for 1893. It would be courteous when writing questions of this kind to the Editor to enclose your name and address, if not for publication, then as a guarantee of good faith.

Peaches and Tomatos: *Bexhilliana.* These plants may be cultivated in your greenhouse provided you do not plant the Tomatos nearer together than 5 feet, and that you train each to a single stem. The Peach trees should be "riders," that is, standards with stems not less than 5 feet high. The lower part of the back wall would receive too little sunshine to render Peach culture on dwarf fan-trained trees possible.

Pelargoniums: *Beta.* A too deep potting is at the bottom of the evil. We should advise that all the plants be shaken out of the soil, or at least the greater part of it above the roots taken away, and repotted at a not greater depth in the pots than three-quarters of an inch, or placed in cutting boxes at that depth. Use burnt earth, sandy loam, and leaf soil.

Punnets: *Salad Grower.* If you will send your address, we could afford the information you require through the post.

Seakale: *Seakale.* Replanting them would form the more compact, manageable crowns for forcing, if the plants could be taken up forthwith, shortened to about 9 inches in length, retaining one crown only to a root. Failing this, the crowns should be reduced to two to each root, keeping them to this number during the coming summer, and leaving them where they now are. Do not let any flower-heads remain long enough to bloom; and if the land requires assistance, afford salt and nitrate of soda at the rate of 2 oz. together to the square yard, as top-dressings, twice or thrice during wet weather, in June and July; or you may in April prick in a good dressing of well-rotted stable-manure.

Six Finest Dahlias: *W. H. A.* Clara (Rawlings), rosy-peach; Condor (Keynes), buff, shaded orange; Diadem (Fellowes), deep crimson; Eldorado (Fellowes), rosy-purple; Glow-worm (Turner), bright orange-scarlet; Goldfinder (Fellowes), yellow.

Slag: *C. W. D.* We suppose that some earthy material must have been mixed with the wood to have produced the slag you send. Vegetable-matter alone could hardly have produced it.

Sparrows: *Reseder.* Catch them with long nets, that can be drawn over the birds by means of cords worked from a distance of 20 to 30 yards away. The birds should be enticed on to the ground between the nets with Oats, &c.

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Violets: *W. G. Sorby.* They came in very bad condition, and we are unable, therefore, to give you any opinion of their quality.

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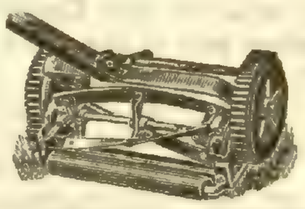
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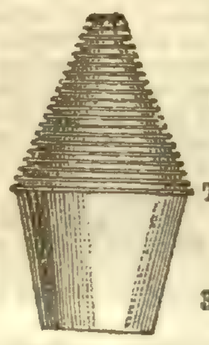
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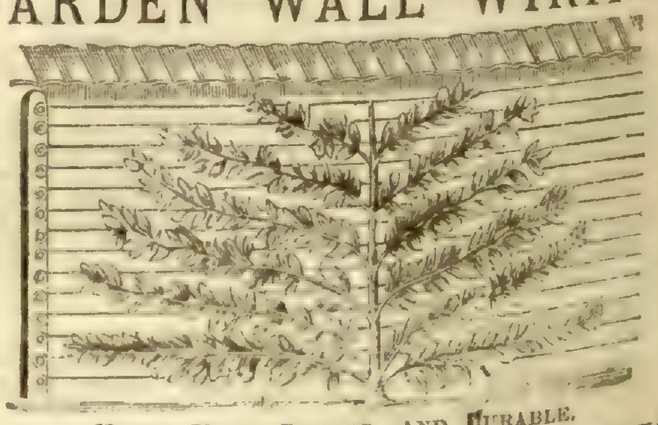
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Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

NETS—NETS.—Tanned, Oiled, Waterproof, for protecting Strawberry Beds, Fruit Trees, &c., from Birds. Makes excellent Tennis boundaries.
200 yards, 8*s*.; second quality, 5*s*.
SPASHETT AND CO., Net Manufacturers, Lowestoft.

FOWLER'S LAWN SAND.

ESTABLISHED 20 YEARS.

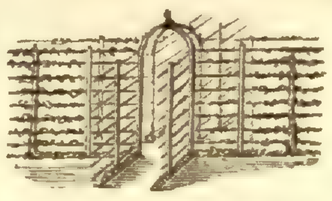
UNEQUALLED AS A FERTILIZER FOR LAWNS, AND FOR THE CERTAIN DESTRUCTION OF DAISIES, PLANTAINS, AND OTHER WEEDS.
A trial tin will prove its efficacy.
PRICES: In Tins, 1*s*., 2*s* 6*d*., 5*s*.; and in Casks, 28 lb., 8*s*. 6*d*.; 56 lb., 16*s*.; 112 lb., 30*s*. each.

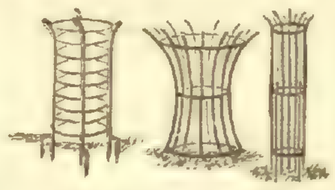
To be had of the Seed and Nursery Trade generally.

MANUFACTURERS—
CORRY & CO., Ltd., LONDON.

HILL & SMITH,
BRIERLEY HILL, near DUDLEY,
And at 118, QUEEN VICTORIA STREET, LONDON, E.C.

IRON FENCING, HURDLES, GATES, ESPALIERS and TREE GUARDS.





Special Estimates given for Large Contracts in Fencing, Roofing, &c. Personal Surveys of Estates made, and practical advice given as to the best and most economical Fences to put down. *Illustrated Catalogues Free by Post.*

BREAKFAST—SUPPER.
EPPS'S
GRATEFUL—COMFORTING.
COCOA
BOILING WATER OR MILK.

ESTABLISHED 1851.
BIRKBECK BANK,
SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.

SAVINGS DEPARTMENT.
For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.
HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.
HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.
The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

GARDENING APPOINTMENTS.

MR. ALFRED HATWELL, late Gardener at Thortgrove, Newport, Essex, as Gardener to FITZ-HUGH WHITEHOUSE, Esq., Thornton Hall, Stony Stratford, Bucks.

Mr. HENRY WILSON, Foreman at Powis Castle Gardens, as Gardener to J. BRINTON, Esq., Moor Hall, Stourport.

Mr. WILLAM LEANEY, formerly Gardener of Newbridge House, Bath, as Gardener to J. J. WOOD, Esq., Eversfield Grove Park, Lee, S.E.

Mr. JAMES DUNCAN, Foreman, Fyvie Castle Gardens, as Gardener to Col. DUFF, Knockleith House, Aberdeenshire.

Mr. E. WILSON, twenty-six years Gardener at Uffington House, Stamford, as Gardener to the Hon. J. POWYS, Bank Hall, Tarleton, Preston, Lancashire.

Mr. HARRY FOX, late Foreman of Ketton Hall Gardens, Stamford, several years previously Foreman at Caversham Park, Reading, and Wexham Park, Slough, as Head Gardener to the Hon. PERCY ALLSOP, M.P., of "Battenhall Mount," Worcester.

PARTNERSHIP (SLEEPING or WORKING) offered to a Capitalist with about £1,000 in a MARKET FRUIT and FLORIST BUSINESS in the country. Freehold of about 9 acres, and about 1,000 feet run of modern built glass, within 50 miles of town.—Apply "PEACH," 41, Wellington Street, Strand, W.C.

WANTED, a thorough GARDENER, with good knowlege of Outdoor Cultivation of Fruit, Shrubs, and Plants, &c. Must understand Orchard, Stove, and Greenhouse.—Apply by letter to B. H. A., Messrs. Alexanders & Co., 24, Lombard Street, E.C.

WANTED, for South Africa, for a Rose and Fruit-tree Nursery, where two or three hands are employed. A thorough good hard-working industrious MAN, single, and total abstainer preferred. Must be well up in Budding, Grafting, and General Outside Nursery work. Three years' engagement; free passage. Salary £3 per month.
Also a young MAN, abstainer preferred. Well up in Laying-out and keeping Gentlemens' Gardens in order. Three years' engagement. Free passage. Salary £7 per month for first and second year; £8 per month for third year. Only thorough good pushing men need apply. References from past and present employers required.—Apply to J. CRANMER, 27, Clements Lane, London, E.C.

WANTED, GARDENER (HEAD WORKING), and FOREMAN, General.—Experienced in Orchard-House of Cordon Trees, also of Wall Fruit, Grapes, Melons, Cucumbers, Ferns, Chrysanthemums, and Flowers. Teetotaller preferred. Wife to attend to Dairy and Poultry.—Apply by letter only, in the first instance, stating length of previous services, and what he has had charge of; also how many children, if any, and wages required, to A. DUNCAN, Holbrook, Chislehurst.

WANTED, good SINGLE-HANDED GARDENER.—Thoroughly practical all-round. Experienced in Greenhouse Plants, Flower and Kitchen Garden. Age 40; married, no family. Wife as Laundress and Char, in house when required. Wages £1 a week, and six-roomed Cottage, on the premises. Wife £14 a year, Charring extra.—PARK, South Hayling, Hants.

WANTED, a GARDENER.—Single; must understand Palms, Ferns, and Kitchen Garden thoroughly; must be good worker, and obliging. Wages 20*s*., with furnished room, coals, and gas.—Apply, 300, Oxford Street, W., at 9 A.M.

WANTED, for Easby House, Richmond, Yorks., a good SINGLE-HANDED GARDENER.—Assistance given. Churchman. Good character. Must understand Herbaceous and Bedding Plants, Outdoor Fruit and Vegetables. Cottage found.—State wages to L. JAQUES, Horsenden House, Princes Risboro'.

WANTED, a SECOND GARDENER.—Age between 18 and 24 preferred. Must also be capable of taking entire charge of cows.—Apply by letter, in first instance, stating experience, wages required, &c., to HEAD GARDENER, Hayes Court, Hayes, Kent.

WANTED, a GARDENER, with Wife as Laundress. Furnished cottage and coals provided.—State ages, experiences, family, when at liberty, wages required, &c., to X. Y. Z., 41, Wellington Street, Strand, W.C.

WANTED, a GARDENER, married, no family, to live in Lodge; Wife to help a little in the House, mornings. Vinery, Forcing-house, Conservatory, large Garden. Must be a good all-round man, and abstainer.—Rev. C. E. ROBERTS, The Chilterns, Halton, Tring.

WANTED, a thorough KITCHEN GARDENER, married, small family.—Applicant must be well versed in Kitchen Garden, and able to produce a good supply throughout. Good character. Wages, 16*s*. per week, Lodge, and Vegetables.—J. W., Holmbury Gardens, near Dorking.

WANTED, on the 6th April, experienced GARDENER, where two others are kept, to take charge of Greenhouses, Vinery, Pleasure and Kitchen Gardens. Wages 30*s*, no extras. Applicant, who must be thoroughly competent, should apply by letter only, giving full particulars, to TAPP, The Gables, Shortlands.

WANTED, as GARDENER (SECOND), an experienced, active, married MAN (no incumbrances). Wife to act as Lodge-keeper. Wages 18*s*. and furnished cottage.—Apply, with references, to L. LA POUDRETTERIE, St. Martin's, Jersey.

WANTED, JOBBING GARDENER, and to fill up time in the Nursery. Live in, with board and lodging.—State wages, &c., to W. WELSFORD, Florist, 41, Lansdowne Road, South Lambeth, S.W.

WANTED, Good JOBBING GARDENER.—Well up in filling Window Boxes, &c., and to assist in the Houses. None but a thorough experienced hand need apply.—W. H. PRATT, 1, Church Road, Hove.

WANTED, active JOBBING HANDS, willing young fellows preferred.—WIMSETT AND SON, Florists to the Queen, Chelsea, S.W.

WANTED, a good GROWER of Carnations and Ferns for Market.—Good wages given to a practical man. Also young MAN, quick at potting and tying.—Apply to T. CHILDS, New Eltham, Kent.

HEATH GROWER.—WANTED, a thoroughly competent and practical man. Apply, stating age, wages, and references, to W. COOPER, Ltd., Horticultural Providers, Feltham, Middlesex.

WANTED, FERN-GROWER, to produce great quantities for Market. State experience, age, and wages required, to W. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a Good JOBBING GARDENER, must be able to lay out and plant gardens, take orders, and look after others; permanent place; state wages.—M., The Conservatories, Finchley Road, N.W.

WANTED, a WORKING FOREMAN and GROWER, to take Charge of Glass Department. Well up in Growing for Cut Flowers, Cucumbers, Tomatos, and Plants for Market. ALSO a young MAN to Assist in Houses, and when required at a Market Stall; one with a Knowledge of Seeds preferred.—CHARLES WHITING, White Cross Nurseries, Hereford.

WANTED, a young MAN as JOURNEYMAN, Inside and Out. Abstainer preferred.—All particulars to HEAD GARDENER, Wimford Tower, Beaworthy, Devon.

WANTED, for the season.—A strong, active young MAN, experienced in Greenhouse work. Wages 18s. per week, and 4d. per hour for all overtime.—State age, &c., to CHARLES WOODROFFE, Florist, Sudbury, Harrow, N.W.

MEN WANTED, those with a knowledge of Cucumber, Tomato, and Grape Growing preferred.—Apply, stating wages required, to GUIVER BROS. AND LAWSON, Enfield Highway.

WANTED, a strong active young MAN, quick at Potting, Watering, and Tying. State experience, age, and wages expected to MANAGER, Llys-onen Gardens, near St. Clears, Carmarthenshire.

WANTED, at ONCE.—Smart, quick HANDS for Tomatos, Cucumbers, Pot and Cut Market Stuff.—F. ROSS & CO., Merstham, Surrey.

WANTED, OUTSIDE MAN, well up in Growing Vegetables. ALSO ONE for Pleasure Garden. State age, wages, and references to FERGUSON, Belsfield Gardens, Bowness on Windermere.

WANTED, a strong active Man, for Outside. Wages 12s. 6d. per week, with lodgings and milk. State age, experience, &c.—GARDENER, Steventon Gardens, Mitcheldever, Hants.

WANTED, an energetic young MAN, used to packing for parcel post, and to fill up time in the Houses.—Apply, stating experience, wages required, &c., to ERIC F. SUCH, Royal Berkshire Nurseries, Maidenhead.

WANTED, young MAN, quick at watering and Potting. 15s. per week.—E. VANDU MEASCH, Queen's Nursery, Selhurst, S.E.

WANTED, a thoroughly competent Young MAN, able to Pot, Tie, and Water Plants for Market.—Mr. ORPWOOD, Cowley Mill Road, Uxbridge.

WANTED, young ASSISTANT (GENERAL), in Garden where there is a moderate amount of glass.—Apply, with references, to J. H. V., 41, Wellington Street, Strand, W.C.

WANTED, a smart YOUTH, about 18, as IMPROVER, or ASSISTANT, to the Propagator, and to assist in the Stove and Fernery.—State wages and experience to FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, for Small Farm, a MAN, who can Milk, understands Cattle, and Carpentering; must be Nonconformist and abstainer. Good character indispensable.—W., Hadley Manor, Barnet.

WANTED, TRAVELLERS on Commission only, among Nurserymen and Fruit-growers; good commission paid. Article rapidly coming into use.—B. C., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, TRAVELLER, for West of England, Midlands, and South Wales Districts. Liberal commission.—ENGLISH FRUIT & ROSE CO. (CRANSTON'S) LIMITED, King's Acre, near Hereford.

TRAVELLER.—JOHN COWAN AND CO. are in IMMEDIATE WANT of an intelligent and competent man to represent them in their Orchid Department.—Apply, giving references, and stating terms, to the Company, The Vineyard and Nurseries, Garston, near Liverpool.

WANTED, a CLERK.—Apply SEED MERCHANTS, 41, Wellington Street, Strand, W.C.

WANTED, married MAN as COWMAN, without family, to live in Lodge.—Must understand Mowing Machines. Wages 18s. per week. Good character indispensable.—Address, HEAD GARDENER, Wexham Park Slough.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

GARDENER (HEAD); aged 44, married.—Mr. G. H. PEAKE, who is changing his residence, strongly recommends his Head Gardener, William Atkinson, who has been with him and his predecessors as Head Gardener for the past twenty years; thoroughly experienced in all departments, and a very trustworthy man.—Reply to Mr. ATKINSON, Head Gardener, Westholme, Sleaford.

GARDENER (HEAD), age 27; married; no family.—N. P. CADELL, Esq., highly recommends his Gardener, who has been with him the past two years, to any Lady or Gentleman requiring a thorough practical, trustworthy man, well up in all branches. Fourteen years' experience.—W. E. LOVELL, The Gardens, Clare House, Tiverton.

GARDENER (HEAD); age 32; married when suited.—Mr. J. LOCKHART, Gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington, can with every confidence recommend Edward Joseph, who has been with him four years as General Foreman; experienced in all branches of Gardening. Highest references.

GARDENER (HEAD), where three or four are kept.—Many years with the late Lord Carbery, Disengaged shortly.—H. MASON, The Gardens, Bisbrook Hall, Uppingham.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 38, married; understands Orchids Fruit, Flower, and Kitchen Gardens. Good character. Near London preferred.—HY. OVER, Alvaston, near Derby.

GARDENER (HEAD).—Age 30; married.—A Gentleman wishes to recommend his Gardener to any Lady or Gentleman requiring a good all-round man.—GARDENER, Baron House, Mitcham.

GARDENER (Head), where two or three are kept.—J. CHOWN would be pleased to recommend his Foreman, aged 29, to anyone requiring a thoroughly practical and trustworthy man; well up in all branches of the profession; fifteen years' experience; total abstainer.—6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD), or ORCHID GROWER; age 32.—JOSEPH FORSEY, The Gardens, Stanford Hall, Loughborough, would be pleased to recommend his Foreman to any Lady or Gentleman requiring the services of a good practical man. Thoroughly experienced in all branches. Five years in present situation.

GARDENER (HEAD of two).—Age 30, married, no family; abstainer. Eighteen years' experience in all branches.—F. TOMALIN, 13, Wadsworth Street, Halliwell Lane, Cheetham Hill, Manchester.

GARDENER (HEAD).—Age 41, married. A LADY wishes to recommend her Head Gardener; a thoroughly efficient, trustworthy man, well qualified for the Management of a good Garden. Stock, if required. Six and a-half years' and nine years' character as Head.—H. PARROTT, 1, Adelaide Road, St. Pancras, Chichester.

GARDENER (HEAD).—Mr. MCMILLAN, Gardener to the Hon. Lady Bateman, Oakley Park, Scole, will be pleased to recommend his Foreman to any Lady or Gentleman requiring a thoroughly experienced, practical, and trustworthy man.

GARDENER (HEAD), where two or three are kept.—Age 27, married when suited; thirteen years' good experience, Inside and Out. Two and a half years present situation. Good references.—F. B., 49, Duke Street, Henley-on-Thames, Oxon.

GARDENER (HEAD), where two are kept.—Single; begs to offer his services to any Lady or Gentleman that is requiring a thoroughly practical young man. Good characters. Highly recommended.—R. OLIVER, 1, Mawney's Lane, High Street, Romford.

GARDENER (HEAD) seeks situation where another is kept. Experienced in Vines, Melons, &c. Married, no family. Highly recommended.—JOHN TULK, Baughton, Earls Croome, Worcester.

GARDENER (HEAD WORKING).—Age 30; fifteen years' practical experience in large establishments; excellent testimonials.—GARDENER, Avenue Lodge, Selly Park, Birmingham.

GARDENER (HEAD WORKING).—Fourteen years' experience in all branches, five in present situation, previously at Royal Gardens, Kew. Good references.—C. WILKINSON, Bradwell Grove, Burford, Oxon.

GARDENER (HEAD WORKING).—Age 29; where two are kept. Sixteen years' experience. Good characters from all employers.—T. ATTWOOD, 14, Rectory Road, Parson's Green, Fulham.

GARDENER (HEAD WORKING, where two or more are kept).—Age 38, married, offers his services to any Lady or Gentleman in want of a thorough practical man in all branches. Excellent character.—W. R. COPESTAKE, 24, Mountfield Road, Ealing, W.

GARDENER (HEAD WORKING).—Age 30, married; fifteen years' experience, thorough good all-round man; well recommended.—HAMMETT, Gardens, Roughwood Park, Chalfont St. Giles, Slough, Bucks.

GARDENER (HEAD WORKING).—Married; thoroughly qualified in all branches. Highest references as to character and abilities.—For particulars, apply to the HEAD GARDENER, Edge Grove, Watford.

GARDENER (HEAD WORKING); age 30.—Mrs. JOSHUA FIELDEN, Nutfield Priory, can highly recommend H. Green, who has lived in her service three and a half years as Foreman. Life experience in good Gardens.—H. GREEN, Gardens, Nutfield Priory, Redhill, Surrey.

GARDENER (HEAD WORKING).—Age 30; thoroughly experienced in the general routine of a good Garden. Plants, Flowers, Fruits, and Vegetables. Excellent character.—F. NASH, Amport, Andover, Hants.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Wife as Laundress. Middle-aged, no family. Good character and testimonials.—GARDENER, 25, Ringslade Road, Wood Green, N.

GARDENER (HEAD WORKING), where three or four are kept.—Age 32; life experience in all branches. Five years' good character.—BURLEY, Hatherop, Fairford, Glos.

GARDENER (HEAD WORKING).—Age 35, married no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 36, married, no family; life experience. Good character from last and previous employers.—H. A. S., Hill Side, Blackwater, Hants.

GARDENER (HEAD WORKING); age 29.—R. JONES, Barford Hill Gardens, Warwick, would be pleased to recommend his late Foreman as above. Well up in all branches of Gardening.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (HEAD WORKING).—Gentleman who has given up, would be pleased to recommend his Gardener, who has good practical experience in all branches. Age 37; married, no family.—E. CROCKFORD, The Grange, Elstree, Herts.

GARDENER (HEAD WORKING).—Age 28; desires re-engagement with Lady or Gentleman. Fourteen years' experience. Good character.—GEORGE ROBERT TOCK, 43, Eleanor Street, Grimsby, Lincolnshire.

GARDENER (HEAD WORKING).—Age 29; thoroughly experienced in all branches of the profession. Excellent character.—WATMORE, Fir Tree Cottage, Palmer's Green, London, N.

GARDENER (HEAD WORKING).—Age 39; married, no encumbrance; life experience, all branches. Wife, Dairy or Laundry, if required. Good reference.—H., Raymond Cottages, Langley, Slough.

GARDENER (HEAD WORKING), where several are kept.—Age 39, married, no family; life experience in all branches of Gardening. Good character.—F. D., Carter's, Printer, Rickmansworth.

GARDENER (HEAD WORKING).—Age 33; well up in Plants, Fruit Trees, and Vegetable Growing. Good character and references.—GARDENER, The Row, Tendring, Colchester.

GARDENER (HEAD WORKING).—Age 41; married; no incumbrance. Thoroughly practical in all branches. Life experience. Good reference from present and previous employers; abstainer. Wife, Dairy and Poultry.—H., 53, Natal Road, Streatham.

GARDENER (HEAD WORKING); age 40.—J. H. SCLATER, Esq., Newick Park, Lewes, will be pleased to recommend his late Gardener, who has lived with him fifteen years. A skilful Gardener and thoroughly conversant with Alpine Plants.—F. P., 47, Althorpe Road, Upper Tooting, S.W.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, single; fifteen years' experience in all branches. Highly recommended.—H. ELLIOTT, The Lodge, Manadon, near Plymouth.

GARDENER (HEAD, or SINGLE-HANDED).—Married; thoroughly understands Glass, Fruit, Flowers, and Vegetables. Can be well recommended, with excellent references.—PALMER, Bonney Brock, Little Kimble, Tring.

GARDENER (HEAD, or good SINGLE-HANDED).—Understands Early and Late Forcing, Flowers, Fruits and Vegetables. No family. Wife a good Laundress.—GARDENER, Ystrad-house, Ystrad Mynach, Cardiff, Wales.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, married when suited; fourteen years' experience in first-class places.—A. B., 3, Abercorn Villas, Wembley, N.W.

GARDENER (Single-handed, or where help is given).—Age 40; married. Practical with Grapes, Peaches, Melons, Flowers, and Vegetables. Wages £1, with cottage.—GARDENER, Orchard Row, Baldock, Herts.

GARDENER (Single-handed, or where help is given).—Understands Stove and Greenhouse Plants. Age 25, married, no family. Good characters.—H., Mr. Whitehorn, Mill Lane, Carshalton.

GARDENER (Single-handed, or Second).—Life experience Inside and Out. Two years' good character from present place. Single; abstainer.—F. UPHILL, 30, Constance Road, East Dulwich.

GARDENER (Single-handed, or with assistance).—Age 30, married; fifteen years' experience in the Kitchen Garden, Flowers and Greenhouses. Good references. Abstainer.—H., 82, Gordon Road, Strood, Kent.

GARDENER (Single-handed, or otherwise).—Age 26; well up in Flowers, Fruit, and Vegetables, Chrysanthemums being a specialty. Good references.—E. L., Oaklands, Chigwell Row, Essex.

GARDENER (Single-handed), or otherwise.—Age 35, married, two children, youngest nine years; twenty years' practical experience. Good references.—P. R., 23, Hamilton Road, Highbury, London, N.

GARDENER.—Age 20; well experienced in Market Plants, &c.; seven years previous.—W. KURZ, 38, Finsbury Square, London.

GARDENER.—Young married Man, no family, life abstainer, seeks situation. Been in small Nursery; understands Cucumbers, Tomatos, and ordinary Greenhouse Plants.—W. A. GURD, Down House Lodge, Blandford.

GARDENER, or to Assist at a Nursery.—A Gentleman can recommend a young Man who has been with him three years. Excellent references and good experience.—L. MOXON, Tempsford Hall, Sandy.

GARDENER (Working), age 38.—Grower for Market; Grapes, Cucumbers, Tomatos, Peaches, and Nectarines.—S. H., Hartgrove House, Park Road, Shirley, Southampton.

GARDENER (Second), where four or more are kept.—Age 25; nine years' experience Inside and Out. Good references. South preferred.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (Second or Under).—Age 24, single; well experienced, Inside and Out.—A. SPEAKMAN, 8, Shaftesbury Avenue, New Barnet.

GARDENER (Second).—Age 26, married; life experience, Inside and Out. Good character.—C. SMITH, Elmore, Chipstead, Surrey.

GARDENER (Second), or IMPROVER in Houses.—Age 22. Where five or six are kept; been used to general work. Two years' good character.—G. J., Lignum Cottage, Bushey Heath.

GARDENER (Second of three or four, or good Third).—Age 22; single. Eight years' experience Inside and Out.—W. PETERS, 89, Orchard Road, Dorking, Surrey.

GARDENER (Second).—Age 25, single; experienced in Stove and Greenhouse Plants, &c. Good reference. Abstainer.—J. D., 92, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (Second).—Age 27, twelve years' experience, both Inside and Out. Good testimonials.—H. RUMGAY, Wootton Lodge, Ulceby, Lincs.

GARDENER (Second), Inside, or Inside and Out.—Age 22; abstainer. Over eight years present employer; two years Second.—C. MILLS, Holwood Gardens, Bechenham, Kent.

GARDENER (Second), where five or six are kept.—J. S. UPEX, Wigganthorpe, York, wishes to recommend a young man, age 24, as above. Four years in present situation.

GARDENER (Second), where three or four are kept.—Inside and Out; age 23; can be well recommended.—G. RIDLEY, Blackmore Park, Hanley Castle, Worcester.

GARDENER (Second), in a large establishment; or Situation in a Public Park. Thoroughly experienced.—G. W., 41, Wellington Street, Strand, W.C.

GARDENER (Under), in the Kitchen Garden.—Age 23; nine years' experience, Inside and Out. Highest references.—G. CAPSTICK, 51, Wellfield Road, Streatham, Surrey.

GARDENER (Under), Inside and Out, in a good Establishment.—Age 21; six years' experience. Good character. Excellent references.—W. HOLLAMBY, The Crescent, Leatherhead, Surrey.

GARDENER (Under).—Age 22; good knowledge of Gardening; two years in present situation.—H. H., 39, Woolwich Road, Belvedere, Kent.

GARDENER (Under).—Lady recommends respectable young man as above. Eight months good character (two and a half years previous). Left through no fault.—Mrs. HACKMAN, Bishop's Waltham.

GARDENER (Under).—Single; good general knowledge of Gardening. Inside and Out. Good character.—G. P., 14, Tylney Road, Bromley, Kent.

GARDENER (Under).—Age 21; two years' good character from present employer; four years previously. General knowledge Inside and Out. Abstainer.—J. EARLAND, Banford Cottages, Harrow Weald, Middlesex.

GARDENER (Under), Inside and Out.—Age 25, single; eleven years' experience. Good character. Abstainer.—T. DANCER, Harsfold Manor, Billingshurst, Sussex.

GARDENER (Under).—Young Man, age 22, seeks situation Outside in Gentleman's garden. Willing and industrious. Good character.—T. S., Minley Manor, Farnborough, Hants.

GARDENER (Under).—Age 21, single; experienced Inside and Out. Good character. No objection to look after Pony Trap. Willing to make himself useful.—C. H., 2, Shelley Road, Horsham.

GARDENER (Under).—Age 27; twelve years' experience in good places. Single.—W. FENTON, Sullington Hall Gardens, Burton-on-Trent.

GARDENER (Under) Inside and Out.—Age 22; single. Five years in present place. Good character. Bothy preferred.—F. WATTS, The Gardens, Chacombe House, Chacombe, near Banbury.

GARDENER (Under), in the Houses.—Age 23; good references.—H. T., Basildon Park, near Reading, Berks.

GARDENER (Under).—Age 24; eight years' experience with Vines, Peaches, Melons, Chrysanthemums, and Stove and Greenhouse Plants. Excellent character.—WM. GOODMAN, Binwood Lawn, Leamington.

GARDENER (Under).—Age 26, single; eight years' experience. Inside and Out. Good character.—G. B., 2, Melbourne Villas, Bolton Road, Windsor.

GARDENER (Under).—W. Barter, Bourne Park Gardens, can recommend a young Man as above. Age 21, abstainer. Five years' character.—H. BROOKS, Bishopsbourne, Canterbury.

To Nurserymen.

KNIFEMAN.—Age 28; life-experience in Budding, Grafting, Layering, and General Nursery Work in leading Nurseries. Could undertake Management of Branch Nursery. Married.—C. J., Updown Hill, Windlesham.

To Market Nurserymen.

PROPAGATOR and GROWER.—Age 27; thirteen years' experience in Stove, Ferns, Carnations, Soft-wood, and general Market Flowering, and Pot Stuff. Good references.—H. C., 15, School Road Avenue, Hampton Hill, Middlesex.

PROPAGATOR and GROWER.—Well up in Raising and Growing Ferns and Soft-wooded Stuff for Market. Could act as Salesman. Age 29; fourteen years' experience. Good references.—H. J., 3, Gloucester Terrace, Silver Street, Upper Edmonton, London, N.

ROSE-GROWER and OUTDOOR FOREMAN.—Thoroughly experienced. A First-class and very successful Exhibitor. First-class references.—G. C., 1, Gladman Villa, Bath Road, Cranford, Middlesex.

GROWER.—Well up in Plants, Cut Flowers, &c. Long Experience. Married.—G. M., 125A, Brettenham Road, Upper Edmonton.

GROWER.—Age 26; where Roses, Carnations, &c., are grown for Market. Experienced; good references.—ALLWOOD, Little Heath, Barnet.

To Nurserymen.

GROWER.—Age 25; ten years' good experience in Foliage and Flowering Pot Stuff; also Cucumbers and Tomatos, Wreaths, &c. Good references.—G. E. R., 41, Wellington Street, Strand, W.C.

To the Trade.

GROWER, for Market, or otherwise.—Well versed in Chrysanthemums and Soft-wooded Stuff. Ten years' experience.—W. H. GARRATT, Cubbington, near Leamington.

To Nurserymen.

GROWER of General Soft-wooded and Foliage Plants, Ferns, Fruits, and Roses. Age 25; ten years' experience. Good character.—G. S., 5, Southwood Cottages, New Eltham.

GROWER.—Age 29; fourteen years' experience in Growing Grapes, Tomatos, choice Cut and Pot-stuff for the London and Provincial Markets.—GROWER, The Brook, Balcombe, Sussex.

GROWER.—Age 24; Palms, Ficus, &c. Well experienced in leading London Market Nurseries.—W. G., Mr. Elvin, Stationer, High Street, Southgate, N.

GROWER, age 26, seeks situation in Market Nursery as Grower of Soft-wooded Stuff and Carnations. Good reference.—O. J., 11, Nelson Road, Harrow-on-Hill.

TO NURSERYMEN.—Situation wanted as GROWER. Age 23; well up in Ferns and Soft-wooded Stuff. Nine years' London and Provincial experience. Midlands preferred. Good references.—J. BUSBY, 166, Angel Road, Upper Edmonton, London.

MANAGER or FOREMAN.—Large Retail Flower Seed Establishment. Long experience, and extensive scientific knowledge of Rare Seeds. Also of Rare and Choice Hardy Herbaceous and Alpine Plants, and Seed Growing.—Q., 41, Wellington Street, Strand, W.C.

To Grape, Tomato Growers, &c.

MANAGER, or FOREMAN.—Many years' practical experience in Growing all kinds of Fruits and Flowers for the London Markets. Highest references as to character and ability.—W., 3, Farleigh Terrace, Becket Road, West Tarring, Worthing.

FOREMAN, PROPAGATOR, and GROWER.—Twenty years' experience in Hard and Soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—H. JONES, Cambridge Road, Godmanchester, Hunts.

FOREMAN or GROWER, well up in Heaths, Hard and Soft-wooded Plants, also Peaches, Grapes, Cucumbers, and Tomatos. Good references.—G. T., Beechenlea, Swanley, Kent.

FOREMAN, age 25, single.—Mr. G. Norris, Head Gardener, Stone Park, can with confidence recommend an energetic Man as above, has been with him two years and eight months.—F. STENT, The Gardens, Stone Park, Greenhithe, Kent.

FOREMAN, Inside; age 24.—F. Clarke, Gardener to the Right Hon. Lord Hatherton, will be pleased to recommend A. Milne as above, who has been with him three years.—The Gardens, Teddesley Park, Penkridge, Stafford.

FOREMAN.—Age 25; twelve years' experience. Life abstainer. Mr. D. Williams, The Gardens, Duncombe Park, Yorks, recommends Advertiser.—H. H. GOODYEAR, 22, Broomfield Road, Marsh, Huddersfield.

FOREMAN, or JOURNEYMAN (First), in the Houses, in a good establishment.—Age 24. Ten years' experience in good places.—C. WEAVER, Oakley, Fallowfield, Manchester.

FOREMAN.—Age 27. Good practical experience in all branches, including Orchids and Decorations; reliable character and testimonials.—T., 106, High Street, Hemel Hempstead, Herts.

FOREMAN, or Second, Outside, in a good establishment.—Age 25; North of England preferred. Excellent references.—THOS. APPLEBY, The Gardens, Prudhoe Hall, Prudhoe-on-Tyne.

FOREMAN of Houses.—Well up in General Routine; nearly four years in last place, five and a half years previous; good reference.—A. HARRISON, Newlands, Hatton, Warwick.

FOREMAN (Inside); age 27, single.—Mr. Cleare, Toddington Gardens, Winchcombe, Gloucester, can highly recommend W. French as above. Ten years' experience in Plant and Fruit Culture.

FOREMAN, in the Glass Department.—Age 25; ten years' experience in first-class establishments. Good characters.—W. TITCHMARSH, 3, London Road, Hackbridge, Surrey.

To the Trade.

FOREMAN, under Glass, or General.—Good Propagator and Salesman, and Grower for Market, Wreaths, &c. Age 32.—State particulars to FLORAL, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN, in the Houses.—Mr. Gale, Place Gardens, Fowey, Cornwall, will be pleased to recommend F. Westcott as above. Been with him two years as Second.

FOREMAN, Inside.—Age 28; fourteen years' experience in Stove and Fruit Houses. Good characters.—W. MILTON, Harefield Nursery, Harefield, near Uxbridge, Middlesex.

FOREMAN (General), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN (General); age 27.—Mr. Pope, Ashby Hall Gardens, Lincoln, wishes to highly recommend his Foreman, THOMAS ROBINSON. Thoroughly experienced in Fruit and Plant Houses. Sober, steady, and trustworthy. Two and a half years as Foreman here.

FOREMAN.—Age 24; several years' experience in good establishments. House and Table Decorations. Two years in last place, and previously at Stratfieldsaye.—W. M., Hartham Park, Corsham, Wilts.

FOREMAN.—Age 24. Mr. Ringham, Gardener to the Earl of Strafford, will be pleased to recommend W. Baker as above, who has been with him three and a half years.—The Gardens, Wrotham Park, Barnet, Herts.

FOREMAN, age 25.—Mr. C. Sims, Bovingdon, Hemel Hempstead, would be pleased to recommend his Foreman, Wm. Roberts, as above in a good establishment.

FOREMAN, Inside.—Age 25.—Experienced in all branches, with good references.—A. S., Glen Avon, Saleford, near Bristol.

FOREMAN.—Age 28; thoroughly experienced in Fruit and Plant-houses, also well up in House and Table Decoration; two years in last place as Foreman.—T. METCALFE, The Balms, Upleatham, R.S.O., Yorks.

JOURNEYMAN; age 18.—E. Beckett, Gardener to H. H. Gibbs, Esq., can with every confidence recommend Arthur Hoar as above. Strong, quick and intelligent. Has been employed here nearly five years.—Address as above.

JOURNEYMAN, Inside, in a good establishment.—Age 22; seven years' experience. Good character.—C. DAVIS, The Gardens, The Mount, Bishopstoke, Hants.

JOURNEYMAN, in the Houses.—Age 21; six years' experience. Well recommended.—F. DUNNING, Highfield, Southampton.

JOURNEYMAN, in the Houses, age 19.—Four and a-half years in present situation. Can be well recommended. Bothy preferred.—A. WOODGATE, Capel Manor Gardens, Horsmonden, Kent.

JOURNEYMAN (Inside or Out), age 24, seeks situation as above. Nine years' good character.—WM. PASSINGHAM, The Gardens, Sanderstead Court, near Croydon.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; eight years' experience in good Gardens. Excellent testimonials. Disengaged. Bothy preferred.—ALFRED TYRRELL, Guildford Park Farm, Guildford, Surrey.

JOURNEYMAN (Inside, in a good establishment).—Seven years' experience in good Gardens; three years in present situation. Good references.—J. PESKETT, Bignell Gardens, Bicester, Oxon.

JOURNEYMAN, age 23, Inside, or Inside and Out. Good general experience; total abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, in the Houses.—Age 23; eight years' experience in Fruit and Plant Houses. Good character.—E. ORPIN, St. Leonard's Street, West Malling, Kent.

JOURNEYMAN (First), Inside.—Age 24; nine years' experience. Good character.—H. PLANCE, Royal Gardens, Hampton Court, Middlesex.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Left through breaking-up of establishment. Excellent references. Bothy preferred.—GEORGE HEMLEY, Little Billington, Leighton Buzzard, Beds.

JOURNEYMAN (First), age 23.—Mr. DOWDING, The Gardens, Farnham Castle, Surrey, wishes to recommend A. HOBBS. Over two years in present situation as above.

JOURNEYMAN, Inside.—Age 23; eight years' experience. Good reference. Disengaged.—E. GOULD, 21, Broadwater, Worthing, Sussex.

JOURNEYMAN.—Age 20; seeks situation in a good establishment. Inside, or Inside and Out. With bothy preferred. Six years' experience. Can be highly recommend.—E. BRADLEY, Weetwood Hall, Leeds.

JOURNEYMAN, in Fruit Department.—Age 21; well up in Fruit, both Inside and Out. Well recommended.—T. H. ALLEN, 13, St. James' Place, Painswick Lawn, Cheltenham.

JOURNEYMAN (Inside), in a good establishment.—Age 22; seven years' experience. Total abstainer. Can be well recommended.—A. LAMBERT, 39, East Street, St. Neot's, Hunts.

JOURNEYMAN (First), in a good establishment.—Age 23; ten and a half years' experience. Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner, near Harlow, Essex.

JOURNEYMAN, Inside, or Inside and Out, in private establishment, age 23. Four years' good character from previous employer; disengaged. Bothy preferred.—N. GREENFIELD, West Chiltington, Pulborough.

JOURNEYMAN, in a good Establishment.—Age 21; three years' experience; well recommended.—F. JOHNSON, Wilton, near Brandon, Norfolk.

JOURNEYMAN (First), in a good establishment.—Age 23; seven years' experience in Fruit and Plant Houses. Good references.—T. HAZELDINE, Pave Lane, Newport, Salop.

JOURNEYMAN (Inside); age 19.—I can recommend a smart young man as above. Five years' experience.—A. GOODEN, Shopwyke House, Chichester.

JOURNEYMAN, in a good establishment; age 22.—Mr. ROWE, Squerryes Court, Westerham, Kent, wishes to highly recommend C. COOK for the above. Seven years' good experience.

JOURNEYMAN.—Age 21; seven years' experience in Orchids, Stove and Greenhouse Plants, &c., thoroughly steady and industrious.—MACE, Exotic Nurseries, Queen's Road, Cheltenham.

JOURNEYMAN, in the Houses; age 20.—J. MARTIN, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience Two and a half years in present situation.

JOURNEYMAN, in a good Establishment.—Eight years' experience in the General routine of gardening. Good character.—G. RODEM, Enville Road, Kinver, near Stourbridge.

JOURNEYMAN in the Houses; age 20.—Mr. DREW, Flaxley Abbey Gardens, Newnham, will be pleased to recommend F. YOUNG as above, six years' good character.

JOURNEYMAN, in a good Private Establishment.—A young man (age 24) desires situation as above. Eight years' experience in General Routine; four years in present situation. Has had charge of Fruit-houses for two years. Good references from present and previous employers.—H. W., Stapleton House, Fletcher's Road, Acton Green.

JOURNEYMAN (Second).—Age 23; four years' experience. Good references.—J. VAUSE, The Gardens, Burntwood Hall, near Barnsley.

JOURNEYMAN.—A young Man, age 22, seeks situation as above. Two years in last place. Bothy preferred.—J. DANIELS, Woodborough House, near Bath.

JOURNEYMAN in a good establishment Inside, or Inside and Out.—Age 21; five years' Experience. Good references.—H. SPENCE, The Gardens, Burntwood Hall, near Barnsley.

JOURNEYMAN, in the Houses, age 23.—Eight years' experience Inside and Out. Good references.—J. J., 24, Linby Avenue, Hucknall Torkard, Notts.

JOURNEYMAN, Inside.—Age 22; strong, active. Seven years' experience In and Outdoors. Well recommended.—GEO. GARWOOD, 2, Smart's Lane, Loughton, Essex.

JOURNEYMAN under Foreman, Inside, or GARDENER (Second) in smaller establishment, Inside and Out.—Age 23; good character from all previous places. Good experience.—A. EASTAFF, Milton Bryant, Woburn, Beds.

IMPROVER in Nursery.—Age 22; ten years Inside and Out; permanency; good references.—W. H. BAKER, Fir Grove Cottages, Grove Place, Weybridge, Surrey.

IMPROVER (Inside and Out).—Age 19; three years' excellent character from past and present employers. Strong and willing.—E. ALLWRIGHT, Greys, Henley-on-Thames.

IMPROVER, in Garden.—To live in bothy preferred. Good references.—J. PERFECT, Stanley Cottage, Roxeth, Harrow, Middlesex.

IMPROVER.—I should be glad to hear of situation for particularly steady youth as above. Two and a-half years' under Glass here.—ROBT. GRINDROD, Whitfield, Tram Inn, R.S.O., Hereford.

IMPROVER.—Age 17; desires situation in Private Place, Inside and Out. Nine months' character, Bothy preferred.—GALE4, 75, High Street, Uxbridge.

IMPROVER, in the Garden, Inside and Out.—Age 20; one year and ten months in last situation; four years previous. Can be well recommended.—G. CORPS, Empshott, West Liss, Hants.

IMPROVER, Inside or Out, or UNDER, where two or more are kept. Strong, willing. Four years' experience; good character.—E. L., Stone House Farm, Brimpton, Reading, Berks.

IMPROVER.—Wanted, by a strong, willing Youth, age 18, a situation Inside and Out. Bothy preferred.—HEAD GARDENER, Manor House, Effingham, Leatherhead.

IMPROVER, in a Gentleman's place.—Mr. FLEMING, Head Gardener, Weelsby Old Hall, Grimsby, Lincolnshire, wishes to recommend a young man (age 19) as above. Has had five and a half years' experience Inside and Out.—Apply as above.

IMPROVER, Inside, or Inside and Out; age 19.—W. LEWIS, Lythrop Gardens, Thame, would be glad to recommend a young Man as above. Good character. Bothy preferred.

IMPROVER, in good establishment.—A youth (age 17); two years' good character from present employer. Would pay small premium.—ALBERT BLAIN, Church Street, St. Albans.

IMPROVER, in the Houses.—Age 19; two years' good character from present place. Bothy preferred.—W. PLAW, Cedar Court Garden, Roehampton, S.W.

IMPROVER; age 16.—A. BATEMAN, Gardener, Brixworth Hall, near Northampton, would be pleased to recommend E. Carman, to any Gardener requiring a steady and honest lad.

IMPROVER.—Age 19; three years' experience Inside and Out. Good character. Bothy preferred. Good premium.—ARTHUR JOHNSON, 3, Jackson Street, Besses-o'-th'-Barn, Manchester.

IMPROVER.—A Gardener's Son seeks re-engagement in a Gentleman's Establishment; six years' experience, including the Royal Gardens, Kew. Anxious to improve. Highly recommended.—B., 3, Gloucester Terrace, Kew.

IMPROVER in the Houses.—Age 19; three years' experience Inside and Out at last situation. Well recommended. Bothy preferred.—H. CHESTER, Combe Mavis, Lower Camden, Chislehurst, Kent.

IMPROVER, under Head Gardener.—Four years' experience under Glass. Excellent character.—J. W., The Gardens, Caverswall Castle, Blythe Bridge, Stoke-on-Trent.

IMPROVER.—ADVERTISER desires a situation in a Private Establishment, under a Foreman. Age 19; strong, active, and willing. Four years' experience.—F. FORD, Essex Road Nursery, Hoddesdon.

IMPROVER.—Age 17, seeks situation in private establishment. Inside; experienced Inside and Out. Good character; bothy preferred.—C. FRANKLIN, Oak Hill Gardens, East Barnet, Herts.

IMPROVER.—Age 18; CHARLES ENSOLL, Elford's Gardens, Hawkhurst, would be pleased to recommend a strong, active Youth as above; four years present place.

MR. PARKER, Nurseryman, East Finchley, can recommend an active, strong Man, age 24; seven years' good experience in Nursery-work. Please send offers to—L. KIEHL, 28, Salisbury Road, Upper Holloway, London, N.

TO HEAD GARDENERS, &c.—Advertiser (age 19), seeks situation in good establishment Inside, or Inside and Out. Four years' experience with Pines, Vines, Stove and Greenhouse Plants, Melons, Cucumbers, and the general routine of Garden Work. Highly recommended by present employer. Bothy preferred.—G. HOOK, Velindra Gardens, Whitchurch, Cardiff.

TO GARDENERS.—Youth, age 18, seeks situation in private establishment, Inside or Inside and Out; good character; well recommended; strong and willing.—J. C. BETTESWORTH, Highworth, South Hayling, Havant.

TO GARDENERS.—Youth, age 19, requires a situation in a good establishment; five years' experience; good references; bothy preferred.—A. G. WATSON, South Elkington, Louth, Lincs.

TO GARDENERS.—Situation wanted under a good Gardener or FOREMAN, by a young man (age 20). Well experienced Inside and Out. Three years' highest character.—G. HUCKLE, Barton Square, Ely, Cambs.

TO GARDENERS, &c.—Head Gardener wishes to recommend a young Man, age 20, Inside and Out.—W. MORGAN, Morven Park, Potter's Bar.

TO NURSERYMEN or GARDENERS.—An active and willing young Man seeks permanent situation. Has been fifteen years in small Florist and noted Rose Nursery. Also had some experience in Jobbing Gardening. Could make himself very useful among Out and Indoor Roses, &c. Good Budder. Willing to be useful and obedient.—A. RULTON, Woollard Street, Waltham Abbey, Essex.

TO NURSERYMEN.—Situation wanted in a Market Nursery where Ferns, Chrysanthemums, Bedding Plants, are grown. Accustomed to brisk trade. Wages £1. Age 25.—V. B., 41, Wellington Street, Strand, London.

TO NURSERYMEN, &c.—Wanted, by young man (age 21), situation in Nursery or Garden, to learn business. Has knowledge of Land Surveying. Good scholar.—T. F., 29, Noyna Road, Upper Tooting, London.

TO NURSERYMEN.—Situation wanted (age 28) well up in Palms, Ferns and Softwooded plant growing.—M., 28, Wyerhall Road, Tanners End, Edmonton.

TO NURSERYMEN, &c.—Situation wanted by a young Man as Second in a good Florist's, and Retail Plant Nursery.—For particulars, apply to FOREMAN, The Nursery, Teddington, Middlesex.

TO NURSERYMEN and OTHERS.—IMPROVER seeks situation. Been used to Cucumbers, Tomatos, Chrysanthemums, &c.—Apply A. HILLARY, 8, Sultan Road, Emsworth.

TO MARKET NURSERYMEN.—Situation wanted by a young Man, age 24.—Ten years' experience in Grapes, Cucumbers, Tomatos, Melons, and general pot Stuff. Last five years with one of the largest growers for the London market.—X. Y. Z., Mr. Bennison, Newsagent, Enfield Wash, Middlesex.

TO MARKET GROWERS.—Situation wanted by a young Man, age 22. Experienced in Vines, Chrysanthemums, Melons, Carnations, &c. Good references and character.—A. W., 41, Wellington Street, Strand, W.C.

TO NURSERYMAN and FLORISTS.—Experienced young man (age 23). Quick at Making up, decorating, &c. Sound knowledge of General Nursery-work; good references.—A. SAUNDERS, 4, North Road, Highgate.

TO NURSERYMEN.—Situation wanted, in Market Nursery. Used to Roses, Ferns, Bouvardias, Tomatos, Cucumbers, and the general routine of the Trade.—S. HALL, 3, Alma Terrace, Park Road, Norbiton, Surrey.

TO SEED GROWERS, AUCTIONEERS, &c.—ADVERTISER is desirous of obtaining a situation Has had about six years' experience at Farming, two at the Royal Agricultural College. Nominal salary. Would pay for board. Slight office experience.—"RUS," Deacon's, Leadenhall Street, London, E.C.

ROCKWORKER, FERNERY FITTER, &c.—Knowledge of Ferns, Aquatics, Aquaria, &c. Good testimonials for Work recently carried out.—W. J. C., 125, Portobello Road, Bayswater, London, W.

PAINTER, GLAZIER, PAPER-HANGER, &c.—Situation wanted, on an Estate as above. Four years on last place. Character will bear the strictest investigation.—R., Mr. Oldring, 231, Broadway, Bexley Heath, Kent.

OVERHEARD IN A 'BUS.—"Sir, you are a clumsy fellow—you trod on my foot." "I am extremely sorry—I hope I did not hurt you very much." The soft answer turned away the other's wrath, and even produced an apology. "Oh, no, not very much—you must excuse me, I am a little irritable—fact is, out of sorts, liver, biliousness, and that sort of thing, you know—thoroughly wretched." "My dear sir, of course I excuse you, but why don't you take something?" "Tried everything—no good." "Nonsense, you haven't tried HOLLOWAY'S PILLS, I know—they never fail in cases like yours." "Gad! I never thought of 'em. By Jove, I'll try 'em at once. Hi! conductor, stop the 'bus."

GREEN'S PATENT "SILENS MESSOR" AND "NEW MONARCH"
ROLLING AND COLLECTING MACHINES FOR 1895.

The Winners of every Highest Prize in all cases of competition, and the only Mowers in **constant** *use*
at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by— They are the first, foremost, and best in the world.
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS.
The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,
And most of the NOBILITY, CLERGY, and GENTRY of the United Kingdom.

The Queen's Head Gardener, Mr. OWEN THOMAS, writing from the Royal Gardens, Windsor, to Messrs. GREEN on January 17, 1894, says:—"I have pleasure in saying that both at Chatsworth and at the Royal Gardens my men have constantly had your Lawn Mowers in use for many years—Horse, Pony, and Hand power—and one and all of these Machines have done first-class work, and given every satisfaction. Not only is the workmanship and material in your Machines most excellent, as is proved by the fact of some of the Horse Lawn Mowers having been in use here for upwards of thirty years; but combined with good workmanship is the further important recommendation that they are of very light and easy draught." And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

Upwards of 211,000 of these Machines have been Sold since they were first introduced in the year 1856.

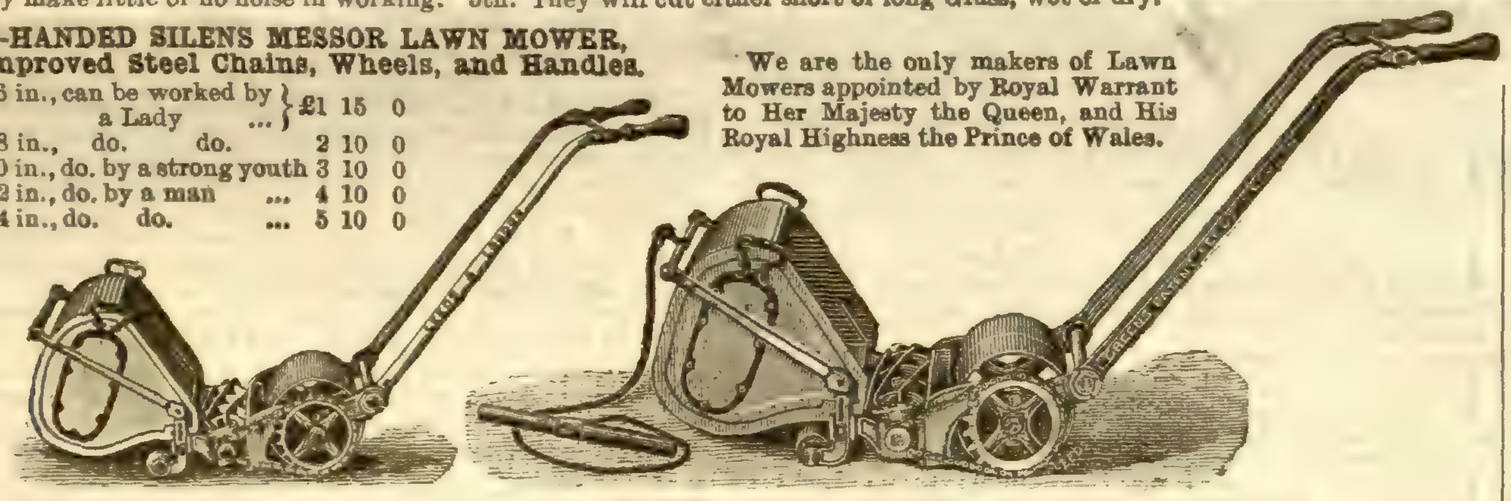
They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER,
With Improved Steel Chains, Wheels, and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15	0
To cut 8 in., do. do.	2	10	0
To cut 10 in., do. by a strong youth	3	10	0
To cut 12 in., do. by a man ...	4	10	0
To cut 14 in., do. do. ...	5	10	0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



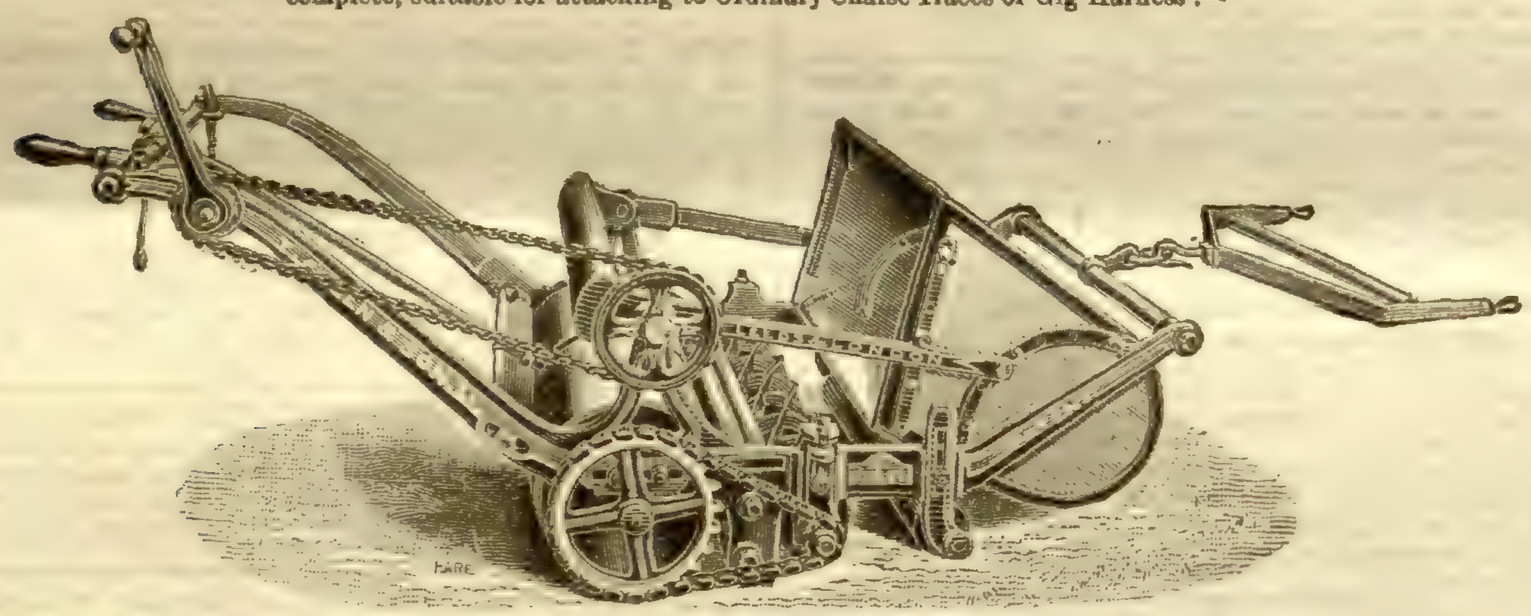
DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£6	10	0
To cut 18 inches, do. man and boy...	7	10	0
To cut 20 inches, do. do. ...	8	0	0
*To cut 22 inches, can be worked by two men	£8	10	0
*To cut 24 inches, do. do. ...	9	0	0

* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

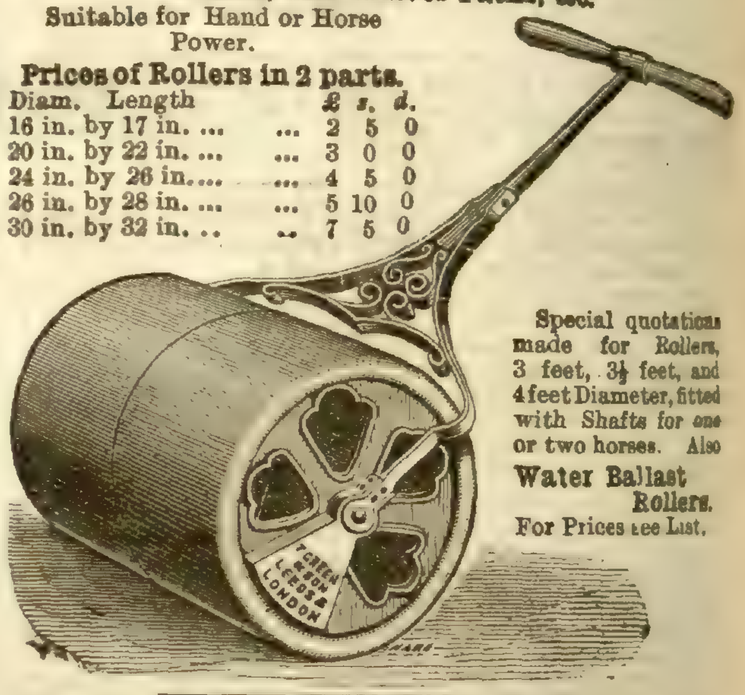
The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

REDUCED PRICES OF
GREEN'S Patent ROLLERS,
For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam. Length	£	s.	d.
16 in. by 17 in.	2	5	0
20 in. by 22 in.	3	0	0
24 in. by 26 in.... ...	4	5	0
26 in. by 28 in.	5	10	0
30 in. by 32 in.	7	5	0



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NOTICE TO ADVERTISERS.

Friday next, *April* 12, *being* Good Friday, *the "*Gardeners' Chronicle*" will be published on* Thursday, *April* 11.

Advertisements *for* next week *must therefore reach the Office not* later *than* Wednesday Morning, *April* 10.

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H. CANNELL and SONS had the honour of exhibiting at the Temple Great Show, 1894, the finest plants yet shown of these extremely handsome flowering plants; for cut flowers they are amongst the choicest, blooming all the summer under easy and ordinary cultivation. Good bold seed of our own saving, 2s. 6d., 3s. 6d., and 5s. per packet.

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CARNATIONS, Seedlings, from best named varieties, 3s. 6d. per dozen; 25s. per 100. Packing and carriage free. Send for CATALOGUE, post-free.

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Terms, Cash with Order.

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SALES BY AUCTION.

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GREAT SALE of EVERGREENS and SHRUBS.

A Grand Collection of 4000 Choice named Standard, HALF-STANDARD, DWARF, CLIMBING, and other ROSES, from celebrated

ENGLISH,
FRENCH,
GERMAN,
and DUTCH GROWERS,

comprising a splendid assortment of the NEWEST and BEST SORTS.

A Importation of Beautifully-grown Ornamental EVERGREEN TREES and SHRUBS, and FLOWERING TREES and SHRUBS, from Holland.

A Surplus Stock of well-grown English Small Orna-MENTAL SHRUBS, consisting of a large variety of EVERGREENS and CONIFERS, of all sorts and sizes. FRUIT TREES, &c.

A Small Collection of well-grown Palms, and 60 Ken-TIAS, ARAUCARIAS, &c., from Ghent, BEGONIAS, GLOXINIAS, &c.

Also

A Splendid Collection of Choice Border Plants, CLEMATIS and other CLIMBERS, and LILIUM AURATUM from Japan.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 10, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Monday Next.

200 STANDARD and 450 DWARF ROSES,

Hardy BORDER PLANTS, WALLFLOWERS, GLADIOLI, GAILLARDIAS, TUBEROSES, home grown and imported LILIES, SPIRÆAS, Double and Single BEGONIAS, 70 lots of Choice FERNS, PALMS, ROSES, and GREENHOUSE PLANTS; Wooden Trellis, Flat and Half Round, &c.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, April 8, at Twelve o'Clock.

On view Morning of Sale, and Catalogues had.

Tuesday Next.

By Order of Messrs. F. Horsman & Co.

An importation of ODONTOGLOSSUM CRISPUM (true Pacho type), collected by Mr. John Carder, together with Established ORCHIDS, ODONTOGLOSSUMS, CATTLEYAS, ONCIDIUMS, DENDROBIUMS, &c.

Also 200 Lots ESTABLISHED ORDERS, including CYPRIPEDIUM SEEDLINGS, and others in great variety (another property). BROUGHTONIA SANGUINEA, Green-tree FROGS, ORCHIDS in FLOWER and BUD, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, April 9, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, April 9.

BY ORDER OF MESSRS. HUGH LOW & CO.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on TUESDAY NEXT, April 9, at half-past 12 o'Clock, at their Central Sale Rooms, 67 and 68, Cheapside, E.C.—

100 LOTS

OF SPECIALLY SELECTED PLANTS of

CATTLEYA MOSSIÆ,

Just received per R.M.S. "Don." They are the "Cream" of a very large importation, and their condition is everything that could be desired. At the same time will be offered imported plants of CYPRIPEDIUM HIRSUTISSIMUM, C. ROTHSCHILDIANUM, C. SPECIES from Mount Kina Balu, probably new; DENDROBIUM CRASSINODE, D. GRATIOSISSIMUM, D. HILDEBRANDI, D. WARDIANUM GIGANTEUM, and other choice ORCHIDS.

On view morning of Sale, and Catalogues had.

The Selwood Collection of Established Orchids.

PRELIMINARY ANNOUNCEMENT of an unusually IMPORTANT SALE, by order of the Executors of the late G. D. Owen, Esq., without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on WEDNESDAY, April 24, and FOLLOWING DAYS, on the premises, Selwood, near Rotherham, Yorkshire, the above valuable collection of Established Orchids. The collection was formed by the late Mr. Owen, with great care and judgment, regardless of expense, and, as is well known, it is celebrated for the richness of the varieties of the plants, many having secured First-class certificates and Awards of Merit.

A List of some of the principal Plants appeared in this paper on March 23.

The Plants are in the best possible condition, none will be sold privately before the Sale, and the whole will be offered entirely without reserve.

Catalogues may be obtained of Mr. WATTS, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

Wednesday Next.

LILIUM AURATUM and other LILIES from Japan, 300 STANDARD and 500 DWARF ROSES, TUBEROSES, BEGONIAS, GLADIOLI in variety, Hardy BORDER PLANTS in variety, Hardy CYPRIPEDIUMS, CARNATIONS, Hardy CLIMBERS, DAHLIAS, 30 lots of STOVE and GREENHOUSE PLANTS, together with an Importation of PALM SEEDS, received direct, comprising—

159,500 KENTIA BELMOREANA
167,800 ,, FOSTERIANA
38,000 CORYPHA AUSTRALIS
30,000 COCOS WEDDELIANA

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 10, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The New Yellow Arum Lily "PENTLANDI."

IMPORTANT CONSIGNMENT of 500 BULBS of this New and Beautiful YELLOW CALLA.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received advices of the despatch of this Valuable Consignment, which they will SELL by AUCTION at their Rooms at an early date. The sender writes that he came across them in their flowering season, and thus was able to select the very best and largest-flowered ones. Having collected them himself he states that buyers can put full confidence in what is offered. He calls attention to another painting of it in the *Garden* for Nov. 24.

Further particulars will appear in future advertisements.

This Day, Friday.

LARGE UNRESERVED SALE of a splendid lot of beautifully-grown FOLIAGE and FLOWERING PLANTS, for Decorative and Greenhouse Display, from the well-known Nurseries of Mr. W. Whiteley. Also 500 extra strong Standard ROSES, in great variety, fine bushy heads; a fine lot of Miscellaneous BULBS, for present planting; a number of new GARDEN ROLLERS, double and single cylinders; Green's and other LAWN MOWING MACHINES, all in good working order; and other Goods.

MESSRS. JAMES AND BAXTER will SELL the above, at their Rooms, 35, Temple Street, Birmingham, on FRIDAY, April 5, at 11.30 A.M.

Choice Carnations from Blenheim Palace Gardens.

MESSRS. JAMES AND BAXTER will include in their SALE, THIS DAY, several hundred magnificent CARNATIONS, good bushy plants, in 32's, from the above Gardens. The varieties are of the very best only.

Important Sale of Orchids.

FINE SELECTIONS of CHOICE and RARE ORCHIDS, Established and Imported, the property of Messrs. F. Sander & Co., St. Albans. Fine plants of all the most popular, beautiful, and leading sections in cultivation will be included. The plants will be SOLD by AUCTION, by

MESSRS. JAMES AND BAXTER, 35, Temple Street, Birmingham, on THURSDAY, April 11, at 12 o'Clock prompt. Among other useful and free-flowering kinds, fine plants—specially selected for this Sale—of the following will be offered, Odontoglossum Pescatorei, Burlingtonia fragrans (deliciously scented), Cypripedium bellatulum, Odontoglossum citrosmum, Cattleya dolosa, Dendrobium formosum giganteum, Batemannia Colleyii, Brassavola glauca, fine plants, flowers very large; Peristeria aspersa, Dendrobium Venus, a brightly-coloured and very fine hybrid; D. thyrsiflorum, Coryanthes leucocorys, Oncidium Cavendishianum, the gorgeous Cattleya Rex, C. O'Brieniana, Saccolabium guttatum, Dendrobium suavissimum, the beautiful winter-flowering Dendrobium Findleyanum, Cœlogyne Dayana (the Garland or Necklace Orchid), Peristeria elata—the Dove Orchid, Masdevallia Harryana, Cattleya selutina, Sophonitis grandiflora, Dendrobium Cassiope, D. fimbriatum oculatum, Oncidium Rogersii, Dendrobium densiflorum, D. Leechianum, Lælia anceps, Phaius Wallichii, Anguloa eburnea, A. Clowesii, Trichopilia Galeothiana, and a host of other beautiful, easily grown and charming plants. Besides the Orchids, numbers of choice PALMS will be included. These will prove most serviceable for all decorative purposes. Vigorous plants of the splendid Sander's var. of BOUGAINVILLEA GLABRA will be offered, together with DIPLADENIA ATRO-PURPUREA, PANCRATIUM GUIANENSE, ARISÆMA FIMBRIATUM, &c.

All the plants are in grand health and condition. Many will be in flower or bud, and will form an attractive feature of the Sale.

The whole may be viewed the morning of, and the afternoon prior to, the Sale. Catalogues to be obtained of the Auctioneers.

WANTED, to Rent, about 200 feet run of GLASS, suitable for Cucumber and Tomato Growing, within 15 miles of Covent Garden.—Particulars to N. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FREEHOLD NURSERY, S.E., for SALE.—Well-situated. Dwelling-house, seven large rooms; Five Greenhouses, fitted with Heating Apparatus, well Stocked; to be had on easy terms.

BROWNE, Ramsey Villa, Weymouth Street, Watford.

TO BE SOLD, a COMPACT NURSERY, as a Going Concern, well situated, near several large Midland Towns: 1000 feet run of Glass and 10 Acres outdoor, all fully stocked with General Stock. Rent low. Advertiser will be glad to answer fully any enquiries. Suit gentleman. Efficient staff.—Write, NURSERY, Box P 52,109, Smith's Advertising Agency, 132, Fleet Street, London, E.C.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses and Propagation-house, heated by hot water, &c.; Stable and Shed. A reasonable offer accepted. Apply to—

W. H., Park Row Nursery, Greenwich.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

TO BE SOLD.—A First-class Freehold FLOWER and FRUIT NURSERY as a going concern. Established fifteen years. Fourteen miles from London; close to station. Fourteen 120-feet modern Glasshouses efficiently heated and ventilated. Two 100-ft. cold Pits; choice Vines. Capital residence, stabling, &c. In all about 3 acres. Price £5250. Apply to BOREHAM & CO., Mowbray House, Norfolk Street, Strand, W.C.

FOR SALE, Large VINERY, containing 1400 yards super., or thereabouts, of Glasswork; also 160 Vines, Peaches, and Nectarine trees. Offers wanted for the whole, to be cleared away by the purchaser. Apply Castle Mills, Idle, near Bradford.

COMPACT High-class General SEED and BULB BUSINESS for SALE. Retail doing in all Sundries. Shop in grand position, in large fashionable town.—Particulars of J. L., 41, Wellington Street, Strand, W.C.

FLORIST, FRUIT and JOBBING BUSINESS, doing good trade. Eighteen years' Lease. Seed and Bulb Trade could be added with advantage. Excellent Shop, and good dwelling accommodation, with about 300 feet run of Glass well stocked with Plants. Stabling for three horses. Rent £45. Part of Stabling let off at £5. Good reason for selling. Price for Stock and Goodwill £300.

T. P., 41, Wellington Street, Strand, W.C.

TO LET.—TWO Valuable NURSERIES, suitable for Beginners or others. Situate within easy distance of London, at low rents. £20 and £30 per annum. Capital opportunity for an energetic man. Full particulars of ROBERT PECKITT, 45, Plumstead Road, S.E.

EALING (best part).—TO LET, on twenty-one years repairing lease, a Six-roomed New House with about ¾ of an acre of splendid ground; formerly a Nursery doing large retail trade. No glass. Rent £52 per annum.—Apply, 4, Ripley Villas, Castle Bar Road, Ealing.

TO LET, a WALLED GARDEN, about 1½ acre, well stocked with Fruit Trees and Plants, with Vinery, Peach-house, Stove and Greenhouse, all heated from one boiler; Potting-shed, &c.; comfortable Dwelling-house, Piggeries, and Out-buildings; also 20 acres of excellent Pasture-land (partly Orchard), situate in a village, 5½ miles from Craven Arms, and 8 miles from Ludlow.—For rent and particulars, apply to Mr. WYLEY, 2, School Chambers, Shrewsbury.

MIDDLESEX.—TO LET, in best part of Market Garden District, 15 miles from London, 1½ mile main line station, 160 Acres (50 of which are old pasture), with 10-room well-built House, and commodious Buildings. Suitable for Market Garden and Dairy-farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

FOR SALE, in 2 Vols., price £3 10s., VEITCH'S MANUAL of Orchidaceous Plants. Cost Five Guineas a few months ago.—Address, ONCIDIUM, 41, Wellington Street, Strand, W.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

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FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

OFFERS WANTED for 200 Royal Sovereign STRAWBERRY RUNNERS; also a quantity of Dwarf ROSES and Single BEGONIA BULBS, Laing's strain.

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TOMATO PLANTS.—Webb's Regina, strong plants, 10s. per 100. Cash with order.

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DAHLIA PLANTS.—Show, Fancy, Cactus, Pompon, or Single. Finest named varieties, 10, 2s.; 24, 4s. 6d. PANSY and VIOLA PLANTS, choice named sorts, 12, 1s. 6d.; 24, 2s. 9d. free. Cash with order.

WILLIAM JACKSON, Florist, Kettleshulme, Whaleybridge, Stockport.

Strawberries and Raspberries.

H. CANNELL & SONS have all the best new and old sorts in great quantities, in the very finest condition, and at very low prices; orders solicited.

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WINTER-FLOWERING CARNATIONS for Market Growers.—La Neige, pure white, remarkably free, 3s. per dozen, 10s. per 100, £4 10s. per 1000. William Scott, fine cerise-pink, very profitable and free flowering, 5s. per dozen, 30s. per 100. Duke of York (May), largest crimson, grand for winter work, 6s. per dozen. Uriah Pike, fine deep crimson, 5s. per dozen, 32s. 6d. per 100. Miss Joliffe Improved, fine flesh-pink, 12s. per 100, £5 per 1000. All well-rooted stuff, fit for 3-inch pots. Cash with order.

CRANE AND CLARKE, The Nurseries, March, Cambs.

Lobelias, Verbenas, Marguerites, Musk, &c.

JOHN SOLOMON offers, as in former years, in thorough good stuff:—LOBELIA, Emperor William and Pumila magnifica, best blues, at 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. VERBENAS, white, scarlet, purple, and pink, 6s. per 100, 50s. per 1000, all warranted true from cuttings. MARGUERITES, best white and Feu d'Or, yellow, 5s. per 100. Harrison's MUSK, 5s. per 100. HELIOTROPES, FUCHSIAS, and COLEUS, best Market sorts, 5s. per 100. Packing included for cash with order.—Oak Nursery, Forest Side, Chingford, E.

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RASPAIL, 2s. 6d. per 100, 20s. per 1000.
MADAME CROUSSE, 3s. per 100, 25s. per 1000.
For cash with order, to—
T. CARRUTHERS, Reigate, Surrey.

LIVE SPHAGNUM MOSS, 5s. per bag.
HARDY BRITISH FERNS, Osmunda, Shield, rigida, montana, spinulosa, Dilatata, Athyrium, Male, Scolopendrium, Beech, Oak, Parsley, Robertianum, Asplenium, &c., 20 large roots, 2s. 6d.; 50, 5s. 6d.; 100, 10s. Ferns, carriage paid, named.—JOHN BYRNE, Fellside, Kendal.

BURMESE LILIES.

GRAND IMPORTATION JUST RECEIVED,

IN SPLENDID CONDITION.

Comprising **L. WALLICHIANUM SUPERBUM (SULPHUREUM), L. NEPALENSE, L. LOWI** (very rare), **L. BAKERI** (new, white flowers), &c. As these Lilies are found growing together, no attempt has been made to keep them separate; but, from the Collector's descriptions, we have no doubt that all the above varieties will be found amongst them, and possibly others, especially from the smaller sizes.

Fine Bulbs, 8s. per dozen; Grand Bulbs (7 to 8 inch), 15s. per dozen; Magnificent Bulbs (9 to 10 inch), 2s. 6d. each; 24s. per dozen.

SPECIAL OFFER, with full particulars, Just Out.

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NEW PLANT CATALOGUE (No. 133) FOR 1895.

WM. CLIBRAN & SON

WILL BE PLEASED TO SEND THEIR NEW CATALOGUE of—

STOVE and GREENHOUSE PLANTS,
SOFT-WOODED PLANTS,
HARDY CLIMBERS,
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TEA ROSES, DAHLIAS,
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Post-free for 3 stamps. 152 *pages, with full descriptions of all the FINEST NOVELTIES, and the BEST OLD VARIETIES of the above-named Plants.*

OLDFIELD NURSERIES, ALTRINCHAM.

Also at MANCHESTER, and LLANDUDNO JUNCTION.

EXHIBITIONS.

WEST OF ENGLAND CHRYSANTHEMUM SOCIETY.
President: THE EARL OF MORLEY.

The ANNUAL EXHIBITION will be held in the PLYMOUTH GUILDHALL, on TUESDAY and WEDNESDAY, November 12 and 13 next. The Prize Schedules are now ready, and may be had, together with all particulars, from the Honorary Secretary.

4, North Hill, Plymouth. CHAS. WILSON.

EDINBURGH CHRYSANTHEMUM SHOW
NOVEMBER 14, 15, and 16.
Schedules on application to— ROBERT LAIRD,
17, South Frederick Street, Edinburgh.

BIRMINGHAM

BOTANICAL and HORTICULTURAL SOCIETY
(FOUNDED, 1829).

A DAFFODIL SHOW
will be held in the Society's
BOTANICAL GARDENS, EDGBASTON,
ON
WEDNESDAY and THURSDAY, APRIL 24 & 25, 1895
(Postponed from April 9 and 10, through lateness of season).

Schedules can be obtained from the Curator, Mr. W. B. LATHAM, at the Gardens.

Special Offer.

STRAWBERRY ROYAL SOVEREIGN.—Well-rooted Runners, 2s. per doz., 15s. per 100. For cash with order.
GREEN AND LAYCOCK, Catchpit Nurseries, N. Walsham.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

CARNATIONS.—Reynolds Hole, 30s.; Raby Castle, 20s.; Mrs. Muir, 20s.; Hunting Pink (new vivid scarlet), 20s. per 100.
Crimson and white CLOVES, 14s.; Hales' (crimson), 20s. per 100. Double PRIMROSES, white, 14s.; lilac, 15s.; yellow, 15s.; red, 20s.; purple, 30s. per 100. Giant POLYANTHUS, 6s. per 100. PYRETHRUMS, PHLOXES, 20s. per 100.
HERBACEOUS PLANTS. Lists.
HOPKINS, Mere, Knutsford.

TUESDAY NEXT, April 9. By order of—

HUGH LOW & CO.

MESSRS. PROTHEROE & MORRIS will include in their SALE on TUESDAY NEXT,
at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C.

100 LOTS OF SPECIALLY SELECTED PLANTS OF CATTLEYA MOSSIÆ,

Just received, per R.M.S. *Don*.
They are the CREAM of a very large importation, and their condition is everything that could be desired.

At the same time will be offered imported plants of CYPRIPEDIUM HIRSUTISSIMUM, C. ROTHSCHILDIANUM, C. SPECIES FROM MOUNT KINA BALU, probably new; DENDROBIUM CRASSINODE, D. GRATIOSISSIMUM, D. HILDEBRANDII, D. WARDIANUM GIGANTEUM, and other Choice ORCHIDS.

ON VIEW MORNING OF SALE, AND CATALOGUES HAD.

EFFRA HALL, BRIXTON.

Adjoining Free Library, corner of Coldharbour Lane, opposite Acre Lane, and 1 minute from the Bon Marché. Trams from Westminster, Waterloo, and Blackfriars Bridge pass the door.

APRIL 4, 10, and 18, 1895.

MESSRS. PROTHEROE & MORRIS

Have received instructions to hold Three Great Auction Sales, at the Effra Hall, upon each of the above dates, commencing at 11 o'Clock sharp each day, when the Surplus Stocks of several Horticultural Builders and Nurserymen will be offered. Amongst other goods will be Catalogued at each Sale—

About 150 **LEAN-TO and SPAN-ROOF PORTABLE GREENHOUSES and CONSERVATORIES**, various sizes, entirely new, with everything complete, ready for erection by any handy-man or Gardener in a few hours. (Every house will be erected, and on view.)

About 30 **POULTRY HOUSES**, new and complete.

About 50 **CUCUMBER FRAMES**, new and complete.

About 250 **GARDEN LIGHTS**, glazed and unglazed, various sizes.

And Several Thousand **PLANTS, FRUIT TREES**, &c., put up in large and small lots, to suit the Trade and Amateur Buyers.

CATALOGUES may be had post-free upon application—Salesman's Office, Effra Hall, Brixton; or of the Auctioneers, 67 and 68, Cheapside, London, E.C. All goods may be viewed the day prior and morning of Sale.

For the convenience of Country Buyers, Goods will be Packed into Railway Company's or Carter, Paterson, & Co.'s Vans free.

Dobbie's Violas

2/6 PER DOZEN — FLORISTS TO THE QUEEN ROTHESAY.

OUR VIOLAS are unsurpassed. Satisfaction to everyone guaranteed. One dozen as follows, 2*s.* 6*d.*, post-free; 100 in 50 varieties, 20*s.* Exceptional value. A. Grant, Bullion, Blue Cloud, Countess of Hopetoun, Duchess of Sutherland, Colleen Bawn, Dorothy Tennant, Picotee, J. B. Riding, Lord Elcho, Violetta, Duchess of Fife, York and Lancaster.

Dobbie's Pansies

3/6 PER DOZEN — FLORISTS TO THE QUEEN ROTHESAY.

THIS is a SAMPLE DOZEN of the grand-named PANSIES which we send for 3*s.* 6*d.*, carriage free; 25*s.* per 100:—Mrs. Mark, Tom Travis, A. Mabel, D. Rennie, Lord Hamilton, George Anderson, Betsy Kelly, Ellen Patterson, D. Morrison, Dr. Bostock, Crimson King, A. Ollar, Lord Rosebery.

Dobbie's Phloxes

3/6 PER DOZEN — FLORISTS TO THE QUEEN ROTHESAY.

EVERYONE CAN GROW, and everyone can enjoy PHLOXES. The following dozen, 3*s.* 6*d.*, post-free; 100 for 21*s.*:—Borsig, Christina, Stuart, Chanzy, Comé ie, D. Syme, Evening Star, Jas. McBride, Jas. Bennett, John Forbes, Madame Praill, Oracle, Venus.

Dobbie's Dahlias

5/- PER DOZEN — FLORISTS TO THE QUEEN ROTHESAY.

WE OFFER the following splendid selection of DAHLIAS, carriage paid, for 5*s.* per dozen; the four dozen, carriage paid, for 18*s.*:—

SHOW and FANCY VARIETIES.—Canary Bird, Colonist, James Cocker, John Walker, Mrs. Gladstone, Mrs. Langtry, Miss Cannell, W. H. Williams, Dandy, Matthew Campbell, Prince Henry, Rev. J. B. M. Camm.

CACTUS.—Apollo (1893), Bertha Mawley (1893), Cannell's Favourite, Countess of Gosford (1893), Countess of Radnor (1893), Delicata, Beauty of Eynsford, Kynerith, Robert Cannell, St. Catherine, Snowflake, Baron Schroder.

POMPONE.—Admiration, E. F. Junker, Bacchus (1893), Crimson Beauty, George Brinckmann, Grace, Lilian, Little Frank (1893), Revenge (1893), Ringdove (1893), Phœbe, Hector.

SINGLES.—Willie Fyfe (1893), Amos Perry, Butterfly, Duke of York, James Cook, Kitty, Eclipse, Chilwell Beauty, Tennyson, White Queen, Marion, Mrs. Grant.

NEW SINGLE CACTUS DAHLIAS.

The best of all for cut flowers. Our new set for 1895, containing 6 most beautiful novelties—a great improvement on our former introductions—carriage paid, for 10*s.* 6*d.*

Twelve splendid varieties of New Single Cactus, our selection, carriage paid, for 5*s.*

DAHLIA CUTTINGS.

We can still supply Dahlia Cuttings till April 15. Our selection, 1*s.* 10*d.* per dozen, post free. All separately named, and packed in wood boxes.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

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NEW CATALOGUE POST FREE
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THE CALIFORNIA VIOLET.

"**The California** is the largest, most fragrant, and most beautifully-coloured of all the Violets."
"**The California Violet** is a New Flower, and the Fairest and Sweetest Blossom in the World."
"**The California Violet** is the most prolific bloomer. Its flowering-season lasts seven months. The average yield is about 350 flowers to a plant."
"**The California**, the Queen of all the Violets."
"The wonderful **California Violet** has frequently twin flowers on a single stem."
"The coming fashionable flower, **The California Violet**, will prove the most profitable to grow."
"The sweetest flower that grows, **The California Violet**. Our patrons are continually increasing the size of their orders for them."
"The greatest Floral Novelty of the century, **The California Violet**."
"**The California Violet**, immeasurably superior in every respect to other varieties."
"The exquisite **California Violet** is the Floral Novelty of the United States. No other Violet is of such extraordinary size and beauty."
"**The California Violet**, with its clearly outlined petals, is the embodiment of graceful beauty. A single plant will produce several hundred flowers of immense size and exquisite fragrance, on stems 10 to 14 inches long. The colour is a clear violet-purple, and does not fade."
"The beautiful **California Violet**, excelling all in the richness and purity of its colour, the fragrance of its perfume, and the delicacy of its form."—*The Examiner*, San Francisco, January 30, 1895.

We have 100,000 **California Violets** on the way, none too many for our orders.

CULTURE.—"**THE CALIFORNIA VIOLET**" is hardy, and should be grown exactly the same as Marie Louise or other Violets, either in cold frames or Violet-houses; or, if planted in the open ground, will bloom in the early fall and spring.

PRICE.—As the European Agents for this new Violet, we are enabled to offer the plants at the following prices: 1*s.* each, 10*s.* 6*d.* per dozen, £4 per 100, £20 per 1000.

PITCHER AND MANDA'S PRIZE CHRYSANTHEMUM SEED, hybridised by hand, and saved only from choice specimen Double Blooms. Seeds saved from exhibition sorts of latest introduction, 2*s.* 6*d.* per packet; seeds saved from general collection, best double types, 1*s.* 6*d.* per packet.

PITCHER AND MANDA, Inc.,
SHORT HILLS, NEW JERSEY, AMERICA.

Wholesale Vegetable and Agricultural Seeds.

H. AND F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of VEGETABLE and AGRICULTURAL SEEDS of 1894 growth, which will compare very favourably with those of other English growers.
SEED-GROWING ESTABLISHMENT, WISBECH.

CARNATIONS.—Best Old Varieties:—Reynolds Hole, Germania, and others, established in 60 pots. Price and varieties.
SEAKALE, Lily White.—Planting roots, from 4*s.* 6*d.* per 100.
Apply, HOSKINS, Stansted Park Gardens, Emsworth, Sussex.

FOR SALE, a COLLECTION of DECORATIVE PLANTS including—Various large Palms; 2 Dracænas, in tubs, 12 feet high; Tree Fern, 10 feet; Camellias, Aspidistras, and 20 Azaleas. All in healthy condition. Owner leaving.
Full particulars of GARDENER, Ivy Cottage, Millfield Lane, Highgate, N.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* per 100; ditto large, in 48's, 10 best selling sorts, 6*s.* per dozen; strong seedlings, 6*s.* per 100, 50*s.* per 1000; Adiantum cuneatum, in 48's, for cutting, 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly, 16*s.* and 20*s.* per 100; Aralias, 10*s.* per 100; store, 5*s.*; Cyperus, Aralias, Grevilleas, in 48's, 6*s.* per dozen; Spiræas, Cinerarias, Marguerites, and Genistas, in bloom, in 48's, 9*s.* per dozen; Ficus, Palms, Dracænas, Ericas, Cyclamen, 12*s.* per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

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SPECIAL OFFER for GENUINE PLUMP FRESH BULBS, to Flower well. Will give complete satisfaction.

	Per doz.	Per 100.
FINE BULBS, up to 9 inches ... ... The above will bear 4 to 6 flowers each	2 0	13 0
GRAND BULBS, 9 to 10 inches ... ... (General size for pots and borders, usually sold by dealers at 5*s.* and 7*s.* 6*d.*)	3 3	20 0
EXTRA SIZE BULBS	6 0	40 0

FINEST POSSIBLE CONDITION.—NOTE PRICES.
Half-dozens at dozen rate; Fifties at one hundred rate.
POSTAGE, 9*d.* per dozen, 6*d.* per half-dozen, and 1*s.* for 50 or 100 EXTRA.
SPECIAL VALUE.—CASES of 150 ASSORTED LILIES for 21*s.*, worth 42*s.*

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LILY LIST free.

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ANTIRRHINUMS, 6*s.* per dozen, 30*s.* per 100.
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DELPHINIUMS, 6*s.* per dozen, 30*s.* per 100.
HARDY BORDER PLANTS, 6*s.* per dozen, 30*s.* per 100.
PANSIES, 3*s.* 6*d.* per dozen, 20*s.* per 100.
VIOLAS, 2*s.* 6*d.* per dozen, 17*s.* 6*d.* per 100.
PENTSTEMONS, 6*s.* per dozen, 30*s.* per 100.
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CATALOGUE, 150 *pages, free on application.*

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300,000 STRONG

RASPBERRY CANES,

At Low Prices per 1000.

BAUMFORTH'S SEEDLING, sample 100	...	...	6*s.* 0*d.*
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Strong Baldwin's Black, Naples, and Red Dutch CURRANT BUSHES; also Lancashire Lad and Crown Bob GOOSEBERRIES, at low prices, on application.

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R. H. BATH, Osborne Farm, Wisbech.

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AUTUMN-SOWN, ONCE TRANSPLANTED.

Strong, in perfect order, neither checked nor drawn.

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WREATH, CROSS, and BOUQUET BOXES,
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Prices on application to—
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NEW OUTDOOR TOMATO.—LAXTON'S "EARLY PROLIFIC;" this variety, raised by crossing our "Open Air" × "Challenger," is a better-shaped, earlier, and most prolific "open-air Tomato." The earliest to ripen out-of-doors, of good shape, very prolific, and undoubtedly THE VARIETY for out-door growth; sealed packets, 1s. 6d. Full Catalogue of the best Vegetable and Flower Seeds, gratis; free carriage.—LAXTON BROTHERS, Bedford.

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RHODODENDRONS, Hybrid named kinds, Choice varieties, 9 to 12 inches, 12s. per doz.; 12 to 15 inches, 15s. per doz.; 15 to 18 inches, 18s. per doz.
RHODODENDRONS. SEEDLINGS, 9 to 12 inches, 4s; 12 to 15 inches, 6s. per doz.; 15 to 18 inches, 8s. per doz.
KALMIA LATIFOLIA, 12 to 15 inches, 8s. per doz.
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W. FROMOW AND SONS, Mason's Nurseries, Windlesham, Bagshot, Surrey; also Chiswick, Hounslow, and Acton Green. Established 1829.

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VEGETABLE SEEDS, the best sorts only. Much valuable information in our CATALOGUE, FREE ON APPLICATION.
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PLANTS.—General Descriptive Catalogue of the best Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. Also Descriptive Catalogue of special collections not detailed in our general catalogue. FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

JACK FROST

Has caused many losses that can be made good in an easy and cheap manner by purchasing the following Bulbs and Plants, which I can strongly recommend as being first-class:—

BEGONIAS (Single).—20,000 grand bulbs, mixed colours, finest ever offered at the price, 3s. per dozen.
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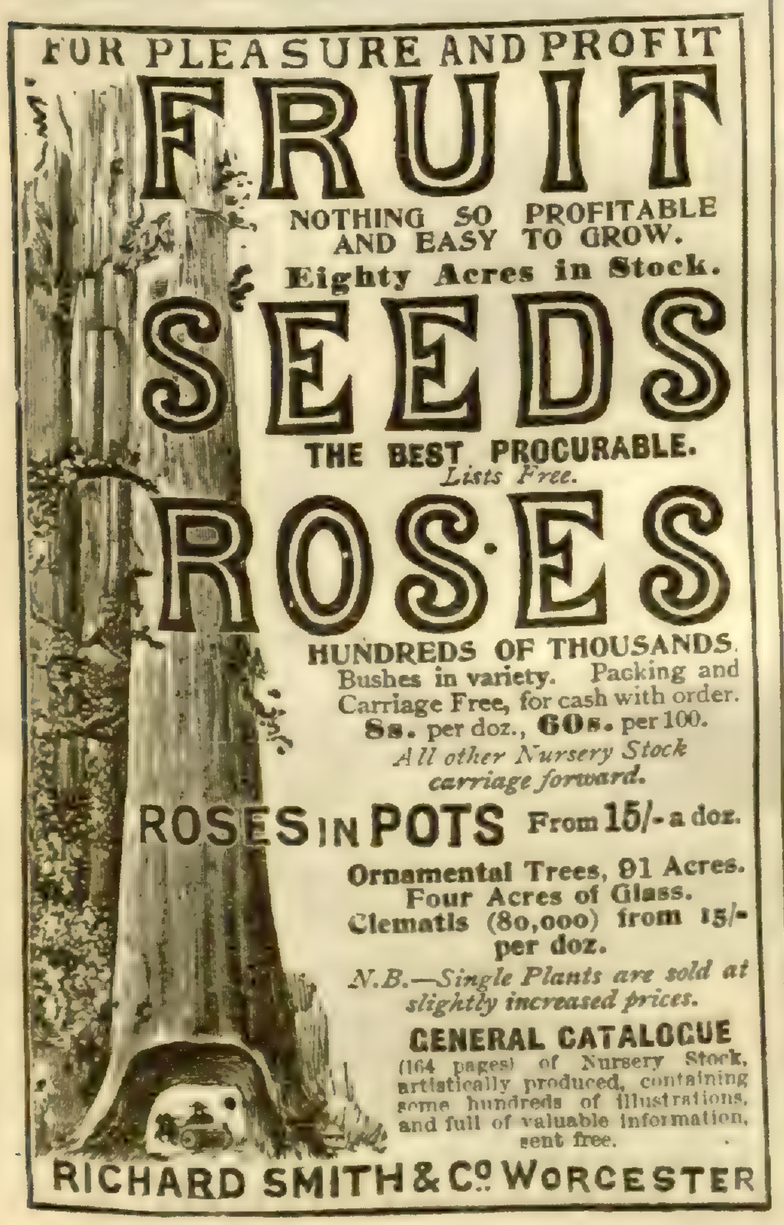
ZONAL PELARGONIUMS.—Best kind only, 6 for 2s. 6d., 12 for 4s.
IVY-LEAF PELARGONIUMS.—A very choice lot, 6 for 2s. 6d., 12 for 4s.
DOUBLE PETUNIAS.—Extra fine new kinds, 6 for 3s. 6d., 12 for 6s. *Send for CATALOGUE, free.*
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham.



CHRYSANTHEMUM Madame Desgranges.—Good Plants, free from disease, 4s. per 100. Cash with Order.—JENKINS, Florist, Hampton Hill, Middlesex.

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ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

STRAWBERRIES — STRAWBERRIES.—Gunton Park and Lord Suffield both gained First-class Certificate, Royal Horticultural Society; 50 of each, 5s., carriage paid. Paxton's Noble and Ruskin, true, 10s. per 1000, any quantity.—W. HORNE, Cliffe, Rochester.

ROSES.—Special Cheap Offer. Everyone should send for my SPRING LIST, containing Novelties in Shrubs and Roses, besides all well-known sorts. Teas, 32s.; Bourbon, 26s.; Hyb. Perpet., 26s.; Noisette, 32s. per 100; 5s. per doz. Lists Free.
FRANCIS G. E. BONNETT, Nurseryman, Heathfield, Sussex.

5,000 CHRYSANTHEMUMS.—Cheap, to clear. Best Market Varieties, Princess Teck, Boule de Neige, Elaine, Mrs. Norman Davies, Fair Maid of Guernsey, Cullingfordii, Mrs. H. Cannell; well rooted, 6s. 6d. per 100.

3,000 TOMATO PLANTS.—Splendid stuff. —Challenger, Empress of India, 8s. per 100.
JAMES GREEN, Reliance Nurseries, March.

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300 TONS BLACK LOAM, first Spit, from an old pasture, cut and stacked last summer, fit for present use, to be sold cheap. Ground wanted for building. Adjoining Great Western Goods Siding.
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THOUSANDS IN USE.

ALL MOWERS SENT ON A MONTH'S TRIAL CARRIAGE PAID.

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The Best in the World. Made in Seven Sizes.
TO BE OBTAINED PROMPTLY FROM ALL IRONMONGERS AND SEEDSMEN. (AVOID IMITATIONS.)
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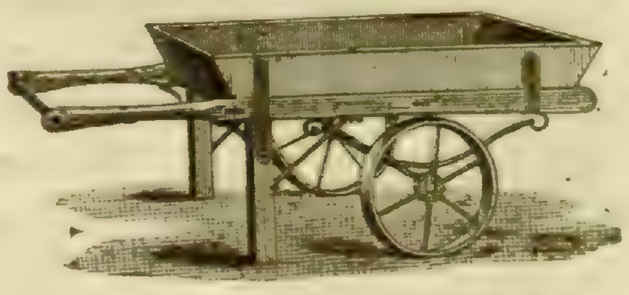

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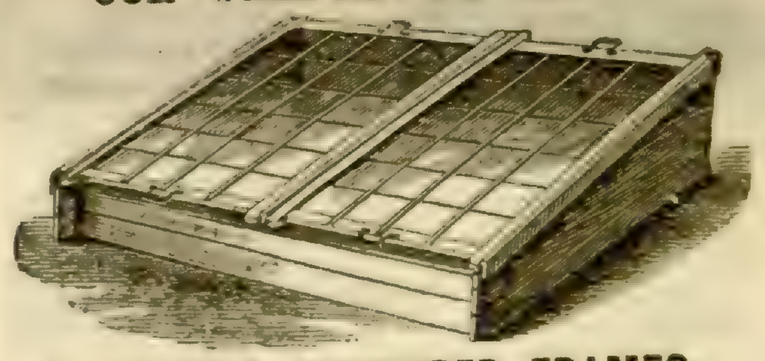

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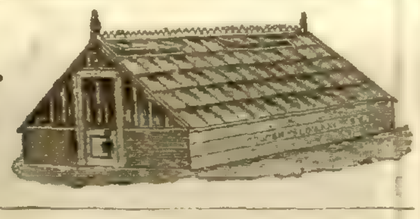

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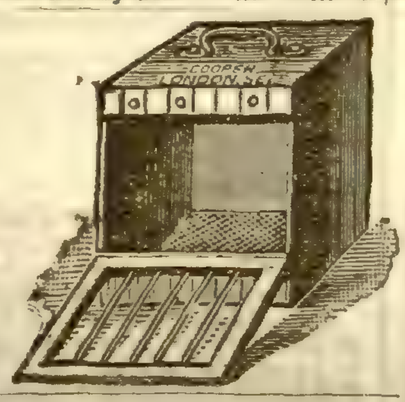

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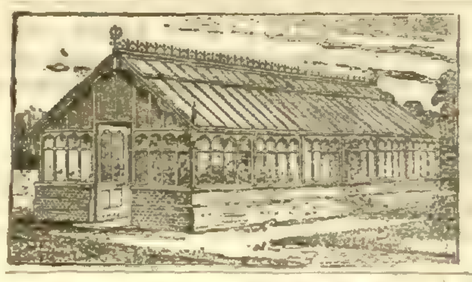

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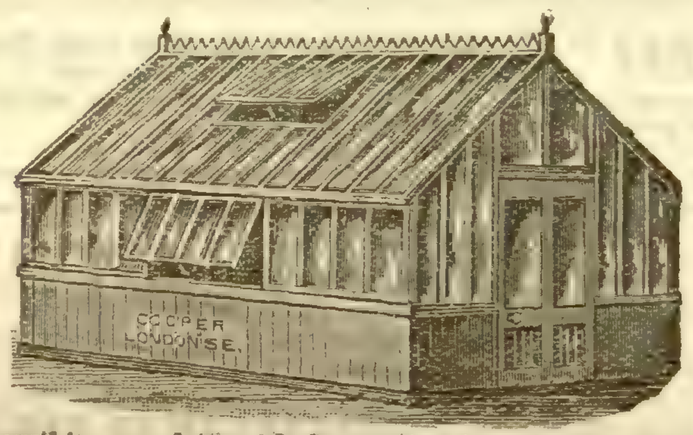

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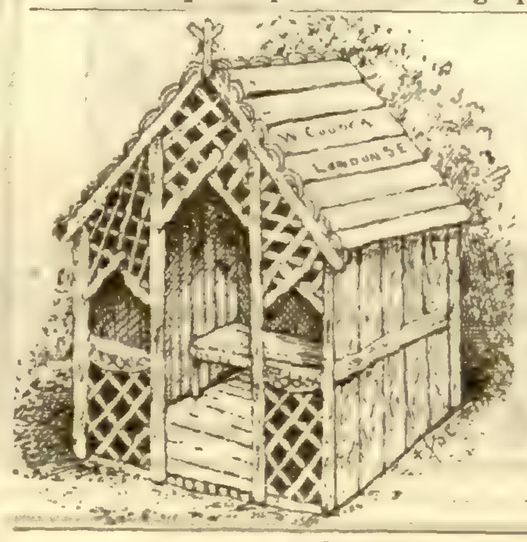

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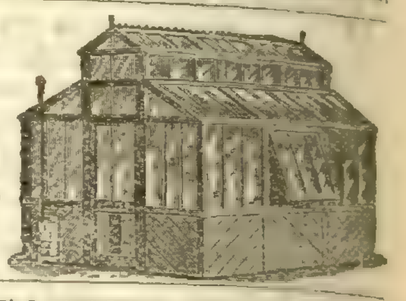

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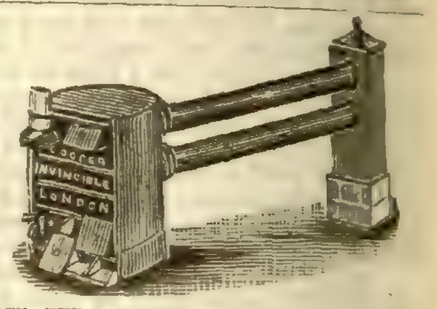

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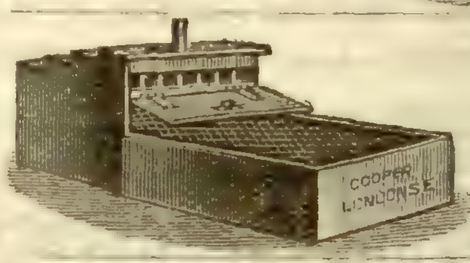

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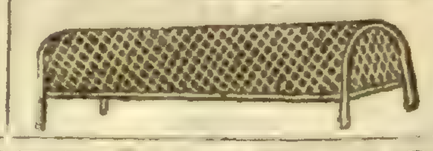

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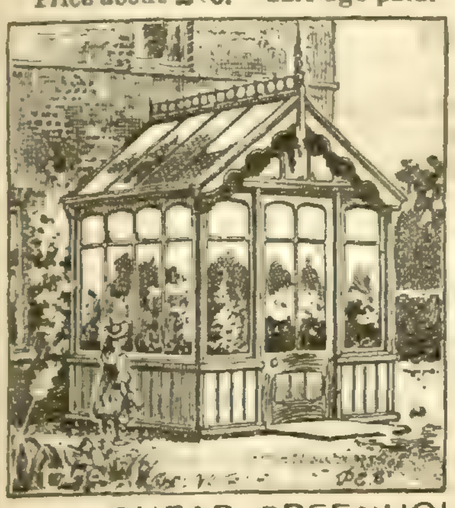

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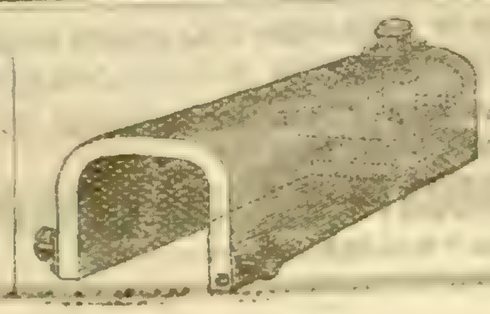

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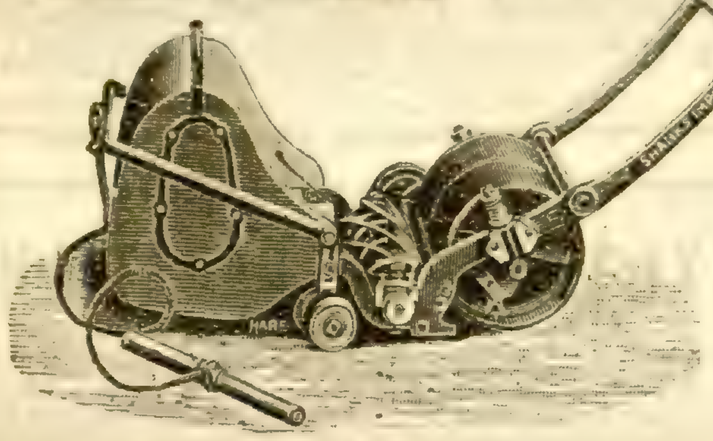

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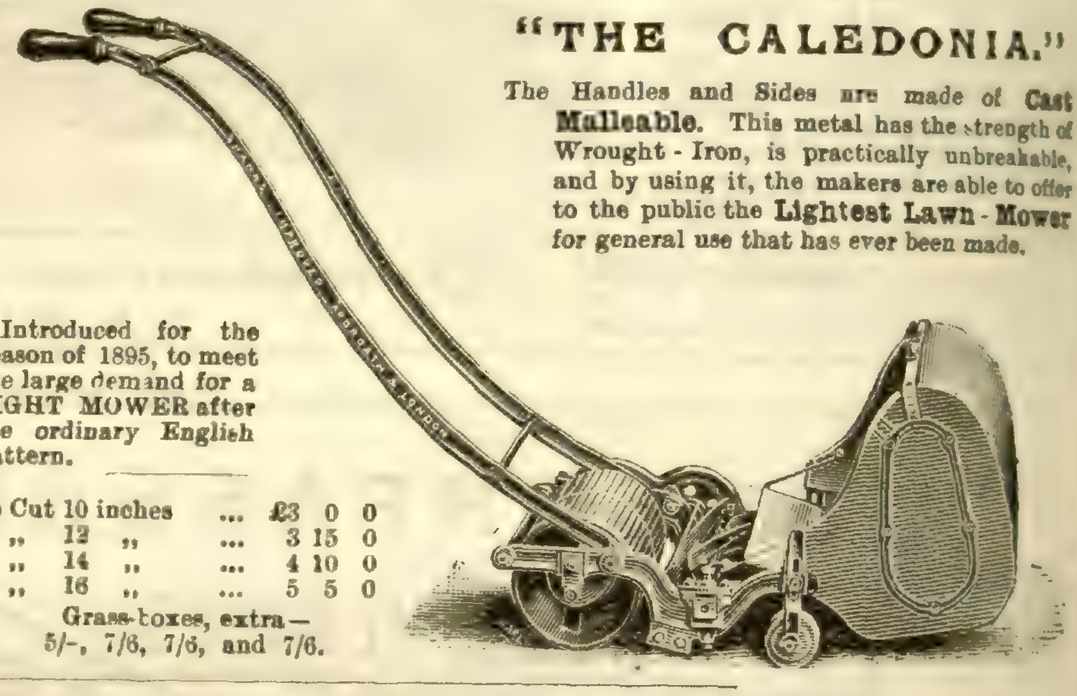

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5/-, 7/6, 7/6, and 7/6.

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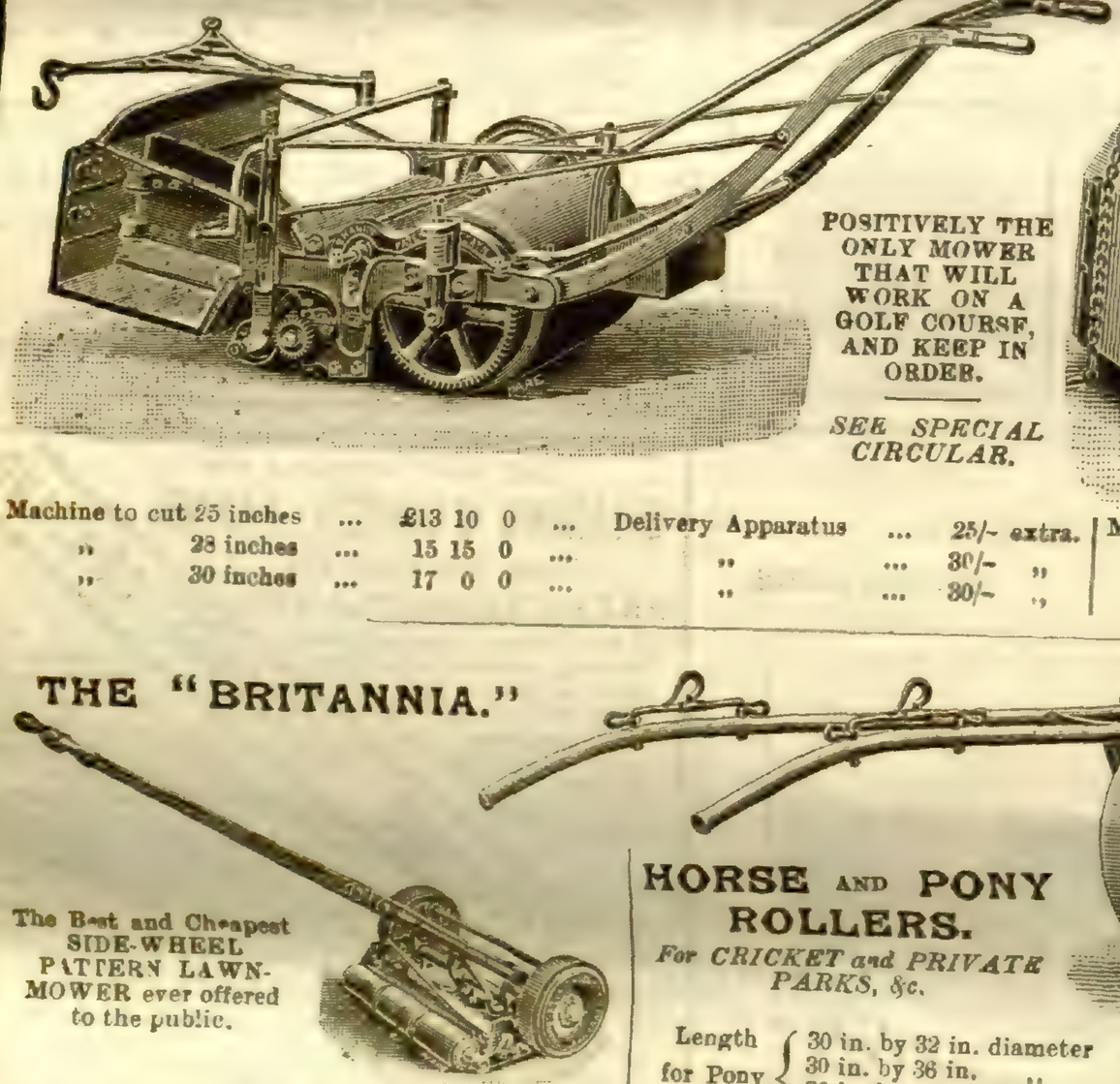

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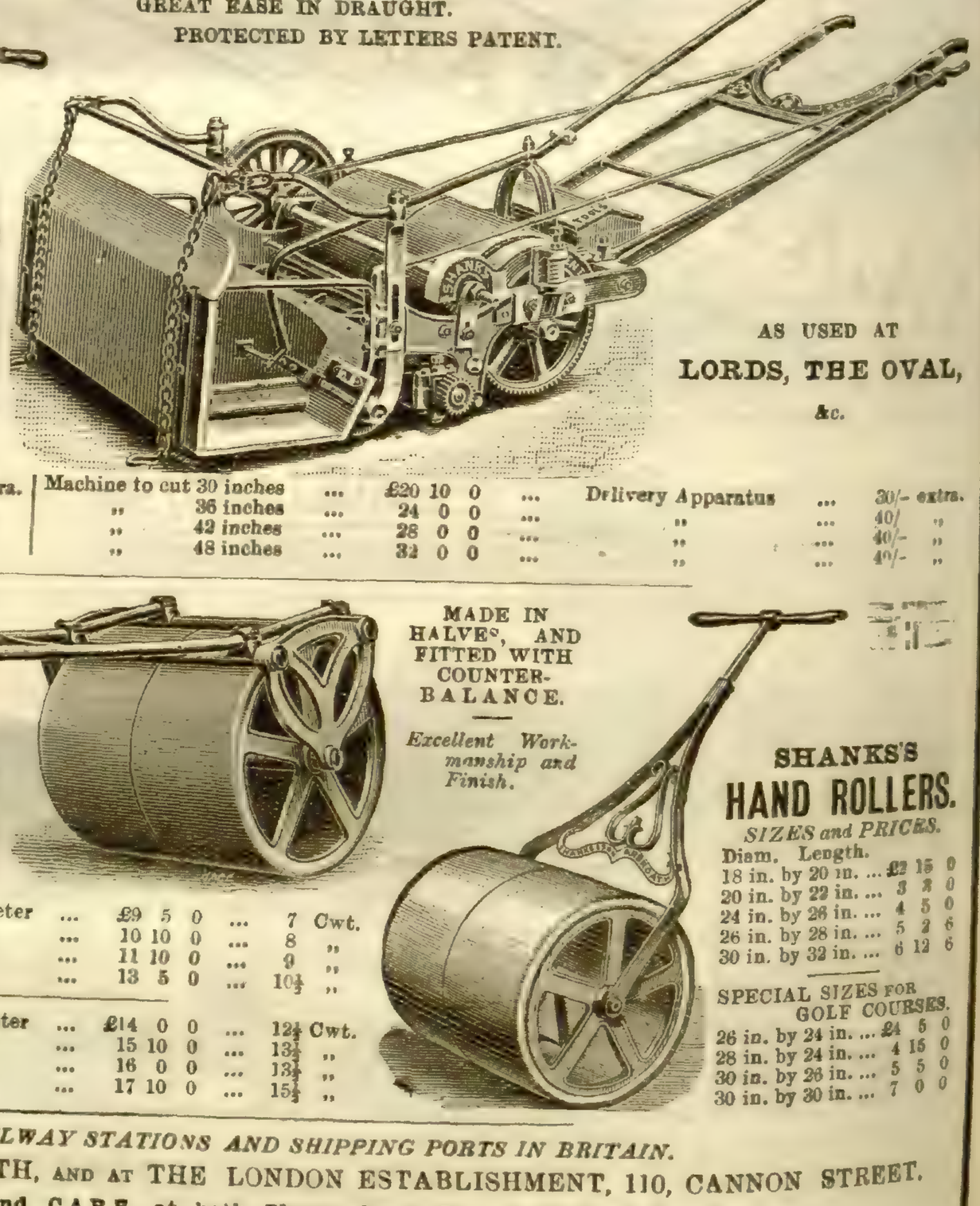

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Machine to cut 25 inches ...	£13	10	0	...	Delivery Apparatus ...	25/- extra.	Machine to cut 30 inches ...	£20	10	0	...	Delivery Apparatus ...	30/- extra.
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							,, 48 inches ...	32	0	0	...	,, ...	40/- ,,

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The Best and Cheapest SIDE-WHEEL PATTERN LAWN-MOWER ever offered to the public.

To Cut 6 in., 25/- ...	...	Grass-box, 5/- extra.
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,, 10 in., 35/- ...	...	,,	5/-	,,
,, 12 in.. 45/- ...	...	,,	7/6	,,
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HORSE AND PONY ROLLERS.

For CRICKET and PRIVATE PARKS, &c.

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	30 in. by 60 in. ,, ...	16	0	0	...	13½	,,
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HAND ROLLERS.

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Diam.	Length.			
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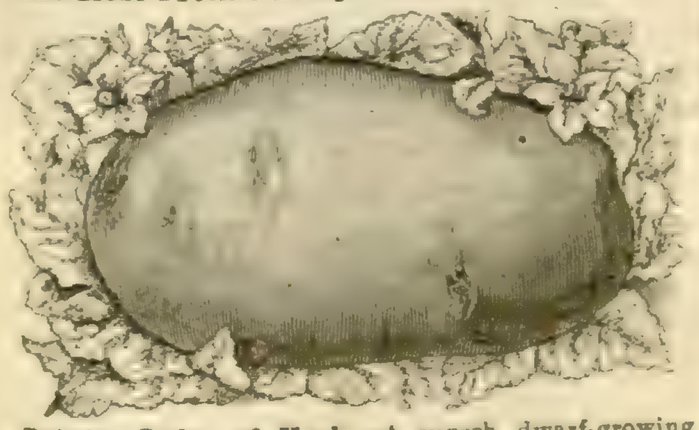

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THE
Gardeners' Chronicle.
SATURDAY, APRIL 6, 1895.

IS THE NELUMBIUM AN EGYPTIAN PLANT?

IN the *Dawn of Civilisation—Egypt and Chaldæa*, by Professor Maspero, edited by Professor Sayce, p. 65, there is a drawing which is undoubtedly that of a Nelumbium. It is called the Egyptian Lotus. It is drawn by Faucher-Gudin from the *Description de l'Egypte, Hist. Nat.*, pl. 61. Then, on p. 66, Professor Maspero says:—"Two of the species of Lotus which grew in the Nile, the white and the blue, have seed-vessels similar to those of the Poppy." These are evidently Nymphæas. No mention is made of the red Nymphæa. The Professor, quoting from *Herodotus*, ii., 92, goes on to say, the fruit of the pink Lotus "grows on a different stalk from that of the flower (!), and springs directly from the root; it resembles a honeycomb in form," or, the Professor adds, to take a more prosaic simile, "the rose of a watering-pot." The upper part has twenty or thirty cavities, "each containing a seed as big as an Olive stone, and pleasant to eat either fresh or dried." Besides *Herodotus*, ii., 92, the author, in connection with the Lotus, quotes Savary, *Lettres sur l'Egypte*, vol. i., p. 8, note 8; Raffeneau-Delille, *Flore de l'Egypte*, in the description, vol. xix., p. 425. The above description is undoubtedly that of a Nelumbium. And Professor Maspero says, "This is what the ancients called the Bean of Egypt." With regard to this Bean, he refers to *Diodorus Siculus*, i, 10, 34; *Theophrastus, Hist.* Pl. iv., 10; and *Strabo*, xvii., 799.

It is curious that Herodotus should have noted that the ripe fruit "grows on a different stalk from that of the flower," and should have overlooked the fact that the same thing though much smaller, occupied the centre of the flower. In spite of this error, he was undoubtedly describing a Nelumbium.

Miss Amelia B. Edwards, in her *Pharaohs, Fellahs, and Explorers*, says, "Of the three varieties [of Lotus] which flourished abundantly in the time of Herodotus, the white, the blue, and the rose Lotus, only the last (Nelumbium speciosum) has disappeared." She does not mention the red Nymphæa! On the other hand, Mr. G. Nicholson, in his *Dictionary of Gardening*, says, "the genus (Nelumbium) comprises only a couple of species, of which one is American, the other being Asiatic or Australian." But he does not mention that the Nelumbium is, or ever has been, an Egyptian plant. In describing N. speciosum, however, he calls it "Egyptian Bean of Pythagoras."

With regard to Nymphæa, Mr. Nicholson gives two as belonging to Egypt, viz., N. Lotus

(syn. N. rubra), the Egyptian Lotus, with a red or white flower. It would appear that the red Nymphæa is only a variety of the white, or *vice versâ;* and N. stellata, with blue flowers, from tropical Egypt.

The plant given by Prof. Maspero is undoubtedly a Nelumbium. Its fruit is very characteristic, and if it were a common thing in ancient Egyptian times, it could scarcely have escaped being recorded on the wall paintings of Egypt. I have never met with it as a wall painting or sculpture in any book, while the Nymphæa is common enough, and both the white and red Nymphæa are depicted on the Egyptian wall-painting reproduced in the British Museum. Curiously enough, Dr. George Watt, in the *Dictionary of the Economic Products of India*, vol. v. p. 345 (Nelumbium speciosum), says, "Sculptured representations of it abound among the ruins of Egyptian temples, and many other circumstances prove the veneration paid to this plant by the votaries of Isis. . . . Dr. Royle alludes to the Egyptian mode of sowing this plant, by enclosing it in a ball of clay before throwing it into the water, as being still practiced in India." And under Nymphæa, Dr. Watts says:—"The allusions to the Sacred Lotus in ancient Hindu literature appears to refer equally to different kinds of Nymphæa as to Nelumbium speciosum. . . . . and the mention of its various colours—white, red, and blue—suggest Nymphæa rather than Nelumbium."

Here is a nice bit of confusion which has been probably generated by the words "Sacred Lotus" and "Egyptian Bean." From all this there arises an interesting question, or series of questions, Was the Nelumbium ever a Nile plant? If it was, how has a plant that is so easily reproduced from seed and root become extinct? Was it because the Egyptians collected the seeds and ate them as nuts? But they ate also the seeds of the Nymphæas, and those are still there. Can it be that originally in Egypt there were the white and blue Nymphæa and also the red Nelumbium, and that the latter eventually became extinct there, and the white Nymphæa afterwards produced the pink variation which may have led to this confusion, so that now there are only the red, white, and blue Nymphæas, and no Nelumbium?

It does not follow that because the nuts of the Nelumbium were called "Egyptian Bean," that the plant ever grew there. All over the Levant the Maize is called "Grano Turco"; but it is no more Turkish than I am a Turk. It came from South America. Similarly one of the close-skinned varieties of Orange all over the Levant is called "Portugal"; but it came originally from China.

Herodotus may have never seen the Nelumbium on the Nile, otherwise such an observer would have seen with "half an eye" that the fruit was an exact enlargement of the ovary, and did not grow on a separate stalk from that of the flower. He may have seen the Bean in shops, and might have got a description of the fruit from an Egyptian, or even an Assyrian, in Egypt; indeed, he might have even seen the dried funnel-shaped fruit with the seeds still in it. The interchange of products between Egypt and Asia must, at one time, have been frequent. The Asiatics invaded Egypt, and the Egyptians invaded Asia, and intermarriages were brought about between the Royal families of Assyria and Egypt; and at Tel-el-Amarna in Egypt, a whole library of cuneiform tablets was discovered not long ago; it was thought to have been the Assyrian foreign office of Egypt!

I have some suspicion that the Egyptian Nelumbium speciosum is a myth; and I wish that some botanist would endeavour to verify what Dr. Watt [quoting from the *Treasury of Botany*] says of Nelumbium speciosum, viz, "Sculptured representations of it abound among the ruins of Egyptian temples." Is it the Nelumbium, or the Nymphæa that abounds there? *E. Bonavia.*

New or Noteworthy Plants.

BULBOPHYLLUM GRANDIFLORUM, *Blume.*

The very remarkable Bulbophyllum which was exhibited by Sir Trevor Lawrence at the Royal Horticultural Society's meeting on March 26, and to which a Botanical Certificate was awarded, is none other than B. grandiflorum, Blume (*Rumphia*, iv., p. 42, tt. 195, fig. 3, 199, fig. B), and it is a little unfortunate that on its first appearance in cultivation it should have received a provisional name, which of course under the above circumstances must be suppressed. It was originally discovered in woods on the coast of New Guinea by Zippelius, from whose materials the description and figures above cited were prepared and published as long ago as 1848, though nothing further seems to have come to light respecting it until now, when its appearance in cultivation has to be chronicled. It is a very remarkable plant, as the note at page 401 indicates, and is in fact the largest-flowered species known, the dorsal sepal measuring 4½ inches long, by 2 inches in breadth, the lateral ones being rather smaller. I am aware that it is on record that this species (fig. 59, p. 429) appeared in cultivation some years ago, but the statement rests upon a misidentification by the late Professor Reichenbach, and the plant figured in *Lindenia*, iii., p. 25, t. 108, as the above has been renamed B. longisepalum, Rolfe. The two are remarkably distinct, as a comparison of the figures cited will show, the last-named being characterised by its long, attenuated sepals, in allusion to which the name is given. Both are natives of New Guinea, and members of the group Sarcopodium, with solitary flowers. *R. A. Rolfe.*

INSECT PESTS ON FRUIT TREES.

Insect enemies to our fruits will soon abound, and their destruction demand attention. In most of the orchards hereabouts that I have inspected, the eggs of the winter-moth (Cheimatobia brumata) and other pests abound this year. Several neighbouring fruit cultivators who were sorely troubled with insects in recent years have a strong opinion that the severe frosts have destroyed the eggs, and they will not suffer from so many insects this year; but anyone who is looking for good returns for his outlay to trust to such being the case will be very foolish. I have tested the vitality of the eggs by placing them in heat, and almost every one produced a healthy insect. It is very necessary to take early measures to deal with the various pests immediately they have life, and much vigilance will be required to discover the larvæ of the winter-moth and the first broods of aphis. The eggs of the former may be observed on the buds, and at the ends of cuts between the fork and the wood, by anyone possessed of good eyesight; the eggs are small, round or oval, and, just before hatching, of a brown colour. This year, owing to the season being a late one, the eggs may not have hatched out till the present month, but for some years past I have commenced to spray the trees on March 22 or thereabouts. When first hatched the caterpillar is very minute, and not easily detected when crawling on the shoots, and making a bee-line for the nearest expanding bud, in which to make a home by drawing the budding foliage over them, which in a way protects them in great measure from any insecticide that can be used against them. The caterpillar eats away the internal portion of the buds, and it will thus be seen that early spraying is imperative so as to destroy the enemy before he gets under cover. So far I have found no really trustworthy trade insecticide that will kill the caterpillar by actual contact, and have relied chiefly on 1 oz. of Paris Green mixed in 20 gallons of water, also adding some approved kind of insecticide at a proper strength for killing aphis on Plums and Apples, thereby accomplishing two jobs in one. I have the trees sprayed weekly (oftener in bad cases) until the fruit is set and swelling freely; but no spaying of any fruit tree is done while it is in bloom, Paris Green injuring the flowers. When the caterpillar of the winter-moth is finished off, we have another foe to contend against in Aphis mali, which has increased at a great rate in the west of England of late years. This pest is somewhat in the form of green aphis, but endowed with greater activity, and is first made noticeable by a whitish mass, almost like American blight, amongst the flower and leaf stalks. It does considerable damage, by causing the flowers to drop wholesale. Later on the aphides arrive at the winged stage, and feed on the under-sides of the foliage, and seem to suck the life of the tree. However, this pest can fortunately be ousted by the persistent use of a safe liquid insecticide, applied warm. And I may here state that all insecticides are more efficacious if applied warm. When the mixture is used cold the insects become glued to the tree, and only a portion of their bodies is touched; but if the liquid is used in a warm state, this contraction does not take place, and they get pretty well soused.

One of the most serious foes we have to meet is the Apple-blossom weevil, and I feel sure that many failures last year might be entirely attributed to this insect. Many orchards that I know of which are annually manured and otherwise well cultivated, were last year covered with bloom which never opened, the petals remaining curled up; and if opened and examined, it was found that all the internal parts were eaten away by the weevils in the larvæ or in the fully-developed stage. Every orchard that I saw in the western counties last year was seriously infested by weevils, and in many cases the owners had no idea what was the matter with his trees. No insecticide, so far as my experience goes, is of any service against the weevil larvæ, and the best way to deal with them is to cleanse the trees from all filth or lichen, by using 1 lb. of caustic soda, and 1 lb. of crude potash, dissolved in 10 gallons of hot water, and applied warm to the stems and shoots whilst growth is dormant, keeping the soil constantly moved summer and winter, combined with plenty of such chemical manures as are adapted to the particular kind of soil and the crop. *W.*

THE BALM OF GILEAD FIR.

Although introduced into this country as long ago as 1697, by Bishop Compton, we know of few large trees, at any rate, in the south. As a young tree, Hoopes, in his excellent *Book of Evergreens*, speaks of it as a model of beauty, but as it nears maturity; and often before, the lower limbs commence to decay, and thus the beauty and symmetry of the tree are for ever destroyed. Possibly this is one reason why we so rarely see it, save in the form of young trees. Moreover, its life, in this country, is short—not more than 25 or 30 years, according to Loudon.

Sargent (Tenth Census Report) notes that it occurs wild in Newfoundland and Labrador, and that it extends to the southern shores of Hudson Bay, north-west to the Great Bear Lake, and the eastern base of the Rocky Mountains; south, through the Northern States to Pennsylvania, Central Michigan, and Minnesota, and along the Alleghany Mountains to the high peaks of Virginia. Sargent gives it an average height of 21 to 27 mètres, but in cultivation it seems not to exceed 40 feet as a rule; among our notes, however, we find a record, unfortunately not dated, wherein mention is made of a tree of this species 89½ feet in height, which was overthrown by a great gale on an estate in Berwickshire. The great dimensions make one wonder whether the tree in question was correctly named. From Sargent's account the wood is light, soft, but not durable. Canada balsam, so well known to preparers of microscopical specimens, is the resin which exudes from the bark of this tree.

In our plantations it is distinguished in the young state by the elegance of its habit, the regularity and deep green colour of its foliage. The leaves on the ordinary shoots are twisted into the horizontal plane,

flat, and spreading from the branch which bears them with a regularity that reminds one of the teeth of a comb. In form they are narrow, linear, slightly notched at the apex, dark shining green above, silvery beneath, where the mid-rib is prominent. There are numerous stomata, both on the green and on the white surfaces. There is very little hypoderm, but the resin-canal, which occupies the centre of the substance of the leaf between the mid-rib and the margin, is surrounded by a layer of strengthening cells.

On the cone-bearing shoots, as in other species of Abies, the leaves are no longer apparently in two ranks, but are upturned, and if they were like a comb in the one case, now they resemble a brush. Moreover, the form of the individual leaf is changed—it is shorter, curved instead of flat, and ends in a sharp point instead of a notch (see fig. 58, p. 425; and fig. 60, p. 431). The internal structure is unchanged. The why and wherefore of these differences we do not know. The buds are conic, shining, and resinous. The cones of the wild plant (fig. 57) are 3 to 4 inches long, cylindric, obtuse, violet-coloured; the scales rounded, the bracts stalked, expanding into a rounded or oblong limb, terminated by a rather long point, which projects beyond the scale. But in all these matters there is variability, as shown in our illustrations, where variation is shown in the size, form, and colour of the cone, and specially in the form of the bracts, and their size in relation to the seed scale.

The colour was sometimes purple, sometimes olive-green. The specimens were obligingly forwarded to us by Prof. Bayley Balfour, who tells us he specially selected the specimens to show the variability of the cone and its bracts. On the same tree, he tells us, "could be found both short bracted and long bracted cones,"—so much for the division of Abies into "Bracteata" and "Brevibracteata," as by some proposed.

Seedling plants examined in Messrs. Veitchs' nursery had, five oblong, notched cotyledons, with the midrib prominent on the upper surface, and with bands of stomata on either side of it. In the adult leaves the midrib is prominent on the lower surface.

Professor Balfour communicates to us also some interesting particulars relating to the Keillour Pinetum. This was commenced in 1831 on the Keillour Muir, some 6 miles from Methven Castle. The estate belonged formerly to Mr. Robert Smythe, of Methven, and, at one time, one Thomas Bishop was land-steward and gardener on the estate. "He," writes Professor Balfour, "appears to have had a most intelligent love of tree planting. He it was who formed the Keillour Pinetum, or Pinetum of Glashbhaad, as he called it. Bishop was most methodical in his planting, and kept a careful record of his plantings and of the results. His book is now in possession of Mr. Smythe, of Methven, and gives full details of the numbers of trees put into the Keillour Pinetum, the source whence they were derived, and their fate up to 1847. In 1854 the portion of Methven estate containing the pinetum was sold by Mr. Smythe to the owner of Balgowan—the home of Mr. Graham, who became Lord Lynedoch, and it is now the property of Captain Black, of Balgowan. Bishop must have been very proud of his pinetum, for he prepared a chart showing the positions in which the several trees were planted, and this chart Captain Black has been good enough to let me examine, as Colonel Smythe has allowed me to go over Bishop's book. From the examination I have made on the spot, and with the guidance of the chart, I find that our plants form a group he has designated 'Picea balsamea, Balm of Gilead,' and from the book I learn that in 1831, amongst other trees planted in the pinetum were '200 Pinus (Ab.) balsamifera from Turnbull, Perth.' Our trees I take to be the remains of this planting. There are about thirty of them now in the group, the largest being about 60 feet high, with a circumference of 5 feet 1½ inches at 3 feet. There are several others over 4 feet in circumference, and several are nearly as high as the one of which I estimated the height.

"The chart of the pinetum is dated 1843; and whilst the pinetum was founded in 1831, additions were made to it by Bishop in subsequent years from 1833 up to 1847—not every year, however—and these additions are carefully recorded. The fact, however, of such a large number of Picea balsamifera being planted in 1831, and the certain identification of our plants with the group on the chart marked P. balsamea, leaves room for little doubt that our trees were those planted in 1831 under the name P. balsamifera, and their size would bear out this view.

"The ground on which the pinetum is formed is not at all what one would *à priori* expect to find. It is a swamp; well sheltered, however, by surrounding woods and hilly ground. When originally formed, deep drains were cut, but these are now pretty well filled up, little having been done to the place for years. I take it, the fine growth of Picea Menziesii may be in part due to the marshy ground in which it is placed."

Fig. 57.—Abies balsamea (from wild specimen): shoot, leaf, cone, seeds, and bract.
(see p. 422.)

Orchid Notes and Gleanings.

ONCIDIUM LANCEANUM.

I see at p. 170, *Gardeners' Chronicle* for Feb. 9, 1895, a pretty long column is devoted to Oncidium Lanceanum. This is an Orchid I am interested in to a considerable extent. In the island of Trinidad, not far from here, it used to be found in large quantities, at one end of the colony only, at a place called Cedros. Cedros gave it its local name, viz., "Cedros Cedros. Cedros gave it its local name, viz., "Cedros Bei." Now and then the extremely rare Oncidium

hæmatochilum was found among the number collected. Some twelve months since, out of a collector's batch brought to Port of Spain for sale, he had the good fortune to offer with O. Lanceanum, the much-sought-for O. hæmatochilum, but only to the number of five plants. These he sold for 5*s.* or 7*s.* on the spot. Locally, one can buy very reasonable-size plants of O. Lanceanum for 2*s.* Where, however, one could collect this fragrant Orchid in thousands, you have to be content with dozens (!) to-day. Of course, I speak only of Trinidad, and not of its American habitats. The fine Diacrium (Epidendrum) bicornutum that was the glory of some of the smaller islands belonging to Trinidad, is now, too, I regret to say, fast disappearing through the raids of the collector. And the same applies to Oncidium papilio. *W. E. Broadway, Botanic Garden, Grenada, West Indies.*

Orchids at Glebelands, South Woodford.

The ways of beginning and adding to a collection of Orchids are many and various; individual tastes and means being important factors in the matter. J. Gurney Fowler, Esq., the owner of the Glebelands, and the rich collection of Orchids in its gardens, favours quality rather that quantity, and purchases the best that can be obtained, and as few persons have a keener eye for a really good Orchid, the collection teems with showy varieties, some of which are remarkable, while most of them are much above the average merit. A striking instance of the wisdom of taking only selected, good varieties, is now to be seen in the spacious Cattleya-house, in the many large plants of superb varieties of Cattleya Trianæi there in bloom. The stout healthy plants are mostly large masses, and they bear a fine show of bloom, in which the large purple-lipped varieties predominate, although there are several light-coloured forms which are equal in beauty to the darker varieties. One mass only was selected on account of its being gigantic, consisting of some hundreds of fine large bulbs, and it has not been a startling success, for its flowers are poor when compared with the compact pieces, each bearing ten or twelve brilliantly-coloured flowers. In the same house, on each side of the door, are great specimens of Epidendrum radicans, and on the other side Messrs. Veitch's cherry-crimson hybrid with it—E. O'Brieniana. A fine show of Lælia harpophylla is just passing off, and an equally good display of the orange-scarlet L. cinnabarina coming on; a very large pure white Lycaste Skinneri alba, some pretty Cypripedium Schroderæ, Cymbidium Lowianum, C. Mastersianum, and other species are in flower, one of the most beautiful plants is a magnificent Trichopilia suavis, with thirty of the rose-scented white and crimson flowers. In this house a plant of Cattleya intermedia alba is expanding its buds; the fine, if rather expensive, Cattleya Mendeli Farthii; Lælio-Cattleya × eximia, and various other rare hybrid Lælias and Cattleyas are sheathed for flower. The division which corresponds with this one is a warm house, and its centre stage is occupied by a number of healthy varieties of Vanda suavis and V. tricolor, Aërides, Saccolabiums, Angræcums, &c. Here, several fine plants of Vanda cœrulea are rooting freely, which must be comforting, for they are stubborn subjects if not exactly well placed. Two fine varieties of Phaius Blumei assamicus are furnished with immense spikes of flowers. Dendrobium × Owenianum, D. nobile Cooksonii, the white D. n. Amesiæ, and other Dendrobes are in bloom. On one side is a fine bank of Cypripediums, among which a remarkably fine C. bellatulum, C. × Lathamianum, C. Argus, C. ciliolare, C. Roebelinii, a lot of C. villosum, C. Boxallii, and other species are in bloom, together with some good Phalænopsis amabilis, Eulophiella Elisabethæ, which seems here quite at home; a perfect Angræcum citratum, with eight long arching spikes of flowers; a pretty, pure white Angræcum Sanderianum; the powerfully-scented white A. Leonis, and other Angræcums, and one large plant of A. sesquipedale, with a good show of buds. Saccolabium bellinum, Pilumna fragrans, Oncidium sarcodes, O. luridum guttatum, Calanthe Regnierii, and others, are in bloom or bud, and a splendid specimen of Epidendrum Wallisii has over thirty spikes of its pretty yellow, purple, and white flowers—a very beautiful plant. In a moist warm corner, the varieties of Pescatorea, Batemaniana, and some of the leafy section of Zygopetalum, are looking so remarkably healthy that the culture of those beautiful plants, which puzzle so many, on a more extensive scale would be warranted.

The large Odontoglossum-house is an airy structure with close staging, covered with sand for holding moisture, and bearing an open stage of teak-wood, on which the plants thrive in a very satisfactory manner. The plants of Odontoglossum crispum are just beginning their chief show, and some of them are already in bloom. Well in flower are some fine varieties of Odontoglossum Pescatorei, O. Rossii majus, O. Andersonianum, O. gloriosum, O. triumphans, O. cirrhosum, O. Hallii, O. Edwardii—a splendid variety; Cochlioda rosea, Ada aurantiaca, and other pretty species. The plants of Oncidium serratum and O. macranthum are well furnished with their stout twining spikes. The Odontoglossums of the O. grande section are placed in a drier house, in which Indian Azaleas, and potfuls of Freesia refracta, &c., are in bloom; and in a corner is a good show of Cœlogyne cristata, a fine plant of the pure white variety being among them.

In one of the smaller and older houses, which is a warm one, and in which a tolerably moist and rather close atmosphere is maintained, a large number of plants of Miltonia Roezli are growing in the most luxuriant manner on the side stage, near to the glass of the roof, the flower-spikes appearing in much profusion. So strong are the plants, and large the pseudobulbs of many of them, that at first sight they recall strong, narrow-leaved M. vexillaria. Few succeed in growing these plants up to such a pitch of excellence as at Glebelands, and those collectors who have seen the plant in its native home, say that when it does thrive in England it far surpasses those. Certainly no such pieces have ever been imported. A lesser number of M. vexillaria seem in a fair way to succeed as well as those of M. Roezlii, and trials are being made with M. Phalænopsis, &c. Quite one-half of the house is taken up with Pandanus Veitchii, Crotons, and other foliage plants, and their presence is said to be beneficial to the Miltonias.

Other of the smaller houses are used for shifting Orchids into as occasion may require, but at present they are filled with stove plants, one of them having a very fine lot of Eucharis grandiflorum. Away in the kitchen garden is a new block of houses, in most of which it is intended to cultivate Orchids when space is found to be necessary; they are admirably built. In one of the houses is a fine lot of Cattleyas chiefly those which like more heat than the C. labiata section, viz., C. superba splendens, C. Eldorado, C. Warscewiczii, C. Dowiana, &c., and these are magnificent masses, in a flourishing condition. The same may be said of the houseful of Dendrobiums, in which the handsome D. superbum was carrying a fair show of its large rhubarb-scented flowers. In bloom also are some D. Jamesianum, D. Cambridgeanum, D. × Cassiope, and other showy species.

There are numbers of fruit-houses, vineries, and forcing-houses, and in one of them a superb show of Tea Roses. All these houses Mr. J. Davis, the gardener, occasionally uses for a few Orchids requiring special treatment, and his method of accommodating the temperature to the season of growth or rest of the plants, is most successful. Orchid culture is not carried out to the detriment of other work, for it was noted that every department was most carefully attended to. *J. O'B.*

Orchids at Oswald House, Edinburgh.

The collection of Orchids belonging to J. Buchanan, Esq., contains some fine specimens now in flower. The following are worthy of mention. Some large specimens of Cœlogyne cristata nearly a yard in diameter had numbers of large spikes. The delicate C. c. Lemoniana and a plant of C. c. alba were each noticed with good blooms. Several of the smaller-flowered species were covering their baskets with flowers, such as C. sparsa and C. occellata. Trichopilia suavis was in good condition in the same house. Oncidium incurvum, a large specimen bearing spikes about 4 feet in length, and apparently in the best of health, promised abundance of bloom in the autumn. Odontoglossum triumphans, and O. Rossi majus, as well as the pretty O. nævium, with the petals spotted with numerous purple spots, were noted. In another house were some excellent plants of Dendrobium nobile and D. Wardianum. Two fine plants of D. fimbriatum oculatum were a blaze of colour, each carrying an exceptional amount of flower. Suspended from the roof, D. superbum giganteum and D. Brymerianum were very attractive. Of the Cypripediums, several hybrids in good condition were in flower, including C. Warneri, C. selligerum and Selenipedium Dominianum; and others would bloom later. Platyclinis glumacea, when grown as seen here, is a pretty object, with its slender, graceful spikes of scented white flowers. Cattleyas, Masdevalias, and Oncidiums, were well represented.

The proprietor, although an enthusiastic lover of Orchids, is an admirer also of other plants, some excellent specimens of both stove and greenhouse species coming under my notice while walking through with Mr. Wood, the gardener, whose practical abilities are very evident. *H.*

The French List of Crosses of Cypripediums.

The publication of the French list of hybrid Cypripediums will be of much assistance to me, and doubtless many others. I am obliged to the compilers for correcting mistakes that occurred in the list you published on p. 199. But I am afraid while endeavouring to remove the motes in our eyes, they have not observed the beam in their own. For by what I can see, the greater part of the additional names are from the same parents as others previously named in this country and America. The second on the list, Argus × niveum, is given the name Mdlle. Nancy Descombes. This cross was figured by you in *Gardeners' Chronicle* early last year under the name of C. × Gravesæ, and was raised in America. From barbatum × Hookerii we had the variety marmorophyllum years ago. From Harrisianum × insigne and its varieties we had C. × œnanthum, the first of which received a First-class Certificate on September 16, 1879, when shown by Messrs. J. Veitch & Sons, who named about six varieties from their first batch of seedlings. In the French list we are introduced to no less than nine distinct names, eight of which are from the same parents, and to all intents and purposes they cannot differ materially from C. œnanthum. C. Harrisianum × Spicerianum, which brought us C. × Pitcherianum, is under at least four brand-new names. The variety C. × Youngianum superbum, Mr. Cookson received a First-class Certificate for on July 29, 1892, while the French list gives 1894 as the date of their introduction. From villosum × Spicerianum we got Bellona × Lathamianum inversum some years ago. But the cross that seems to me to require a microscope to find its differences, is that between barbatum × Warnerianum, and is named Olivetense. What distinctness there can be obtained by crossing two varieties of the same species as to merit a distinct name, is beyond my comprehension! I fear that if every plant, from one pod of seed, is to be given a distinct name because it has a few spots more or less than its fellows, we shall soon want the whole of your valuable paper to afford space for the lists of crosses of Cypripediums. I hope, as I believe it was your desire, that the list published on p. 199 to be of some assistance to those interested in crossing Cypripediums, and also as regards the naming, &c. I have only dealt with a few in the above list, but I hope that those that are cited will suffice to show that in whatever else the French Orchidists are ahead of us, they are scarcely up to date in the matter of crossing or naming of Cypripediums. *Hy. J. Chapman.*

FOREIGN CORRESPONDENCE.

M. AD. VANDEN HEEDE'S NURSERY AT LILLE.

Nurseries where a general collection of plants is cultivated are becoming more and more rare. M. Vanden Heede has always been famous for his Ferns, and since the return of his son George, who has been working in Messrs. Veitch's Fern-houses, well as the more common species. Thus a scientific interest is afforded, as well as an example worth copying. Selaginellas are largely cultivated here. One plant of recent introduction, which finds due appreciation, is Saintpaulia ionantha; this is largely grown. In special pans in the propagating-house, Lily of the Valley is forced and multiplied by division; as also Phrynium variegatum. After eight days the divided pieces are in leaf. We noted Ceropegia elegans, with its curious black-ground flowers; able for the way in which it multiplies. A leaf is laid on a pan of earth, and a new shoot issues from the angle of each indented lobe. It bears a raceme of pale green flowers like little bells. Pilea selaginelloides, always spreading rather than increasing in height, forms pretty conical plants. Begonia Scarfiana is a fine variety, with hairy-green leaves, which are of a carmine-red on the under-side, and very effective in the sun. *Ch. D. B.*

M. A. Van Imshoot's Orchids.

At Mont St. Amand, Ghent, is to be found one of the most complete horticultural establishments in Belgium. We noted there this month Epidendrum Stamfordianum, well bloomed; a charming variety of the same species, E. S. var. Wallaceum, with the lip rose-colour dotted with carmine; a fine variety of Odontoglossum Andersonianum, with large blotches on the back sepals, and rose-coloured borders; O. pulchellum majus var. maximum, with large and beautiful flowers; these were arranged to show their respective merits and differences; O. Rossi majus, O. rubellum, O. asperum with seven flowers on one stem, and showing a trace of O. maculatum; O. Humeanum; a pretty purple variety of O. bictonense; the curious Brassia ocanensis; Masdevallia Pourbaixi × (Veitchi × Shuttleworthi), a small specimen with twelve pretty flowers; the rare but pretty Chysis Limminghei, the curious Chondrorhyncha Chestertoni, from New Grenada, the divisions of the flower looking as if cut from thin paper. We would mention also the rather rare Dendrobium Kingianum album, D. splendidissimum grandiflorum, D. Cassiope, Vanda Stuartiana, Lycaste plana, L. Measuresiana, L. lanipes, L. lasioglossa, Calanthe masuca, Phaius Blumei, P. Wallichi; also P. maculatus, with foliage almost covered with white spots.

We were pleased and surprised to note seedlings of Odontoglossum raised from O. luteo-purpureum × O. Harryianum. These, and those belonging to M. Vuylsteke, are the first that have been raised in Belgium. One of these valued seedlings has already formed three leaves. The seed germinated after three or four months, and, curiously enough, when the pods were ripe the seeds were dispersed, but did not fall into the sphagnum-covered pan placed to collect them, but some alighted on a pot 3 feet away, others on one 16 feet distant. *Ch. D. B.*

Fig. 58.—Abies balsamea (from Keillour Pinetum): cone-bearing shoot, leaves, cones, seeds, and bract. (see p. 422.)

he has extended this branch. We counted over a hundred pots, containing seedlings of different species and varieties, many of which, while coming up, form soft mossy-green carpets. Last year 240 pots of seed were raised. No fewer than seventy pans are full of pricked-out seedlings, raised from spores collected by M. George himself. These seedlings are to be grown by the thousand into small Ferns for the wholesale trade, but, apart from this, the firm cultivates specimen plants of the best species and varieties, with a view to forming a complete collection to include examples of the rarest, as C. Sanderi, and a group of Bertolonias growing vigorously in the open air. How curious is the aquatic Fern, Ceropteris thalictrioides, always submerged in water! In the same house with this plant we saw several new plants, viz., Smilax argyrea, Tradescantia Reginæ, Stenandrium Lindeni, and some pretty little clumps of Peperomia metallica obtained without any pinching back, which we recommend to all who have a greenhouse.

Further, there were some beautiful plants of Manettia bicolor, and the tropical Bryophyllum proliferum, called in Brazil "La Fortune," and remark-

FORCED POTATOS.

In most country houses early Potatos are a welcome dish, no matter how produced; and to have good-flavoured new Potatos this year will be the more to the gardener's credit on account of the scarcity of vegetables generally.

After the frosts experienced last May, when large breadths of early Potatos were destroyed, or greatly injured, some gardeners will hesitate to plant many, and ask what is gained by early planting. I would not advise the planting of large breadths, but it is an advantage to have the Potato on the table as early as possible, and to do this we must expect to endure some losses, as well as expenditure of labour and means. I know many cultivators who last spring would have lost all of their early Potato crop had they not covered the plants at the last moment; and although a few leaves were touched, they were enabled to secure a fair crop of tubers.

For many years past I have paid much attention to Potato-culture, endeavouring to get early dishes of tubers, and it is, as most growers will admit, an interesting occupation. Of late years some very early varieties have been introduced, some of which I must admit are not equal in the matter of quality to older ones; but we ought not to expect the tubers of very early forced Potatos to equal those which are twice the length of time in the soil, and that, too, at a season more favourable for growth.

For early forcing in frames, pots, or boxes, it is necessary to employ those varieties which possess short haulm, and produce the heaviest crop with the smallest quantity of small unuseable tubers. Some cultivators advise the planting of strong

growers, but I do not think that there is much gained, as the plants produce less weight if the unuseable tubers be taken into account, and the plants when crowded or grown in a moist atmosphere run badly to top. For a number of years I cultivated the Alma Kidney for the first crop from the open soil, with special means taken in the way of shelter. This was, till a few years ago, the most precocious variety, the dwarfest, and the most productive of an even crop of tubers. I then grew a somewhat similar variety named Early May, largely grown some years ago in the West of England, and noted for good cropping and good quality. Of late years this has given place to Sharpe's Victor, which I find to be the best early variety. Given a little protection, it can be lifted in May from the open ground; it has but little haulm, and is good in every respect. Those who prefer Potatos of the Ashleaf type may not think so highly of Victor, for being grown in less time than those, it cooks firmer, but it is at the same time dry and well flavoured for its season. To succeed the Victor, I rely upon Veitch's Early Ashleaf, this variety being, in my opinion, of the best type of Ashleaf Kidney, a heavy cropper, nice in appearance, and of the best quality. It rarely fails to crop well, and is good-flavoured in heavy soils and in wet seasons. Some may prefer a round Potato, and I have noticed that an early round will usually boil floury; and some take objection to yellow-fleshed tubers, such as those named above. The best type of early round that I have grown is Sutton's A 1, which cooks capitally, and is very dry and floury. When lifted early, this is a great point, and with most lovers of a Potato a white-flesh tuber that is dry and floury is much appreciated; it is a very early variety, producing a good-sized tuber. It may be termed a flattened round, has dwarf erect haulm, and is a heavy cropper, not affected by disease, and a splendid market variety.

A few words as to culture will not be out of place. For early planting, it is essential to have sets neither too small nor over large; and to obtain vigour from the start, it is best to plant whole sets rather above the medium size of the variety, the eyes or buds being removed by cutting them out below the skin, excepting one or two of the strongest. The sets should always be thoroughly hardened in the open air when lifted, and to be assured of robust growth, they should be placed close together in shallow boxes, the eye-end upwards. Purchased sets should always be got in as soon after lifting as possible. Early crops can be obtained from plantings made at foot of a south wall up to the first week in April, by placing the sets in boxes put into a frame, with a little sifted leaf-mould put between the sets, and lifting them with a mass of fibrous roots. Such sets will be up through the soil in a short time, and grow with more vigour than those planted one month earlier in a cold wet soil. Another plan, and one that I adopted a few years ago, owing to our lack of garden-frames, was to make large solid heaps of tree leaves, with a little long litter at the ends and sides to keep the materials together, and to plant on these, protecting the plants with thatched hurdles at night. Turf pits, with hurdles as a covering, are good for country gardens. As protective material to use at the foot of walls, there is nothing better than dry bracken. Long stable litter answers very well, but it is more littery than bracken. By having early started sets, a warm situation and protection against cold, very early crops may be obtained out-of-doors. *G. Wythes.*

FLORISTS' FLOWERS.

CARNATIONS AND THE FROST.

"D." enquires at p. 398, whether our Carnation plants are still uninjured by the late frosts. We have lost very few indeed. Excepting the protection afforded by the glass the plants in frames were exposed to the lowest temperature we had, and every particle of soil must have been frozen as hard as iron, for the pots were not plunged. A covering of straw was put on the glass after this occurred, and was not removed until the thaw came. They are all now potted into their flowering-pots, and are doing remarkably well. The plants have still the shelter of the glass-frames, but the lights are kept off them except in severe weather. Reports I have had from different parts of the country go to show, that in some districts Carnations have escaped, while in others they have been very severely injured. One gardener informed me that he had lost 2000 plants out of about 5000; and an amateur from the county of Durham writes that he has lost three parts of his select collection, although the plants were put out early. A large bed, about 130 feet long, and containing six rows of plants, put out in our garden during the second and third weeks of November has suffered, and about one in every five has been destroyed, but they were weak-growing varieties. All such as had deep-green foliage at the time of planting have done well, and are now growing freely.

A great deal depends upon the treatment the plants receive, whether planted out or in pots. Those planted out had a slight dressing of dry decayed manure placed on the surface of the ground amongst the plants. This may appear but little protection, but in reality it is a great preventative of injury from frost. The plants suffer even during an ordinary winter, unless the ground is well drained. It is a good plan to raise the beds above the surface a little, in order that the water may drain into the alleys between. In our garden the nature of the soil is such, that although it is drained the water does not pass freely into the drains, unless the surface be quite loose. Seedlings have passed through the winter well, not a plant having been injured, with the exception of half-a-dozen exposed to a draught under a boarded fence. I may add, that it is quite time the seed was sown to obtain plants to flower in the year 1896. Our stock of seed was sown in the last week of March, in boxes, pots, and pans, and it vegetated quickly in a hotbed. When the seed-leaves are fully developed, the plants should be pricked out about 3 inches apart into boxes, and be planted out where they are to flower as soon as the plants are large enough. In good soil they may be about 18 inches asunder, as each seedling plant, if allowed to flower to its fullest extent, will produce from 100 to 200 blooms. *J. Douglas.*

THE WEEK'S WORK.

THE KITCHEN GARDEN

By John Lambert, *Gardener, Powis Castle, Welshpool.*

LETTUCES. — Where salads are in constant demand those varieties of Lettuces recommended to be sown early and transplanted into boxes or pits, will now require another and final thinning; half of these thinnings being again planted in boxes for first use, and kept under moderately warm conditions under glass, where they will very soon make compact plants for putting out as required. The thinnings may also be planted under hand-lights or in cold pits, or even in the open on a warm south border, or at foot of a south wall, protection being afforded them by means of hoops and mats if the night is likely to be frosty. Seed may be sown again now and all through the summer, at fortnightly intervals, and some plants pricked out each week, for in hot weather Lettuces soon run to seed, especially the Cos varieties.

POTATOS.—Early Potatos, if sprouted an inch or more, may be planted in fine weather, when the soil is not wet or sticky. They may be planted when the ground is dug, but I usually plant sprouted sets with a trowel, the ground having been dug sometime previously, and if the sets are not sprouted, a setting-stick is used. Field Potatos to be planted should by no means be left in "buries" after this date, as they grow so quickly; but should be laid out thinly and exposed to the light, turning them over occasionally to keep them in a fit state to remove to a distance. If for planting on land near at hand, lay them out thinly, so that they may make short stiff green sprouts.

SHOW POTATOS.—These may be laid out in a cool Peach-house, looking them over on wet days, and removing all sprouts and eyes, except-ing the two that are the most promising at the crown end of the tuber. If the ground is stiff and heavy, and therefore liable to cause scabbiness of the skin, prepared soil should be used for filling in around them. This may largely consist of burnt refuse, leaf-soil, sand, siftings from beneath the potting-bench, a small quantity of lime, soot, and spent Mushroom-bed manure, to which add some kind of artificial fertiliser. These materials should be mixed together by turning the heap several times. When planting the sets, take out a trench 3 inches deep, and afford a dressing of rotten cow-manure, and underneath each set put one spadeful of the compost, and on the top of it two spadefuls, filling up between the sets with the staple. The sets should not be planted at a less distance apart than 12 inches, and for strong growers the space between the rows may be 3 feet, and for those of weaker growth 2 to 2½ feet. A small number of sets treated in this manner will produce a number of choice tubers.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PROTECTING AND THINNING APRICOT BLOOMS. —Apricot trees are now coming into flower, and if protecting material has not already been provided, the same should be done without delay. If canvas blinds are used, they must be arranged so that they may be drawn up or taken down during the day-time, and even at night in mild weather; but ordinary bird or old fishing-nets may be left on through the day, as air and light are not greatly impeded by their use. It is important to fix a coping of some sort, however rough, along the top of the wall, which will project a foot or so over the trees; and if the sheltering material be suspended from this, so that it hangs well away from the face of the wall, it will be much more effectual in warding off cold and wet than if hung close to the trees, besides which it becomes easy to examine the trees for the purpose of disbudding, &c., without taking away the covering. If the blossom be very abundant, it will be best to go over the trees and remove at once the weakest and worst-placed blooms; this will throw additional strength into those which will remain, and ensure a better and stronger set of fruit.

WATERING FRUIT BORDERS.— Fruit borders, more especially those with broad copings, should be carefully examined, and, if at all inclined to dryness, afforded a good watering, after lightly forking through the space between the wall and cropped portion of the border—so as to break up the hard surface. Afterwards apply a good mulch of half-rotten manure, before the land is watered.

PROTECTING GOOSEBERRIES FROM FROST.—In the event of severe frosts occurring when Gooseberry bushes are in flower, or even while the fruit is small, and the foliage not sufficiently advanced to afford much protection, it will be well if materials for the purpose are at hand which can be easily and quickly applied. Dry Fern answers well, if a little be lightly shaken over the tops of the bushes, or if this be not at hand branches of the common Laurel, or other light evergreen is almost as satisfactory.

SNAILS ON WALL TREES.—These are often very troublesome on wall trees, more especially in old gardens, and are very destructive to Apricots, Peaches, and Cherries; not only eating the young shoots but also the fruit either green or ripe. They should be searched for before they leave their winter quarters, which is often behind the large trunks of old wall trees, close to the ground, or in holes and crevices in the wall. Later on they may be caught when feeding at night if looked for with a light.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

BEGONIAS started in boxes will now be ready for potting. Use a mixture of equal parts turfy loam and peat, with plenty of sand and a little spent Mushroom-dung. Do not make the soil too firm, and take care when removing the plants from the boxes not to break the roots. They may afterwards be placed in a warm greenhouse where they can be shaded during bright sunshine. When full of roots, give plenty of water and a light syringing twice a day. The plants should be turned round once a week to keep an even growth. Begonias for bedding should be started at once by placing them rather thickly in boxes in nice light soil. Put them in a warm vinery or Peach-house, and do not water for a few days.

CYTISUS.—Plants which have finished flowering should be cut back. Repot any that may require it, using turfy loam, some leaf soil, a little rotten manure, and plenty of sand. Place the plants in a warm greenhouse or Peach-house where they can be syringed twice a day. Cuttings may be taken and placed in pots in a warm close frame. When rooted pot them off into 60's, and later into 48's, and gradually harden by increased ventilation. They may be placed out-of-doors in June.

POINSETTIAS.—A batch of these, if required for early flowering, should now be brought to the light. Cut back the plants to within 6 or 8 inches from the soil where the wood is thoroughly ripened. Give them a good soaking with water, and put them in the stove, where they will receive plenty of light and sun, and syringe two or three times a day. When the shoots are 3 inches long, they should be taken off with a heel, and placed singly in small pots and plunged in the propagating case, or preferably on a hot-bed, with a bottom-heat of not more than 90°. Keep closely shaded, and do not allow the leaves to droop, if possible.

CALADIUMS — These will now need plenty of water, and if the pots are full of roots, a little manure-water twice a week. Any required to make large plants should be potted-on before they become pot-bound. The best compost for them consists of good fibrous loam, some peat, leaf-soil, plenty of sand, and a little sifted cow-manure. Warm the soil before potting, and disturb the roots as little as possible.

CHRYSANTHEMUMS will now require a shift into 6-inch pots. Use nice turfy-loam with a good supply of leaf-soil, a little rotten Mushroom-dung, and some coarse sand. Pot rather firmly up to about an inch from the top, this much space being necessary that they may receive a good supply of water. When potted, put them in a cold frame on ashes, and cover the frames at night with mats, in case of frost. Keep rather close for a week, then admit more air, and take the lights entirely off afterwards on warm sunny days. If there is any fly on them lightly syringe the plants and dust them with tobacco-powder, and two or three hours afterwards give a thorough syringing to wash off both fly and dust.

MARGUERITES.—Autumn-struck plants of these should be potted into 6-inch or 7-inch pots, using some old potting-soil for the purpose. They are useful for decorating during the summer and for bedding. The flowers should be pinched out until the pots are filled with roots. Plenty of feeding will then be necessary. An occasional watering with soot-water will keep the foliage green.

CARNATIONS. — Young plants of Souvenir de la Malmaison varieties now growing fast, will require stakes, if these have not already been given. The plants must be given more water, and some weak manure-water occasionally, or a little chemical fertiliser may be sprinkled over the surface of the soil. Fumigate with tobacco-paper every three weeks, to keep down green-fly. Syringe gently about mid-day, and give plenty of air top and bottom. If large blooms are required, the buds should be thinned to one or two on each plant. The centre bud always makes the finest flower. If old plants are required to flower early next spring, stop the required number of plants at once, not allowing them to flower this season. If this is done, and the plants are potted into pots two sizes larger, they will quickly fill them with roots. Place them out-of-doors in May on a bed of coal-ashes where they will receive plenty of sun. See that all the side breaks are securely tied to the stakes, or their own weight will break them off.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

SHADING, VENTILATION.—The present month is, without doubt, a trying period to all who have the management of a collection of Orchids, as with the sudden changes in the outside temperature it is almost impossible to keep the temperature of the houses regular, although shading and ventilation, if carefully attended to go a great way in averting fluctuations inside. East-Indian Orchids are perhaps more easily affected by varying temperatures than those from other parts of the world, as at this season most of the plants are growing fast, and if the growth be checked, much harm to the plants may ensue. Should cold or boisterous weather prevail, it is better to regulate the temperature by means of the heating apparatus, and on no account to open the ventilators, as sufficient air will pass between the lap in the glass and under the doors. At other times, when the outer air is warm and still, it should be admitted with great caution, opening the bottom ventilators a little at first, and as the inside temperature rises, gradually increasing the amount of moisture; but if for any length of time the sun is likely to be obscured by heavy clouds, then the amount of ventilation ought to be reduced accordingly. For several hours during the middle of the day it is good practice to allow the atmosphere of each division to become comparatively dry, and the plants to throw off any excess of moisture, which, if retained, might cause decay. At this particular time of the year, and especially following so closely upon the severe frost of February, the foliage of Orchids is more apt to get scorched by sunshine than at any other time, and it is much the safer plan to err a trifle by giving too much shading, rather than too little, in every division, as more injury is done to the plants from too much sun than too much shade. In the East Indian-house, immediately the sun has sufficient power to raise the temperature 6° or 7°, the blinds should be lowered. The Cattleyas will not require shading quite so soon, but when the sunshine is bright and continuous, and the leaves begin to feel warm to the touch, the plants should then be shaded. Odontoglossums, Masdevallias, and the other occupants of the cool house should be shaded almost as soon as the strong sunlight touches the foliage. While speaking on the subject of shading, another matter of importance may be mentioned, viz., the difficulty which some growers experience in providing suitable positions for many of the distinct species of Orchids which are grown in the East Indian-house. A cheap and practical contrivance lately adopted at Burford simplifies matters considerably. The house is span-roofed, one running east and west, and it frequently happened that when a certain number of the plants required a little extra sunshine, it could not be afforded them without exposing the whole. This difficulty was met by dividing the south side from the north, simply by tacking a piece of thin tiffany on to the roof inside, and of sufficient width to reach to top and middle of the centre stage, extending almost the entire length of the house. By this arrangement the requirements of each species are easily met. Dendrobiums, Tæunias, Catasetums, Cynoches, Mormodes, Diacrium bicornutum, Grammatophyllum, Cyrtopodiums, Cattleya Schilleriana, &c., are arranged on the lighter side; and Cypripediums, Phalænopsis, Angræcums, Aërides, Cirrhopetalums, Bulbophyllums, and those few shade-loving Dendrobiums mentioned in a former Calendar, on the other side, where there is no fear of the foliage getting injured by sunshine.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

CHERRY HOUSE.—Trees which have set their fruits may receive a thorough syringing for the purpose of clearing off the withered flowers. The foliage of Cherries should be kept free from insect pests by being syringed with tepid rain-water, until the foliage is of sufficient substance to withstand fumigating without injury. The delicate young leaves and fruit will soon be attacked by grubs and caterpillars, and a careful watch must be kept for their first appearance, and measures taken to destroy them. The best time to look for these is after dark, when with the aid of a lantern they may be easily caught. Cherry trees, to be successfully managed, must be brought on gradually, and at this season a slight amount of warmth is necessary at night in the hot-water-pipes to maintain a buoyant atmosphere, and the temperature from falling below 40°, a slight quantity of air being admitted at night by means of the upper ventilators or lights. With a low night temperature, the syringing of the foliage in the morning is not advisable, it being better to do it early in the afternoon, the leaves having then sufficient time in which to become dry by sunset. Ventilate the house freely during the day, guarding against draughts of cold air. If the trees in pots or borders were top-dressed with rich material before being started, rain-water only should be afforded them at the roots, until such time as the nutriment is washed out of the top-dressing, when weak liquid-manure may be afforded alternately with clean water. Before stoning begins, the trees should receive one or two applications of clear lime-water, and afterwards, when the fruit is swelling, liquid manure may be afforded at frequent intervals. The shoots on pyramid and cordon trees should be stopped at the fourth or fifth leaf, to cause them to form fruit spurs; but upon trees that are grown on the extension system, the young wood should be laid in evenly and thinly so as to afford space for full development of the leaves, and access of light and air to all parts of the trees.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

SEEDS.—Asters, Stocks, and Marigolds may be raised readily now, if placed in a late vinery, where there is not much fire-heat, and where plenty of light can be given the seedlings as soon as they have germinated. A watering of weak clear soot-water is very beneficial; there is no manure-water better for seedlings than this. Successional sowings of hardy annuals should be made during April, when the weather is favourable. The soil should be in good working condition, and whether sown in patches or drills, the small seeds should be covered with fresh light sandy soil, and they must be protected from small birds by nets or wire frames. As the seedlings appear, dust the soil around them with a mixture of soot and lime, to deter slugs. Mixed seeds of hardy annuals sown on beds or borders are very showy. Good varieties for the purpose are Alyssum, Bartonia aurea, Calliopsis in variety, Clarkias, Candytuft, Centaurea minor, Convolvulus minor, Erysimum Peroffskianum, Eschscholtzias, Candelabra Larkspurs, Godetias, Kaulfussia amelloides, mixed Lupins, Malope grandiflora, Mignonette, Nasturtiums, Nemophila insignis, Poppy, Carnations, Saponaria calabrica, Silene pendula, Virginian Stock, Viscaria dentata, &c. The ground for these should be level, and finely raked. Mix the seeds together previous to sowing, and then cover well with light rich soil. Seeds of Primroses, Primula acaulis, P. Polyanthus, P. Auricula should now be sown in boxes of light rich soil, and placed in frames or hand-lights, or on warm borders outside. There are many fine named varieties of Primroses and Polyanthuses suitable for beds of one colour, and these are easily increased by dividing the roots after flowering, and afterwards planting them in shady borders for the summer growth. They like strong loamy soil, and require to be well watered during dry weather. Seeds of Anemone coronaria and its varieties for flowering next spring should be sown in good rich soil, in beds of about 4 feet wide, with a path between each. Before sowing, mix the seeds with fine sand, and sow thinly; afterwards cover with fine light soil, and when the seedlings are a few inches high, plant them out into well-manured soil. Seedlings raised early and grown on well during the summer will flower finely next season; they make a brilliant display during the spring months, and are most suitable for large flower beds in the spring garden. Aubrietias should be sown in boxes, and placed under a frame or hand-light. The new variety Dr. Miles is an excellent one; and other good varieties are A. Græca, A. Campbellii Improved, A. purpurea, and A. Leichtlini.

SWEET VIOLETS.—New plantations should be made from plants in frames or pits as soon as they have ceased to flower. Others that were not protected in any way have been much injured by frosts, and will not be so satisfactory for this purpose. I would advise that Violets be grown in a house to which access is always easy, and where the delight of seeing the plants growing may be conveniently enjoyed. A suitable house for them is one about 12 feet wide, with a span-roof 10 feet high. There should be a path down the centre, and beds about 3 feet wide and 3 feet high on each side. The flowers can then be easily gathered. Provide stout ventilating sidelights, and ventilation at the top. Violets do not like fire-heat, but the frost should be kept from them. A flow and return 4-inch hotwater-pipe should be fixed between the bed and front wall on each side of the house, where they will not prevent free ventilation or light being afforded the plants. Plantations for lifting in the autumn should be made on a shady border under a north wall, and the plants divided and replanted every spring. They should be pulled bit from bit, and any small piece with a root will make a good plant. Put them out in lines 1 foot apart, and 6 inches between each plant, in deep well-drained loamy soil. A good quantity of rotten manure should be dug-in when planting them. It is well to plant the Russian and Czar varieties in south, east and west aspects, where they will flower in mild weather during the winter.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE MONTH.

MEETINGS.

TUESDAY,	April 9	Royal Horticultural Society's Committees, at Drill Hall, James Street, Westminster.
THURSDAY,	April 18	Linnean Society.
TUESDAY,	April 23	Royal Horticultural Society's Committees.
SATURDAY,	April 27	Royal Botanic Society.

SHOWS.

THURSDAY,	April 18	Norfolk and Norwich Horticultural Society's Show at Norwich.
WEDNESDAY,	April 24	Royal Botanic Society's Second Spring Show; Birmingham Botanical Society's Spring Show (2 days); Chesterfield and District Chrysanthemum Society's Show of Spring Flowers at Tapton Grove; Durham, Northumberland, and Newcastle Botanical and Horticultural Society's Spring Show (2 days); Eastbourne Battle of Flowers.
SATURDAY,	April 27	Manchester Botanic Society's Spring Show at Old Trafford.

SALES FOR THE ENSUING WEEK.

MONDAY,	April 8	Roses, Lilies, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	April 9	Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	April 10	Lilies, Tuberoses, Roses, Ferns, Palm Seeds, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—47°.3.

Botany in Board-Schools.

It is a source of gratification to know that the teaching of botany in board-schools is now recognised, and in many cases adopted. This is, at least, a step in the right direction, but if we enquire more closely into the methods we shall probably find that there is not so much ground for satisfaction. It is not certain that all who believe in the teaching of science to children, and especially botany, are of one mind as to the way in which it should be taught. Perhaps there is a more universal opinion as to the way in which it should *not* be taught. That it should not follow on the lines of the multiplication table, and be confined to a definite number of technicalities learnt by rote from a book, is an opinion in which we entirely concur, and yet we find upon enquiry that this *is* the way in which this subject is being taught in some metropolitan board-schools. As a natural consequence, the children are disgusted with it, so that more harm than good is accomplished by the experiment. Being interested in the teaching of botany to children, we have sought to discover what method is adopted in one or two of the largest and best-conducted schools, with very unsatisfactory results. In the first place, we found that although the text-book is in itself a very good one for adults, it is quite unfitted for the purpose to which it is applied. No teacher of botany to the children of a rural population was ever more successful than the late Prof. Henslow, but he did not employ such an uninteresting and crude system as that now in vogue. If we are not mistaken, one of the cardinal virtues of his method was *not* to inculcate lessons from books, but to dissect and examine the plants themselves in a series of object lessons. Questioning an intelligent board-school girl on some points in the structure of the essential organs of a flower, and how it had been explained to them, we learnt that it had been told to them as nearly as possible in the words of the text-book, and when the teacher was solicited for further information, the pupils were referred to some figure in the book for illustration. The gist of the teaching was evidently acquiring by rote the definitions and the terms of the text-book, without any knowledge of the things themselves, of which they would remain as much in ignorance as if they had never attempted the study at all. We would ask how it is possible for children to acquire any intelligent ideas of the form of flowers, and of the relations of their organs, except by dissecting the flowers for themselves? In cities and large towns this is even of more importance than in the country, where wild flowers are common objects of the way-side. To cram children with a vocabulary of mere words which to them have no meaning, is not to advance a single step in the knowledge of plants. They might learn to prattle these words like parrots, and yet be wholly ignorant of the things they represent. What it is requisite for them to know is the things themselves, and the names by which they are known may follow, but should not precede. An intelligent teacher might impart a vast fund of information to children about the morphology and physiology of plants, without an undue display of technical knowledge. They might interest their young pupils with the marvels of vegetable life, instead of disgusting them by the discharge of volleys of hard words, which for the time being are meaningless; and not being ambitious of teaching too much, they would really teach a great deal, and teach it well, without so much wordy encumbrance.

Let us take an example from a lesson on dehiscent fruits:—"A legume, or pod, is a unilocular monocarpellary capsule, dehiscing by both dorsal and ventral sutures. A siliqua is a syncarpous bicarpellary capsule, one-celled, with a false division, or replum, running up the centre." What sort of idea would a child ten or twelve years of age construct from the above lucid description? Whatever the result might be, how much more effective would the teaching be if a Pea-pod, and the capsule of a Wallflower, were placed before the child, with the simple designation of the one as a "legume," and the other as a "siliqua;" then followed by an invitation to dissect each, and discover in what particulars the one differed from the other, and wherein they would agree.

Two preliminary questions seem to remain unanswered — "How much?" and "How?" That is to say—how much of the 200 pages of Edmond's *Elementary Botany*, bristling with technicalities, should be taught? because it appears to be taken for granted by the teachers that the whole of it must be crammed into the ten-year old pates some way or other, whether it is ever to be got out again or not. To this we object that it is impossible to pack the contents of a hogshead within the capacity of a quart-pot, and that it is quite unnecessary to do so if it were possible. We would suggest that so much should be taught as can be communicated to children in language which they can comprehend, and that what they do not understand they cannot be expected to learn. As to the "How?" it has already been suggested that preaching is not teaching, and, in this case, teaching implies the practical dissection of veritable flowers, and the comparison of the organs of one plant with those of another. Appeals must be addressed to the eye as well as to the ear; in other words, children should be accommodated with a simplified text-book, and not be expected to make shift with one compiled for the use of adults; and further, their lessons, if they would be effective, must be given, as much as possible, with the aid of living examples.

There is one other suggestion which may be made. Recently the teacher in a board-school gave out the following question, to which answers were to be supplied in writing—"Some English plants have one, others have two, and even three kinds of flowers. Explain how this is possible?" This question is capable of two answers. One girl answered that in most plants the flowers were all of one kind, in others, as in the Primrose, there were two kinds of flowers, the long-styled and the short-styled; whilst in the Purple Loosestrife there were three kinds of flowers—long-styled, short-styled, and middle-styled. The difference consisted in the length of the style, and its relation to the stamens. The teacher contended that in this question it was intimated that some plants had male flowers, others female flowers, and others hermaphrodite, or neutral, and that they might be combined on the same plant. The girl was therefore wrong, and lost her marks. Certainly the one answer which failed was as accurate as those which succeeded. In such a case, therefore, the question was either not a judicious one, or not judicially expressed.

We have called attention to this subject because it is an important one; and if the cases which have come under our notice are not exceptional ones, then there is grave cause for fear lest the board-schools will only make young pedants out of the stuff which might have made young botanists.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, April 9, in the Drill Hall, James Street, Victoria Street, Westminster. At 3 o'clock a paper on Campanulas, by Mr. J. Wood, of Kirkstall, will be read.

Royal Horticultural Society of Ireland.—The spring show will be held on Thursday, April 18, in the Royal University Buildings, Earlsfort Terrace, Dublin.

Linnean Society.—On the occasion of the meeting on Thursday, March 21, Mr. C. B. Clarke, President, in the chair, Messrs. R. Bebb and W. H. Heathcote were elected Fellows. A paper was read by the President, "On the Terminal Flower in the Cyperaceæ." After remarking that the Order Cyperaceæ had been newly arranged by Dr. Pax in Engler's *Jahrbuch* (1886), and in Engler & Prantl's *Pflanzenfamilien*, the character taken for primary division of the order being the inflorescence, he pointed out that in the first sub-order, Scirpoideæ with an axillary flower were placed Cyperus, Scirpus, Psilocarya, Dichromena, and Hypolytrum; in the second sub-order Caricoideæ, with a terminal flower were placed Schænus, Ryncospora, Mapania, and also Carex, Scleria, and their allies. The disruption of Hypolytrum from Mapania, of Dichromena, and Psilocarya from Rhyncospora, he thought, proved either that the modern method pursued by Dr. Pax was of limited systematic value, or that he had grievously erred in his ascertainment of the fact whether in such genus the flower is terminal or not. Mr. Clarke exhibited his own analyses of the spikelet

in the larger genera in dispute. He held that in Carex, Scleria, and their allies, the flower, male and female, was strictly axillary; that in Ryncospora it was axillary—exactly as in Dichromena and Psilocarya—while in Hypolytrum the flower is terminal exactly as in Mapania. He further maintained that these facts could be sufficiently shown by the aid of a pen-knife and pocket-lens, and that no results which might be hereafter obtained by studies in development could affect either the weight to be attributed to the character of "terminal flower," or to the real affinities of the genera. The paper was illustrated by lantern-slides illustrating dissections; and in the discussion which followed, criticism was offered by Sir D. Brandis, Mr. A. B. Rendle, Dr. Prain, and Dr. D. H. Scott. On the conclusion of this paper, Dr. H. Field, of Brooklyn, New York, made some remarks on the proposed establishment of a central international bureau for zoological bibliography, and the annual publication of international zoological records.

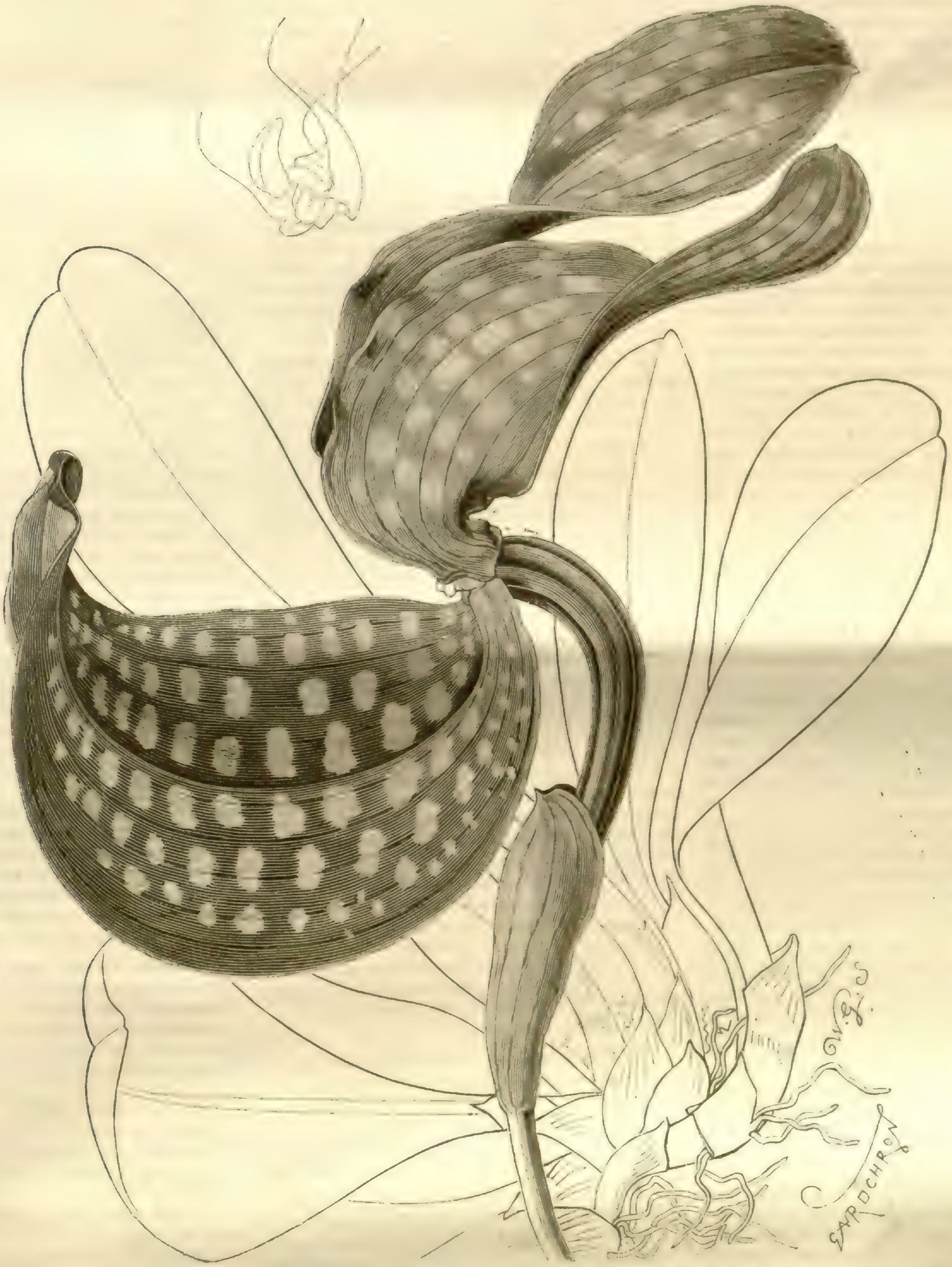


Fig. 59.—Bulbophyllum grandiflorum. (see p. 422.)

Commercial Fibres.*—The following is a summary of the lecture. The fibres derived from the internal structures of endogens were known commercially as white-rope fibres. They were obtained for the most part from the leaves. Their chief qualifications were strength, toughness, and lightness, with great capability to resist alternations of heat and moisture. Although largely used for rope-making, some of them, like the finest sorts of Manilla-hemp and Pine-apple fibre, were capable of being woven into the finest fabrics, such as the Peña muslin of the Philippines. The lecturer gave a detailed account of the plants, and the extraction of fibres in Manilla-hemp, Sisal-hemp, Bahamas-hemp, Mauritius-hemp, Mexican brush-fibre or Istle, Pine-apple fibre, Bowstring-hemps, New Zealand Phormium, and those obtained from the leaves of Palms. In regard to Phormium, it was mentioned that the Government of New Zealand had offered rewards for the encouragement of the industry as follows:—£1750 for improvements in machinery

* Second of a series of Cantor Lectures, delivered before the Society of Arts on Monday evening, March 25, by Dr. D. Morris, M.A., C.M.G.

that would materially reduce the cost of producing the fibre, and £250 for a process for utilising the waste products of the industry. The exports of Phormium fibres were of the following yearly value:—1891, £281,514; 1892, £214,542; 1893, £219,733. Most of the Phormium appeared to be exported to the United States. The Bahamas fibre industry had been started under very favourable auspices, but the very depressed state of all white-rope fibres at present was very unfavourable for its further development, unless some new opening could be found for the fibre, which, it was mentioned, was of exceptional quality. One of the most interesting of Palm-leaf productions was rafia, obtained from the epidermis of the leaves of a Madagascan Palm known botanically as Raphia ruffia. As met with in this country, rafia consisted of long ribbon-like strips of a pale straw colour, very pliable, and very strong. They were largely used by gardeners for tying plants. Locally they were woven into ornamental and durable mats. They have lately been dextrously plaited and dyed for making ladies' bonnets and hats. The supply of rafia has hitherto come exclusively from Madagascar. Owing to the French expedition to that island, it is probable that rafia will be shipped in decreasing quantity. Anticipating this, the price has already gone up to £55 per ton. The lecturer explained the structure of rafia, and pointed out that, failing a supply from Madagascar, an almost identical substance could be obtained from the British Possessions in West Africa. Several species of Raphia grew there in great abundance. Sir Alfred Moloney, speaking of the Bamboo Palms (Raphia vinifera) in the Colony of Lagos, said that over an area of about 5000 square miles they formed a considerable proportion of the indigenous vegetation. If rafia of good length and quality could be obtained from these Palms, the supply would be practically inexhaustible. The strips hitherto received from West Africa were too short, and not flat enough to take the place of Madagascan rafia. There was, possibly, a further source of rafia from West Africa in the Black Run Palm (known in Ceylon and India as the Palmyra Palm), Borassus flabellifer. Excellent epidermal strips from this Palm, closely resembling rafia, were exhibited by the lecturer nearly 7 feet long. It was mentioned that a curious use was made of the single fibres of Manilla and Sisal-hemps. They were laid side by side, and united by means of gelatine, under heavy pressure, into a tape-like form, producing a thin flattened straw, with a remarkable gloss. This straw, when dyed and plaited, was largely used for decorating ladies' hats and bonnets. The head-quarters of this singular industry was at Wohlen, in Switzerland.

Horticultural Club.—The next conversazione will take place on Tuesday, the 9th inst. The discussion will be initiated by Dr. M. C. Cooke, on the "Fungoid Diseases of Cultivated Plants," a subject of great interest and importance.

The People's Palace and East London Horticultural Society, March 28, 29, and 30.—An exhibition of plants and flowers grown in the East of London, must always be one full of interest, and the above being the first spring show of the society, was looked forward to with considerable interest. In order to place the exhibitors on a footing of equality, the schedule of prizes was divided into two sections, one including all exhibitors, some of whom, living on the confines of the Victoria Park, cultivate under much more favourable conditions than those in thickly populated districts, and those living in the latter or congested districts, such as Mile End, Limehouse, Stepney, &c. These divisions were found to work well. The exhibitors were, in all cases, working people, and several entries were made in all of the classes.

William Thomson Memorial Fund.—A Fund is being raised to commemorate the services to horticulture of the late William Thomson, of Clovenfords, the sum collected to be given to the Gardeners' Royal Benevolent Institution, and the Royal Gardeners' Orphan Fund. Should a sufficient sum be obtained, it is proposed to keep a pensioner in perpetuity on the funds of each institution. To enable this to be done, a sum of £1250 is necessary; a perpetual pension to the G.R.B.I. requiring £750, and that to the R.G.O.F. £500, the power of electing these pensioners being in the hands of the Royal Caledonian Horticultural Society, Edinburgh. Should a sufficient sum not be obtained for this purpose, it is proposed to divide the amount raised between the two institutions proportionately. It is hoped that a very liberal response will be received, not only on account of the esteem in which Mr. Thomson was held, but also on account of the object to which the Fund is to be devoted. A large and influential committee has been formed to collect subscriptions in all parts of Great Britain and Ireland. Mr. J. G. Veitch, 544, King's Road, Chelsea, is the Hon. Secretary for England.

Heliotropism.—Mr. H. Rupp, residing near the Lachlan River, observes, as Baron von Mueller informs us, that many of the leaves of Hibiscus trionum follow the sun through the day. In the morning the surface turned east, at noon they stood nearly horizontal, and at evening they face due west.

Royal Agricultural College, Cirencester.—Mr. Theodore Groom, late Scholar of St. John's College, Cambridge, has been appointed to the Professorship of Natural History in this institution.

The Ore Gardeners' Society.—On Tuesday, March 19, the second bi-monthly exhibition of the Ore and District Gardeners' Society was held at the Ore village school. There were about forty entries for competition, and various loan exhibits. The committee of the society has decided to apply to the East Sussex County Council for a grant towards a series of lectures on horticulture.

Japanese Gardens.—At the fortnightly meeting of the Birmingham Gardeners' Mutual Improvement Association on March 25, a paper by Mrs. Walter Wilkinson, of Handsworth Wood, entitled "Personal Observations of the Gardens in Japan," was read by Mr. James Dean. The reading was illustrated with photographs and specimens, such as that of a miniature tree growing in a porcelain vase, and stated to be at least a hundred years old. Our informant (*The Birmingham Daily Post*) describes the plant as being about 1 foot high, and, apparently a dwarfed specimen of Retinospora obtusa. Another exhibit was of a fish formed by fine fibrous roots intermingled with the stems of a Fern in full growth. Evergreens and Conifers native to Japan were brought forward by Mr. C. Bick, gardener to Mr. W. Chamberlain, of Harborne Hall, Harborne, as illustrative of the hardiness of these plants in our own climate.

"Old and Young."—This paper which, as its name implies, contains stories and articles interesting to readers of all ages, includes in the issue for April 6 the opening chapter of a tale by Mrs. Amelia E. Barr, entitled "The Flower of Gala Water;" a short article by Dr. C. C. Abbott on "The Lore of Trees," and various other items.

March Meeting of the Orchidéenne.—The second meeting in March was notable for the many good plants staged, and especially for the following: Chondrorhynchia Chestertoni from M. Van Imshoot; also, from the same exhibitor, Epidendrum Stamfordianum Wallaceum, Odontoglossum Rossi-aspersum, O. Cervantesi, O. Andersonianum. M. G. Warocqué showed Eulophiella Elisabethæ, the chief novelty of the last Ghent Quinquennial; M. Miteau, Odontoglossum Laure Miteau, an unusually dark Ruckeri, the purplish-lilac sepals were very distinctive; Odontoglossum crispum, a fine truss of flowers; racemes of delicately-scented Cattleya chocoensis; C. Trianæi Veitchi came from M. Knight, Director of the Royal Gardens. A lot of Odontoglossum Ruckeri was received from MM. Warocqué, Dr. Capart, Van Wambeke, and l'Horticulture Internationale, all varieties of brilliant colouring. Odontoglossum crispum bellinum, O. luteo-purpureum, with very large, well-coloured flowers; O. sceptrum Lindeni, very beautiful in colour and form; O. excellens Tressenderianum, a natural hybrid; O. Pescatorei × luteo-purpureum, with the lower half of the petals white, the lip white, with brightly-coloured spots; all the above were from M. Linden. M. Miteau sent some fine Cypripediums, notably C. Boxalli, with an almost black sepal; also a hybrid, C. Boxalli × Chantini. Much attention was attracted at this meeting by two fine plants of Odontoglossum crispum staged by M. Madoux, which bore fine clusters of large, closely-set flowers of good form; in one specimen, of clear lilac colour, very distinct and elegant in tint; in the other plant the blooms were of beautiful tones of rose—both excellent varieties. M. Rolin sent a good Cattleya Schroderæ alba, and an unusual variety of Cypripedium excelsa. We should add that M. Van Imshoot sent Dendrobium splendidissimum grandiflorum; Dr. Van Cauwelaert, a fine flower of D. Brymerianum; several fine Cattleya Trianæi should also be noted, and a dried raceme of C. maxima grandiflora from its native habitat, and bearing twenty-one blooms. L'Horticulture Internationale has done well in reintroducing this Orchid, which is sure to be appreciated. *Ch. De B.*

Baron Sir Ferdinand von Mueller, K.C.M.G.—The *Melbourne Argus*, in an official communication, says:—"Although the term of Baron von Mueller, the Government botanist, has been extended till the end of 1895, it is intended to ask him to remain in that position after the close of this year. Baron von Mueller is entitled to a pension equal to about two-thirds of his salary, and the saving that would be effected by his retirement would be so small that there is not the slightest likelihood of his being asked to relinquish his work, which is a labour of love to him."

"Dictionnaire Pratique d'Horticulture."—The thirty-fifth part of this publication has been issued by Octave Doin, Place de l'Odéon, Paris. We have so often recorded its merits, that it is only necessary now to say that the present issue brings the work down to the word Ligularia.

"Die Natürlichen Pflanzenfamilien."—The last number of this comprehensive publication contains a monograph of the Dipterocarps, by Sir Dietrich Brandis and Dr. Gilg, together with similar treatises in various orders of relatively minor importance. The Borraginaceæ and Verbenaceæ form the subject of another part.

London Pansy and Violet Society.—From this new Society we have just received the balance-sheet for 1894, and a schedule of the prizes to be offered for competition at the annual exhibition which this year is to be held at the Crystal Palace on the day of the National Rose Society's show, July 6. Only members of the Society are eligible to exhibit, but the annual subscription required from members is only 5*s*. The committee, by arranging the exhibition to be held on this day, have secured an excellent opportunity of bringing their special flower, and the Society itself, before the notice of an exceptional large number of visitors. We are glad to note that a small balance on the right side is carried over from last year. The Hon. Secretaries are Mr. Geo. McLeod, 9, Buxton Road, Chingford, Essex; and Mr. A. J. Rowberry, 2, The Crescent, South Woodford, Essex.

Battle of Flowers at Eastbourne.—According to a recent issue of the *Sussex Daily News*, it is proposed to hold at Eastbourne a Battle of Flowers on the plan of those which are so successful on the Continent. The *fête* is to be undertaken on a large scale, and during its continuance, cheap tickets will be issued to and from London Bridge and Victoria and intermediate stations from April 19 to 27. The arrangements include a procession, competitions for the most tastefully-decorated equipages (with silk banners for prizes), and the usual acces-

sories in the way of bands. These battles may not be a very high-class form of amusement, but from the florists' point of view they are capital inventions.

EVERYBODY'S POCKET LAWYER. — This is described as a popular legal handbook for the United Kingdom, and is published at a very low cost by Messrs. SAXON & Co. It is a handy little book, which we advise our readers to keep on their shelves as they would their books on domestic medicine, and to take down to satisfy their curiosity, but in case of need to consult their solicitor (or doctor) by pre-

ROSE SHOWS.—In addition to those dates of Rose shows already given in our pages, the two following have been transmitted to us by Mr. EDW. MAWLEY, viz., Colchester, Thursday, June 20, and Diss, Tuesday, July 2.

AYRSHIRE HORTICULTURAL LECTURES.—On Monday, March 18, the third of a series of lectures on horticulture was delivered by Mr. WILLIAMSON Tarvit Gardens, Cupar, the subject being pot plants. The lecture described the method of cultivating the more ordinary garden, stove, and hot-house flowering

in the agriculture and horticulture of the Cape; and there can be little doubt of the influence he brought to bear—indirectly it may be—on the development of fruit-growing in South Africa for the supply of the English markets.

GRAPES FROM THE CAPE.—The *Goth* steamship arrived from the Cape the other day with several consignments of Grapes, amounting in all to some 1292 boxes and cases of white and red varieties, the quality ranging from indifferent to very fair, but the prices were not those of a few years since. The consignments were sold rapidly — the whites at an average of 10*s.* per box (= 7*d.* per pound), and the reds fetching 35*s.* per box, or about 8*d.* per pound. The lowest price (for wasters) was equal to 3*d.* per lb., and the highest, all over, was 15*d.* per lb.

THE DAFFODIL AND SPRING SHOW, arranged by the Birmingham Botanic Society for the 9th and 10th inst., has been postponed until the 24th and 25th inst.

"THE ENGLISHWOMAN." — The first monthly part of *The Englishwoman* (edited by ELLA HEPWORTH DIXON), is now out, and will be found to contain plenty of both prose and fiction, clearly printed on good paper. In subject-matter as well as in general "get-up," this new comer should take a good place among similar journals of the same class.

HYBRID SELENIPEDIUMS.—In the March number of the *Orchid Review*, an elaborate review of the hybrid forms of Selenipedium is given. The tables show the parentage of the various hybrids and of their descendants, crossed and uncrossed. A complete index of names with references and synonyms affords a ready means of reference. We do not suppose the florist will concern himself much with this intricate history, but for botanical purposes, and especially for gaining light on the origin, degree and tendencies of variation, it will furnish valuable matter for the student.

NEW PUBLICATIONS. — *Fern Growing; Fifty Years' Experience in Crossing and Cultivation, with a List of the most Important Varieties, and a History of the Discovery of Multiple Parentage*, by E. J. LOWE, F.R.S., F.L.S., &c., author of *Our Native Ferns, British and Exotic Ferns, &c.* We shall take an early opportunity of referring to this important volume.

FIG. 60.—ABIES BALSAMEA (FROM KEILLOUR PINETUM): SHOOTS, CONES, SEEDS, AND BRACT.
(SEE P. 422.)

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS' AND VILLA GARDENS (*continued from p.* 328).—Continuing our remarks on biennials, we come to the Campanulas; and no garden, however small, which makes any pretensions to floral embellishment, should be without these charming plants. In this class we have annual, perennial, and biennial plants; but it is the latter subjects we have chiefly to do with in this paper. The Campanula pyramidalis, or the Chimney Bell-flower, is worthy of pot culture, and when well grown is one of the most showy subjects for the decoration of the greenhouse or sitting-room during the months of August and September. The Campanula when in bloom forms a glorious floral pyramid from 3 feet to 8 or 9 feet high. It will also flower in the open border as freely as when grown in a pot, but it is most attractive when cultivated as a pot plant, and used for indoor decoration. This Campanula may be propagated by seeds, or sometimes the old plants will throw up off-sets, and these may be divided and grown into good plants. We prefer raising them from seed, for they are always much stronger, and they bloom more profusely than those plants raised from off-sets. The best time for sowing is early spring. The seeds may be sown on a gentle hot-bed, the same as advised a short time ago for tender annuals. They may also be sown in pans in nice light soil, the pans placed either on a hot-bed or in a shady part of the greenhouse. When the seedlings are large enough to handle, prick them out singly into 3-inch pots, and let them remain in the same house until they have filled the pots with roots. Afterwards remove them to a cold frame, and re-pot by small shifts as they require it, but the last for the

ference. We find in the present manual nothing relating to the questions which most often are put to the editor of a gardening journal, viz., the length of notice to be given in case of dismissal, in cases where the gardener lives on the estate, and those relating to the rating of greenhouses, nurseries, &c., in town or country.

MR. PEETERS' ORCHIDS.—Miltonia Bleuana, with five unusually large flowers, beautifully marked, is growing in quite a small pot in Mr. PEETERS' nursery. The same grower has now a Cattleya Schroderæ alba, with four fine flowers; and a plant of the rare Cypripedium caudatum giganteum, a vigorous and sturdy specimen.

and foliage plants in pots, giving minute instructions with regard to watering, manuring, and handling. The lecture, delivered on March 25, treats of hardy flowers, and was undertaken by Mr. M. TEMPLE, of Carron Gardens, Falkirk.

SIR CHARLES MILLS, K.C.M.G.—Such of our readers—and there must be many—who have had business to transact at the office of the Consul-General for the Cape, will have heard with deep regret of the passing away from among us of Sir CHARLES MILLS, K.C.M.G., who for so long most ably filled the post of Consul-General. His courtly affability made business a real pleasure when he was one of the parties engaged. He took much interest

season should not be given later than August; a suitable compost consists of good turfy loam, with a little rotten manure and leaf-mould added, and a sprinkling of sharp sand to give porosity to the whole. Take care to ensure perfect drainage. During the winter the plants must be kept rather dry, but not in a warm temperature. Damp is more injurious than severe cold, but a cold frame is the best position; in the absence of this they may be plunged over the rim of the pots in coal-ashes out-of-doors, under a sheltered frame or wall. In many places C. pyramidalis is quite hardy, but it is best to guard them against severe frost and excessive wet. If the plants are well grown most of them will bloom the second season, or when they are a little over a year old, but a few may not bloom until the third season. Another mode of ensuring noble specimens, is to sow the seed in July or early in August; and when the seedlings are large enough to prick them into 3-inch pots, in which they should remain throughout the winter. Early in the following spring they should be moved into 6-inch pots, and when these are filled with roots, move them at once into pots a size larger. The process of re-potting must be continued throughout the summer, until in the autumn the plants may be in pots 14 or 16 inches in diameter. The following spring they will throw up a score or more of flower-spikes, and each will rise from 4 to 8 feet. As soon as the flower-spikes begin to appear, afford weak guano-water or any other good manure-water at every other watering. A pinch of Standen's Manure, applied when the plants are starting into growth, will give a lustrous green to the foliage. To keep up a succession of blooming plants, a few seeds must be sown each year. Seeds may be purchased at 3*d*. per packet from most seedsmen. An improved variety of this Campanula has been sent out by Messrs. J. Veitch & Sons, called Campanula pyramidalis compacta. It has a more dwarf habit, the flowers are closer set together on the stems, colour deep blue or mauve. It is a very free and showy variety. It received an Award of Merit from the Royal Horticultural Society in 1892.

The most showy of the Campanulas for the open border are the Canterbury Bells or Campanula Medium calycanthema, and C. M. alba. We have now many colours amongst these, from pure white, through various shades of blue, to a most delicate red. They should be sown in the early spring in a frame or on a warm border. As soon as the seedlings are ready for pricking out, transplant them in rows about 6 inches apart, and finally plant them in their blooming quarters during the autumn or early spring. When grown in the mixed border, from three to five plants should be planted in a clump. The ground should be good, and the plants must be helped during dry weather with water. The Canterbury Bells also make handsome pot-plants for the sitting-room window. All that is necessary is to have at hand some 6 or 7-inch pots. About March, or just before the plants begin to grow, take up as many as is required, and pot them. They may stand in any open sunny position, until the flowers are ready to expand, when they should be moved indoors. If they are potted in the autumn, and placed in the greenhouse in January, they will bloom some weeks earlier than those taken from the open ground. *R.*

SOME SUGGESTIONS FOR SMALL VILLA GARDENS.—This being the beginning of the gardening year, from an amateur's point of view, perhaps it would be an appropriate time to give a few hints to the owners of villa gardens. So much depends upon the owner of a garden to ensure its success, that even though well designed and neatly kept, it will present a very uninteresting appearance if not supervised and cared for by him. It is a common mistake to imagine that a good effect is necessarily costly, the most inexpensive and commonest shrubs and plants are in a good many cases the most effective. Much variety is impossible in a small garden. It should be planned to look as large as possible, and should not be too much cut up. It is a very common fault of owners to try and make their gardens contain as much in them as one of twice or three times the size. They insist upon having a lawn—naturally enough, but attempt to have too many varieties of trees and shrubs. Instead of planting one specimen of each singly, groups of fewer sorts would be much more effective. Variegated shrubs are a great deal too much used; many a garden has been spoilt by their being dotted about, giving the place a very spotty appearance, these again should be planted in groups and even then sparingly. A villa garden when shut in on all sides, there being no possibility of a view, might be laid out in rather a stiff manner, surrounded by clipped hedges of evergreens, the line broken here and there by groups of shrubs or beds of herbaceous and other flowers, which would show off to advantage against the dark background, or if the boundary of the garden is a wall, against which shrubs should never be planted to hide it, it should be covered with climbers which would answer the same purpose as a background for the flower-beds, which should have a margin of at least 1½ feet between them and the gravel-walk. If the house requires a carriage-drive, and is only a short way off the main road, a semi-circular approach is the best plan, with two entrance gates which should not be too pretentious and heavy. This economises space, as it prevents the necessity of turning the carriage round, by coming in at one gate and out at the other. Too much valuable space is often given to the carriage-drive, making the entrance too important looking for the size of the house. Rockwork is sometimes very effective, especially when placed in the wilder part of the garden at some distance from the house. Stumps or roots of trees answer the purpose best, bricks and artificial rockwork should be avoided. Alpine plants look well, and afford an interesting study, but commoner hardy herbaceous plants are often more effective and easier to cultivate. A rockery planted with Primroses and Violets, Foxgloves, &c., and bulbs with a background of Box and other dark evergreens look well. The conservatory, which is always a great addition to a small house, should if possible be entered from the garden and one of the sitting-rooms, and should be placed in a sunny aspect, being as plain and unpretentious looking as possible. The choice of climbing plants to be grown on a house depends considerably on the style of its architecture. Close-growing climbers such as Ivies, Ampelopsis Veitchii, Pyracantha, Magnolia, &c, suit a villa of a plain and severe style, while the irregular and more picturesque should be covered by those of a freer-growing habit, Honeysuckles, Wistarias, Clematis flammula and montana amongst others, Forsythia suspensa and Grape-vines for the beauty of their foliage, and many others. *H.*

SYON GARDENS, BRENTFORD, IN SPRING.

Syon is always an interesting place to visit—instructive alike to the botanical student and the practical gardener. It is in a way a kind of minor Kew; the large Palm-house reminds one of the public gardens on the other side of the Thames, while the delightful grounds recall some of the pleasantest features the visitor finds in the national establishment. Mr. Wythes has carried out several improvements: the under-growth of Laurel, &c., has been largely cleared away, and an upspringing emerald verdure has taken their place, opening out charming vistas.

Syon is famous for its early fruit, vegetables, and flowers; early production is indispensable. The prolonged winter retarded early forcing, but most things are well forward. Strawberries are largely forced; and Vicomtesse H. de Thury leads the way. About 1000 plants are employed for the early crop, and Mr. Wythes points out that, unlike most other sorts, it will set its fruit in heat. La Grosse Sucree follows, succeeded by Royal Sovereign, Keen's Seedling, Auguste Nicaise, with the new varieties raised at Gunton Park, and others to follow these. Early-forced Vines are carrying good crops; Melons and Cucumbers are making rapid headway. Figs are fruiting well. St. John's, a white Fig, and Pingo de Mel, yellow, are both new varieties of fine quality, yielding excellent early crops of fruit. Mr. Wythes' favourite early Peach is Amsden June. As he remarks, "the last to flower and the first to gather." Two years ago, when the spring was dry and fine, the first gathering was made on April 17.

Forced vegetables are a leading feature. In frames Potatos—a favourite early one being Sharpe's Victor, Early Gem Carrots, the Purple-top Milan Turnip, and others are thoroughly well advanced; Chelsea Gem and Stratagem Peas, raised under glass, and transplanted to warm sunny borders, are making good progress, snugly earthed-up, and still further protected on the east by means of sprays of Cypress. Early Longpod Beans are of good size in frames ready for transplanting. The utmost activity prevails in the vegetable department. Out-of-doors the winter vegetables have suffered severely, a large plot of early Cabbage, very forward, is completely destroyed. Later planted and much smaller plants have stood the test better, but only the tiny hearts remain, and those will be late in coming into use. Winter Spinach has shown the most successful resistance to the hard weather.

In the plant-houses forced subjects are numerous and good. Cyclamens, Cinerarias, Daffodils, Hyacinths, Tulips, are all exceedingly gay. Richardias are very fine, and the variety compacta is to be strongly recommended—a type that multiplies itself rapidly, and consequently flowers all the year round—the spathes, white, and the spadix, primrose coloured, a pleasing contrast to the older and taller type, it is remarkably free in blooming. Pancratiums largely grown for their trusses of white flowers, and many other spring-flowering subjects are likewise in bloom. Orchids are in considerable variety and fine condition. Of decorative plants there is quite a multitude; and a houseful of Eucharis shows how finely the plants are grown at Syon.

Syon maintains its old reputation for high-class gardening, and it is not likely to forfeit any of its renown while under the superintendence of Mr. G. Wythes. *R. D.*

HOME CORRESPONDENCE.

NARCISSUS IN POTS.—The usefulness of Narcissus as decorative plants when well grown in flower-pots, was well exemplified in a group of miscellaneous flowering plants shown by Mr. Woolford, gr. to A. Palmer, Esq., at the Reading Show. The species and varieties consisted of N. Telamonius plenus, N. Bicolor Horsefieldii princeps, N. Empress, and N. maximus. None was more beautiful than the Telamonius, the double-flowered Daffodil. It is very necessary that these Narcissus should not be subjected to much heat, or the foliage will be spoilt, and the flowers weak and fugacious. *E.*

AZALEA MOLLIS IN POTS.—All forms of hardy and Ghent Azaleas are beautiful subjects to have in bloom in pots during the month of March. Perhaps the mollis type is the more suitable, on account of the more compact habit of growth, although it loses a point in the want of perfume as compared with the ordinary Ghent species. Some of the best plants that I have seen growing in pots were shown by Mr. Turton at the late spring show at Reading; not of large size, but profusely bloomed, and the growth compact. It was one of the best exhibits in the show. *E. M.*

ENGLISH AMARYLLIS AT HAARLEM.—In your report of the Haarlem Quinquennial Exhibition, you refer to the medal awarded to Mr. Kerr, of Liverpool, for his Hippeastrums (Amaryllis). I think a word of praise is due to that gentleman for his enterprise in undertaking a task surrounded with such difficulties, and in such weather. [The exhibitor took the plants over in flat hampers. Ed.] The blooms were admitted by the Dutchmen to be much the finest in the show—finer in quality, rounder, and the lower segments very superior to theirs; and had it not been that only members of the Society are eligible to compete, he would in all probability have beaten the Dutchmen at home. When speaking of the Daffodils, Narcissus, Tazetta, your reporter evidently meant the Trumpet, Bicolor, and Incomparabilis groups, there being no prizes for fifty pots of the Tazettas; and he says they were poor for bulbs grown in pots. I do not think I have ever seen finer. I counted many of the bulbs in the 2nd prize collection that had five blooms on a bulb, notably Barri conspicua, Emperor, Golden Spur; and the largest blooms of Orange Phœnix and Sulphur Phœnix I ever saw, nearly 4 inches in diameter. Many of the white Trumpets had two to three blooms on a bulb; they were certainly grown very strong and rough, and of course the collections did not contain specimens of Madame de Graaff, Gloire de Leyden, Gloria

Mundi, but we do not see these varieties, bulbs worth a guinea each, grown in pots. Referring to Hyacinths, one thing was noticeable, and that is, that the district seems changing; for where in former shows Haarlem was first, it now seems to be superseded by Lisse and Noorduyk. The Darwin Tulips struck me as the class of bulb that the old florists would have thrown away as useless rubbish—ill-broken breeders, foul flowers, with partial flames and blotched feathers. *John Pope.*

COLOUR IN APPLES.—It is interesting to read the remarks of the various correspondents on the above subject, but rather disappointing that none of them seems to have noted that which is the real cause of colour in Apples. Mr. Easton is quite right in concluding that the primary cause is in the soil, but it has not occurred to any of your correspondents that potash might play an important part in this work, seeing that almost invariably the finest coloured fruit comes from land of a rather heavy nature, and which is usually rich in this mineral. Some years ago, I attended a course of lectures given by a learned doctor, and as potash happened to be one of the special manures he dealt with in the course, we had its action and the purpose it served in plants explained to us. One of these was to give us the bright colour we met with in Apples. Having read a good deal of what may be called rubbish, at one time or another, I must plead guilty to being a little sceptical about the veracity of like statements until I can verify them for myself, but in this case I had ample proof, if proof was needed, that this scientific statement was strictly in keeping with facts. Having two trees of Worcester Pearmain growing within a few yards of each other, but on an entirely different formation, we could scarcely recognise them to be the same variety, so far as appearance went, although one tree was formed from a graft taken from the other, the one growing on heavy loam produced fruits of a beautiful scarlet colour, which looked as if they had been polished, while the other plant, growing on sandy soil, never brought any of its fruits beyond the russety-green stage. I may also remark that our instructor told us that he found the largest amount of potash in the Apple just under the skin. Of course, potash is the primary cause of the colour in Apples, but before the tints attainable are made manifest, the tree must have the benefit of the sun's rays in the process. To convince us of this, we have only to look at the side of a fruit facing the sun. Apples, Pears, Plums, Peaches, Nectarines, Apricots, and even Strawberries, both grown out-of-doors and under glass will bear testimony to this fact. I may even go a little further in support of the utility of potash as a colouring agent to other fruits than the Apple, by mentioning the effect produced by an application of that substance to the roots of a Gros Colmar Vine. Three years ago I took 43 lb. of Grapes off a Gros Colmar Vine which had been propagated and planted two years before. During the colouring period there were about three weeks when they seemed to make no progress, which made me rather fidgetty, and induced me to give the border in which it was growing a dressing of about 1½ oz. of kainit to the square yard, washing it in. Three days afterwards a distinct change was visible in the colouring of the berries, and this continued until all had attained the desired amount of colour. Although I hold, having proved that potash is the chief constituent of colouring matter in Apples and Grapes, I do not mean to convey the idea that iron, lime, and other substances in the soil are not indispensable ingredients. Generally, however, heavy land contains a large percentage of iron and potash, which are usually deficient in light soil, so that in dealing with plants growing on either, or those of a loamy nature, we have to regulate the supply to be economical, and at the same time to make the dressing safe. I do not recommend the use of more than 1 oz. of sulphate of iron to the square yard, or to exceed 1½ oz. of kainit for the same space—as a rule it is less, and I apply the former in the autumn and the latter in spring and summer. If any reader of this note is as sceptical as myself, I would say, then, try a few experiments for the sake of being convinced. *Potash.*

THE DESTRUCTIVE GALE.—The destructive gale, which occurred at midday on March 24, will be long remembered. In these gardens especially, the damage done to trees of all kinds, and chiefly Conifers, was immense. Large specimens of Cedars, Limes, and Spruce Firs, 60 to 70 feet in height, were torn up by the roots. Of the Cedars, C. Libani suffered the worst, and nearly all are destroyed; whilst C. Deodara and C. atlantica have not suffered so much. Fine large specimens feathered to the ground, and 60 to 70 feet high of Abies Concolor, A. Pinsapo, A. excelsa, and A. cephalonica are completely destroyed; Cupressus Lawsoniana, and C. macrocarpa, the latter especially have suffered; while large trees of Ash and Elm lie about in all directions. Libocedrus decurrens has stood well, only one out of six large specimens having been blown over, and many of the Pines have stood well, notably P. Jeffreyi, macrocarpa, Coulteri, austriaca, muricata, Laricio, and ponderosa. Some trees of Pinus Pinaster, P. Strobus, P. sylvestris, and P. Sabiniana were blown down. Others that stood the force of the gale well were the Sequoia gigantea, and Thuja gigantea, not one out of 400 trees of these two species being overturned, and many of them are much exposed. A large number of the Sequoias are between 60 and 70 feet in height, and the Thujas between 50 and 60 feet high. Others that have stood very well are Saliaburia, Torreya, Araucaria, Taxodium sempervirens, T. distichum, Abies Douglasii, A. grandis, A. pectinata, A. Nordmanniana, A. amabilis, A. Morinda, and A. magnifica. Abies bracteata, 53 feet high, was partly blown over, as well as a few other kinds of lesser stature; but these have been pulled upright with strong ropes and pulleys, and supported with strong props. *A. Harding, Orton Gardens, Peterborough.*

APPLE CANKER.—I have carefully read through Mr. Greaves' opening article in the *Gardeners' Chronicle*, p. 72, and see no reason to alter my opinion then formed as to the idea entertained by Mr. Greaves that Nectria ditissima is the direct cause of the disease, as he plainly states in his opening remarks, p. 72. Nothing could be clearer than there stated. I was, moreover, all the more convinced that this is so after hearing Mr. Greaves give a lecture the week following the publication of his article in the *Gardeners' Chronicle* on "Hardy Fruit, especially relating to Diseases." From first to last Mr. Greaves said nothing about cultural conditions having anything to do with the inception or spread of Apple canker, but based his lecture solely upon the scientific aspect of the case. Owing to his knowledge of the malady from a scientific point of view, and with the aid of diagrams, he was enabled to afford much information in regard to the manner in which it spreads—all very interesting so far as it went. The lecturer did not fail to impress upon his audience the fact, that the article which appeared in the *Gardeners' Chronicle*, p. 72, was written solely with the desire to elicit information upon the subject of canker in the Apple; and spoke like a person who was not upon very sure grounds in regard to the subject. In reply to the questions asked by Mr. Greaves, p. 336, I cannot say that I have ever seen a case of genuine canker where Nectria ditissima was absent, because I have never examined the affected parts microscopically. I have, however, cured hundreds of cankered trees by eliminating the cause, but ignoring altogether the washing business, because it is plain to me that at the root much of the cause of the mischief lies. And gardeners will still prefer, in treating Apple-tree for canker, to use those remedies which experience has proved to be of value in combating it, rather than listen to the scientific teaching of Mr. Greaves. *E. M.*

ARTIFICIAL MANURES.—The note on the above at p. 334 is very opportune, as many will now be about to use fertilisers for both crops under glass and outside; and there can be no question that such manures properly applied are of great value, as they not only supply the constituents necessary for the proper development of plants, &c., but are free from the seeds of weeds present in natural manures in ordinary use, and which cause so much labour in clearing away afterwards. For about ten or eleven years past I have employed artificial manures largely on our light soil with excellent results; and after a good many experiments have found muriate of potash one of the most useful and most profitable fertilisers for fruit and vegetable crops of all kinds, as it promotes a sturdy healthy growth, that matures well. For fruit trees under glass and outside, I use 1 oz. of muriate of potash and 2 oz. of superphosphate for each square surface yard of border, three times yearly: the first, just as growth commences; the second, as soon as the fruit is set; and the third, immediately after all the fruit is gathered. For all vegetable crops, 1 oz. of nitrate of soda is added to the above; and it makes an admirable manure for most crops, especially Tomatos, which seem to revel in this mixture. For the sake of comparison, I employed this combination in one Tomato-house, and natural manures in another by its side. The result was immensely in favour of the artificial manure, as I cut over three times the weight of fruit from the latter that I did from the one dressed with natural manures; the fruit was also of a better flavour, and the plants practically free from disease. In fact, both in the vegetable and fruit departments, artificial manures have done such sterling service, that they are now looked upon as indispensable. *W.*

REMARKABLE TREES IN ENGLAND.—The following is a list of remarkable English trees figured and described in Strutt's *Sylva Britannica*, 1826:—

1. Swilcar Lawn Oak in the Needwood Forest, Staffs.
2. Beggar's Oak, in Bagot's Park, Staffs.
3. Three Oaks at Fredville, near Adisham, Kent
4. Penshanger Oak, Herts
5. Chipstead Elm, Kent
6. Enfield Cedar, Middlesex
7. Tutbury Wych Elm, Staffs.
8. Ankerwyke Yew, near Staines, Middlesex
9. Salcy Forest Oak, Northamptonshire
10. Chandos Oak, Southgate, Middlesex
11. Spanish Chestnut, "Four Sisters," Cobham, Kent
12. Beech, Knole Park, Kent
13. Lime, Moor Park, Herts
14. Elms, Mongewell, Oxfordshire
15. Oak, Shelton, Salop
16. Oak, Bound's Park, Kent
17. Oak, Moccas Park, Herefordshire
18. Oak, Wotton, Bucks
19. Yew, Fountain's Abbey, Yorks
20. Ash, Woburn, Beds
21. Abbot's Willow, Bury St. Edmund's, Suffolk
22. Black Poplar, Bury St. Edmund's, Suffolk
23. Cowthorpe Oak, near Wetherby, Yorks
24. Queen Elizabeth's Oak, Buntingfield, Suffolk
25. Sir P. Sidney's Oak, Penshurst, Kent
26. King's Oak, Savernake, Wilts
27. Spanish Chestnut, Tortworth, Gloucestershire
28. Lime and Sycamore, Cobham, Kent
29. Oriental Plane, Lee Place, Kent
30. Elm, Crawley, Sussex
31. Oaks, Burley, Hants
32. Squitch Back Oak, Bagot's Park, Staffs.
33. Gog and Magog Oaks, Castle Abbey, Northamptonshire
34. Horse Chestnut, Burleigh, Northamptonshire
35. Wych Elm, Bagot's Hill, Staffs
36. Elm, Chequers, Bucks
37. Maple, Boldre, Hants.

In my communication to you of September 29, 1894, I gave some recent measurements of trees numbered 2 and 23 in the above list, and also of the famous Winfarthing Oak, near Diss, Norfolk. I have ascertained that those numbered 20 and 30 respectively no longer exist. A description of the Shelton or Glendower Oak (No. 15), was given in your number of April 12, 1879. As to No 10 in my list, there appear to be, or to have been, two "Chandos" Oaks, as in *Selby's Forest Trees*, 1842, one of that name is mentioned as growing near Winchendon House, near Aylesbury, Bucks. It would be interesting to know how many of the trees described by Strutt in 1826 still exist, and in what condition such as do exist now are, and I shall be obliged to any of your readers who can give me any information about, or recent measurements of them. *M. J. T., St. Margarets, Thurlow Park Road, S.E., March 22.*

GREEN SEAKALE AS A VEGETABLE.—Apropos of "E. M.'s" recommendation of young Pea-tops in lieu of the probable lack of Greens, &c., during the ensuing spring, I am reminded that some few years ago I used regularly the green shoots of Seakale prior to their ripe state, and in this way they were much relished, especially by the servants of a large establishment I had to provide for, and whether other kinds were plentiful or not, the Seakale greens were always in requisition, instead of as formerly being consigned to the pig-sty or manure heap. With regard to the distruction of the winter Spinach, it cannot be too generally known that the Spinach Beet or Perpetual Spinach is very hardy, prolific, and of excellent quality, this claiming the attention of a row or two being sown every year, even if not required as a substitute for ordinary Spinach. *W. G., Birmingham.* [Our opinion of green Seakale is that it is extremely nasty, and of Spinach Beet that it is mawkish and unpleasant in flavour. Ed.]

PINE-APPLE CULTURE.—Mr. Ward's article on the Pine-apple (p. 389), is somewhat of a rarity, for seldom do we see the subject dealt with in so practical a manner. Of late years Pine-apple culture at home seems to have receded considerably, on account probably of the plants requiring so much fire-heat, and therefore, in many parts of the country, being expensive luxuries. Their culture is most interesting when fully understood, and when houses are specially erected for them, it is a source of pleasure, and not so expensive as it is otherwise. One great secret of success is in the selection of suckers. Growers should not be led away to take the largest; only those ranging from 15 to 18 inches long ought to be potted. By this means a more regular collection of plants is obtained. Mr. Ward

advises the temperature in the resting season to be 50° to 60°. This, in my opinion, is too high. I think 45° at night and 50° day more essential, for if the plants are plunged properly and firmly, there is no fear of them becoming too dry, and water may be withheld during the whole of the season. *G. Burrows, Warwick College.*

EDUCATION OF GARDENERS.—Mr. H. Elliott writes very sensibly on p. 369, and I agree with most of what he says. I must, however, take exception to one statement of his. He says that Scotch gardeners are preferred to their English and Irish brethren, "because of their superior education." This is news indeed, and as an English gardener in Scotland, I am inclined to ask myself, "What business have I to be here?" During twenty-three years' experience, I have come in contact with many Scotch gardeners, young and old, and have found that, as far as educational attainments were concerned, they are very like their brethren of other nationalities, good, bad, and indifferent—mostly indifferent. Only a few days ago I received a letter of twenty words from a Scotch gardener in a leading place, in which there were five mistakes in spelling! What does Mr. Elliott say to that? *Sassenach.*

COMPARATIVE HARDINESS OF SHRUBS.—In the shrubbery of a garden in Teignmouth I recently noticed five shrubs growing in a line, and to all appearances under exactly similar conditions. They were all large plants, and had evidently been there for several years. They grew in the following order:—Portugal Laurel, common Laurel, Sweet Bay, Aucuba, Portugal Laurel. The Portugal Laurels had been severely punished by frost, the Aucuba and common Laurel were slightly injured, while the Sweet Bay had passed through the ordeal unscathed. Had these plants been growing in the south-east of England, the Bay would probably have been killed, while the Aucuba and common Laurel (?) would probably have escaped any injury. It is singular that there should be so great a difference between the effects of frost in the S.E. and the S.W. of England. *W. T. T.*

LAW NOTES.

BRISTOL BANKRUPTCY COURT.

(Before his Honour Judge Austin.)

APPLICATION FOR DISCHARGE.

Re Theodore Hewitt English (trading as H. English), of Clevedon and Clapton Nurseries, and of 8, Colonnade, Cheltenham, nurseryman and florist. We learn from the *Bristol Times*, for March 30, that Mr. H. Holman Gregory applied for the debtor's discharge. The Official Receiver reported that the debtor filed his petition in July, 1893, Mr. J. Heddell, of Clevedon, being appointed trustee. The estate paid a dividend of 2*s.* 8¾*d.* on £2602 worth of debts. The Official Receiver said the assets were below 10*s.* in the pound of his unsecured liabilities, and he had not kept proper books. The alleged cause of failure was the drought of 1893. The trustee's report was of an unusually favourable character, and stated that the bankrupt had rendered every assistance in a most cheerful and obliging manner; but the Official Receiver said he had had more than one letter from creditors, who did not take such a favourable view. After hearing evidence for and against the debtor, the Judge said the discharge would be granted, subject to two years' suspension; if he could have made it less he would have done so.

TRADE NOTICE.

W. F. GUNN & CO., LIMITED.

This firm, which was registered on March 27, has been formed for the purpose of acquiring and working the business which has been carried on for the last five years by W. F. Gunn & Co., at Sunderland. The capital is £2500, divided into 500 shares of £5 each, part of which are offered for public subscription. The services of Mr. Gunn have been secured as managing director, and he has agreed to act in that capacity for a period of five years.

SOCIETY.

ROYAL HORTICULTURAL.

Scientific Committee.

March 26.—Present: Dr. M. T. Masters in the chair; Mr. McLachlan, Mr. Morris, Mr. Sutton, Prof. Müller, and Rev. G. Henslow, Hon. Sec.

Orchid Leaves Decayed.—The report from Kew upon the specimens brought to the last meeting was as follows:—"Fungi and bacteria are absent from all the specimens, and the disease is entirely physiological, being caused by the substance of the leaf at particular points becoming saturated with water. This causes the formation of numerous oil globules, followed by degeneration of the chlorophyll corpuscles and cell contents. This disease is caused by the activity of the roots being in excess of that of the leaves. Less moisture at the roots, and a circulating with a not too damp atmosphere, is the remedy."

Dendrobium with Two Lips.—Dr. Masters had examined a flower of the plant exhibited at the last meeting, and found that the extra lip was accompanied with a bifurcation of the single central cord belonging to a normal labellum, so that it was not due to a fusion of two organs, but to multiplication by chorisis of one.

Ferns injured by Mice.—Mr. McLachlan described the injuries done to Ferns during the hard frost by mice. Mr. Morris attributed it to a want of water, as he had experienced a similar trouble on board ship, when a consignment of Cinchonas and other plants was sent from Jamaica to New Orleans, and was much injured by rats and mice. By placing pans of water among them, however, no further injury occurred.

Aspidistra attacked by Fungi.—Dr. Masters exhibited a leaf much decayed in parts with peculiar black marks upon it. It was referred to Kew for examination. [See our Notices to Correspondents last week. Ed.]

Odontoglossum cirrhosum.—A specimen was sent by Mr. Smee, remarkable for the flowers being associated with leafy bracts.

Hyacinth Malformed.—A peculiar specimen was sent by Sir Ch. Strickland. The stem was exceedingly slender, the flowers remote, small, double, and campanulate; probably an accidental variation due to impoverishment.

Galls on Leptospermum.—Dr. Masters showed a specimem of these received from Baron Von Müller from Australia. Mr. McLachlan undertook to examine them.

Schinus Molle.—A photograph of a remarkably fine tree, apparently some 25 feet in height, growing in Graham's Town, was shown by Dr. Masters.

Bulbophyllum grandiflorum, see pp. 422 and 429.—This remarkable Orchid was exhibited by Sir Trevor Lawrence. It is probably by far the largest flowering species of this genus. Its peculiarity, however, consists in the absence of petals, as there are only three large green sepals, the posterior one being spotted with white.

NURSERY NOTES.

MESSRS. J. VEITCH AND SONS, CHELSEA.

It was a surprise to step from the flowerless, almost winterly aspect of the beds and borders of the nursery into the house containing the admirably-flowered collection of Hippeastrums. This is now about at its best, and given the present dull weather it will doubtless present a gorgeous spectacle for some few weeks to come. There is a prevalence of light ground colours, a total or partial obliteration of green in the throat of the blossoms, and a more general evenness of contour and regularity of outline than we remember to have remarked in previous years—the outcome, without doubt, of Mr. Heale's efforts in crossing. By the practice of constant selection, the radiating segments with the pointed tips natural to them have disappeared, and been replaced by rounded broader segments, which tend to form a flower with a smooth circular orifice. There are those who will object to this, as an undesirable monotony of shape, but the buyers will have it so, and there is an end of the matter. It is the fashion. We will give—like the sporting prophets, our selection of beauties for the present season for the benefit of our readers in the country, who may wish to know what is being done with these plants, premising that all, or nearly all, are varieties which are flowering for the first time. Cupid has a white ground on which are scarlet flames; Ollerton is a fine crimson-coloured flower, with remarkably rounded segments; Agathe is a white, thinly-veined or tesselated with red; Gorgeous has glowing crimson blossoms of the shade of Sprekelia formosissima; Phædra has bright scarlet stripes on white; Bandon is a fine bloom of greenish-white in the upper segments, striped and tesselated elsewhere; Guthrie is a large, robust, bright crimson flower; Paulina, rosy-red, with pointed stripes on a white; Nebulosa is of bright crimson, with pointed segments; Armoire is a fine white, with red stripes; Condor is a neat crimson flower; Perle is white, tesselated with crimson—a very fine, stout variety; Finedon, Eathorpe, Marlay, Islanmore, Dulas are very nice varieties; Avontes, Dumbarton, Lucan, Carridon, Grodno, Marina Galliard, are remarkable as fine well-formed crimson-coloured varieties. Philomel is tessalated with cerise on a white ground, and has a green throat.

In other houses there were noted a set of seven new Caladiums, with apparently C. fulgens blood in them, dwarf of stature, charming as candle-light plants for the dinner-table, and the decoration of apartments. The increase of the plants composing this set is being busily pushed on. The large show-house is overwhelmingly gay and fragrant with Lilacs, Staphylea, Roses, Genista, Dutch Bulbs, Ericas, Boronia megastigma, Acacias, Deutzias, Spiræas, Mignonette, &c. The various Cliveias are full of bloom—gorgeous and solid-looking.

The Camellia-house will soon present a picture of floral loveliness. The plants are late in blooming this year. Orchids are coming on generally, and many well-known species and varieties were remarked, as Odontoglossum excellens, O. Wilckeanum, a pink variety of O. crispum; Ada aurantiaca, many grand pieces of Angræcum sesquipedale, Cypripedium Aphrodite, a pretty thing obtained from Lawrenceanum × niveum; and the continuous-flowering C. Lathamianum.

Dendrobiums formed a numerous flowering contingent, but it must suffice to mention D. Cybele nobilius, a cross got from D. Findlayanum and D. nobile nobilius, very pretty in its mixture of rosy-purple and white; D. Cordelia = leucopterum and niveum; D. atro-violaceum, a species from Papua; D. Alcipe, with purple sepals and petals, a white lip, and a dark eye, out of D. Freemani × D. Wardianum; D. Wardianum Schroderæ, D. Murrhinum, D. Hildebrandii, yellowish-white, with greenish backs to the sepals, and the petals of small size. Oncidium eburneo-Lowianum × is a variety which attracts attention at once. The other cross in which O. eburneum is the seed-parent, is much lighter in colour than the first-named. A good mass of the pure white Cœlogyne cristata was noted in the rock-house, as was a flowering plant of the rare Lælia flava. The inmates of the great Cattleya-house have, in our opinion, never appeared so healthy, so green in foliage, and generally so strong, as this season. The Cattleya Trianæi are fast going over, but a good lot of C. Mendeli, C. Mossiæ, and the Lælia purpuratas are fast showing up for flower.

MR. JOHN ROBSON, BOWDON.

The nursery quarters here, in an outlying portion of Bowdon, cover about 8 acres, and the glass-houses 1 acre. Mr. Robson, beginning in a small way, has managed with economy and a rising trade to acquire the greater portion of this freehold. The site is low-lying, but the soil is good, and it rests upon a bed of sand, which suits most of the ever-greens and Conifers grown for sale purposes. The count and reckoning after the weather-severity we have had tells its own tale, in the number of plants affected. The Hollies, of which there is a goodly assortment, have more or less suffered; even the hardiest of the aquifolium race, if not browned and disfigured, are shedding their leaves. The golden

forms will require time to recuperate, and the silver, although less affected, show signs of the dire effects of a thermometer frequently verging upon zero. Rhododendrons in quantity also have partially suffered. Laurels of all kinds are severely browned. Berberis Aquifolium has scarcely a green leaf, but B. japonica, by its side, in many rows, is scarcely injured. The Lawson Cypress in ordinary forms are much touched, but the erecta viridis and Fraseri forms within the same quarters are quite uninjured. The Cedrus Deodara and C. atlantica will lose all their leaves. Pinus austriaca and Cembra are green as grass, Osmanthus ilicifolius and Olearii Haastii are untouched. Golden Yews are little affected, while the grosser shoots of the green form are as if scorched. There is nothing hardier or finer than Retinospora pisifera aurea, which is grown extensively. Aucubas have suffered, but not to the extent we have seen elsewhere. Roses are much injured. The herbaceous plants here are in quantities, and doubtless will look up with their usual freshness as the season advances. Wallflowers are killed outright; and, indeed, the vegetables in spare quarters, such as Brussels Sprouts and Hardy Greens, have scarcely a semblance of life. The deciduous trees of the ordinary kinds, such as are used for villa ornamentation, are uninjured; and now that the frost is out of the ground, are being moved for current orders. The whole of the ground seems profitably occupied, and, although speaking of it in the dead season, it seems to have been well in hand for years.

The trade in cut flowers is considerable, and although there is one acre of glass, it takes it all to supply the shop in the centre of the thriving township of Bowdon and Altrincham. Roses are largely cultivated for cut flowers, one span-house, 107 by 16 feet, being principally devoted to the culture of Tea Roses. The plants are budded on the Briar root, planted out in a centre bed, and then the shoots are pegged down as they grow. The bed, only 8 inches deep, is covered every year with a thick top-dressing of cow-manure, and nothing could be finer than the health of the plants and the show of flowers. It is supposed by many that thin earth beds will soon wear out the plants, but the converse is apparent here, as most of them have been planted seven years, and the result is as we notice. Seed beds round the house are also used in this way. The sorts grown are Niphetos, a most invaluable white; then Bougère, which is freer than Catherine Mermet, although the flower is not so large, but is found all round to be the best-paying light red; then Perle des Jardins for a yellow. There is shelving overhead in the rose house for the culture of Dendrobes, and right well they do with the moisture generated by these heavily-mulched dung-beds. Water is collected from the roof into copious tanks, and the culture in all respects, whether we look to the Roses or the Odontoglossum citrosmum, the Cœlogyne Dayana or the numerous Dendrobes, is a most successful one.

The Camellia-house, which does duty for that genus as well as for Palms, Tree Ferns, and suchlike, is 86 by 30 feet; but Mr. Robson avers that it is the most paying house he has got, in consequence, of course, of the downgoing tendency of that formal-looking but withal beautiful race of plants. What helps the paying part of the house is the quantity of flowers produced from some of the best of the scraggy-growing but beautiful-flowering hybrid Himalayan Rhododendrons. Foremost among them in this way is the best variety (there are two varieties) of Rhododendron Veitchianum. Its beautiful white flowers come in so well about Easter, and they cover a "lot of ground," in any floral design. The old R. Gibsoni is appreciated, and among the brighter-coloured group, Duchess of Connaught. White Lapagerias festoons the roof, which is 20 feet to the apex—not a house certainly for general remunerative business purposes, and Mr. Robson says if he were building again he would not put up such a house.

There is a group of eight houses, 60 by 12 feet, each having its specialties. New Holland plants are cultivated in one division along with Epacris and Carnations, and Nerines. These Carnations are among the best furnishers for those who have to supply a shop. Miss Joliffe is largely grown, and seems as a pink colour to take front rank, flowering at the season it does; then the white La Neige, and the red Winter Cheer follow the leader. Uriah Pike is grown in quantities, but it seems a better spring than a winter flowerer. The Richardia is planted out in beds, and furnishes in this way great spathes for cutting. This admirable wreath-flower revels in treatment that furnishes big Cabbages and prodigious flowers.

A house of similar size is devoted to Odontoglossums, of which O. crispum forms the chief. The thousands grown here seem doing excellently, and what does not pass in the way of sale as plants, more than pay for the room they take up as cut flowers. They have had a hard winter to pull through, but they seem all safe, neither affected with cold nor oppressed with too much artificial heat, which has a tendency in the dark days to make many of them not only drop buds, but their leaves also.

In another house are the Cœlogynes, and a number of Orchids that require more warmth than the crispum house affords. The Chatsworth variety was very prominent, because of its longer racemes and better-formed flowers. The ordinary form is forced and is useful in this way. The C. Lemoinei appears to stand longer when cut than its compeers, and so does the C. C. alba, both of which, the initiated in these matters say carry a longer rhizome between bulb and bulb. Vanda cœrulea was going along well in this climate, and so was Odontoglossum grande, which we do not see very satisfactorily done, as a rule, in these times.

Palms of table size, and Asparagus plumosus and deflexus, which seems to get browned at the extremities in a climate which does not suit it, were in company with lots of Pleiones, of which P. lagenaria and P. maculata are the most prized. Then Oncidium crispum, rather a miffy subject, was doing well suspended, the ground moisture from the forced white Lilies doing them, in my opinion, a power of good. Dendrobium Phalænopsis, which everybody calls Schroderianum, was in quantity. It is doubtful, however, if this beautiful North Australian Dendrobe will last out longer than the stubborn superbiens. Dendrobium Ainsworthii, still one of the most distinct, because of its nearly pure white segments, was growing well in suspended baskets.

Phalænopsis are in quantities, both established and semi-established; Angræcum sesquipedale is doing more than well in the hot moist air, and the hybrid Dendrobes, cut up and grown for sale purposes, are wonderfully vigorous. This applies to D. Schneiderianum, one of the most distinct and best of the hybrids, with the blood of D. Findleyanum and D. heterocarpum in prominent mixture. This is a worthy achievement on the part of our friend, Mr. Holmes, who since the Hardy collection was broken up, has taken to other business. Along with this was the pictorial D. nobile Cooksoni, and Veitch's superb form of D. Leechianum, still in its way unrivalled.

Dendrobium Falconeri was in rude health over some rocks, suspended along with Cattleya Trianæi, and C. Mossiæ, which now finds a readier sale than the Signor Trianæi form of labiata. Lælia purpurata and L. tenebrosa are doing well, and so are those Cypripediums that are grown here. Even as a remarkable plant, the old C. insigne is in demand, and it more than pays its room as a flower-producer, such is the fashion of the times, and the demand for Ladies Slippers. Cymbidium eburneum is largely grown by Mr. Robson for cut-flower purposes, and he has lots of flowers which he uses for wreaths in admixture, and are much prized by such as know the value of good flowers.

Eucharis is indispensable, and grown as it is here in smallish pots, and fed-up, it gives a corresponding yield. Seedling Anthuriums of the Ward type, furnish brilliant spathes, which last better than most things, provided they are not kept in cold rooms after they are cut. A large house is kept for Chrysanthemums, with the roof covered with Roses, and during summer it provides quantities of Tomatos, which without the services of the middle-man offer adequate returns. The suitable appendages of frames for bedding-out plants are in evidence, and the whole place seems to be under capable management. *Visitor.*

The Herbaceous Border.

PAPAVER UMBROSUM.

In *Index Kewensis*, I find this given as a garden variety of Papaver Rhœas, and I do not question its correctness. It is, however, noteworthy, that amongst the hundreds of intermediate forms and hybrids which come up in my garden, originating spontaneously, I have never seen anything like an intermediate form between these two, although for at least ten years they have flowered simultaneously, in mixed masses, in many parts of the garden, and have been allowed to come from self-sown seed. As for the many-coloured and double varieties of Papaver Rhœas which I grow, they are all the produce of seed which was sent to me by Sir J. Hooker as P. Hookeri. I find P. Hookeri given in *Index Kewensis* as a distinct species, though apparently identical with those varieties of P. Rhœas commonly known as Shirley, Poppies. [It is of much larger growth. Ed.] *C. Wolley Dod, Edge Hall, Malpas.*

Senecio pulcher.

This handsome species of Senecio is quite indispensable for the herbaceous border. Possessed of a vigorous habit, its large shining leaves are attractive when the plant is not in flower, and when its handsome magenta-crimson blossoms are well expanded the plant is almost unique. The flowers are from 3 to 4 inches across, consequently in a large group it creates a most distinct effect. Careful cultivation is necessary, and in the case of deep and naturally rich soils, no manure should be added at planting-time, or a certain grossness of habit is obtained, which is very undesirable. Nor is this all: the over-fed growth is very susceptible to a disease, which mars the beauty of the foliage, and injuriously affects the blooms.

Firm planting and a moderately rich soil, with plenty of waterings during dry summers, are essential. Arranged in bold irregular groups, the best effect is obtained, there being a picturesqueness about the plant which will not permit of any formal arrangement. It is possible that the extreme frosts have seriously injured, if not actually killed, many of the plants. In any case, unless the crowns were protected, the foliage and stems on the surface will be little better than a rotten mass. Do not, however, destroy the roots below without examination. If they are lifted, the majority will be fresh and sound, especially those a few inches deep in the soil. The largest of these roots should be cut into lengths of 1 inch or thereabouts, and inserted in very sandy soil around the interior of some convenient-sized pots. Two dozen of such roots may readily be inserted in a 5-inch pot, and still allow room for small leaves to develop. Take care that the upper or exposed part of these root-cuttings has been cut cleanly and with a sharp knife. If bruised they frequently refuse to shoot. Place the pots in the greenhouse in a shaded place, or on gentle bottom-heat if available. When leaves of 1 inch long are made, the root-cutting will have emitted fibrous roots below, and at this stage the young plants may be treated similarly to seedling plants. In the open ground the roots of this Senecio rarely show a tendency to growth, a fact chiefly due, I believe, to decay extending from the surface downwards. *J.*

Polygonatum (Convallaria) multiflorum.

In simple grace and beauty this fine perennial is the equal of any herbaceous plants grown in our gardens. It is well known in the outside border, and in many gardens its qualities are fully appreciated. The appropriateness of the plant for forcing purposes, however, appears to be much overlooked. Well-established clumps may be lifted during open weather in autumn and winter, and a selection of the larger roots planted in 8-inch pots. The plants should be brought on

gently in heat, and when the blossoms are expanding transferred to the conservatory, where the arching stems and drooping, fragrant bells make them charming objects. When growing in pots rigidly refrain from staking it in upright fashion, which destroys every charm that the plant has. Large clumps in the border or woodland should be transplanted before growth commences, and especially so if signs of deterioration are apparent. In deep and rich soil in shady places, the plant is always pleasing, particularly so as bold groups among hardy Ferns. Generally speaking, it is not benefited by frequent removal, and this should only be done as necessity requires, or for increasing the stock of plants. *J.*

Obituary.

Charles Gater.—We regret to have to announce the death of Mr. Charles Gater, well known in the rosarian world as Rose-foreman to Messrs. Paul & Son, of Cheshunt, for more than thirty-four years. His knowledge of Roses and his judgment as to their merits were remarkable.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending March 30.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 —	8	18	— 47	+ 295	7 +	59	9 9	29	27
1	1 —	7	28	— 94	+ 433	11 +	48	6 5	13	26
2	1 +	23	13	— 57	+ 299	5 +	58	7 5	16	26
3	2 +	32	12	— 54	+ 313	5 +	52	5·6	27	29
4	1 +	28	13	— 82	+ 399	5 +	42	5·4	20	26
5	1 +	29	8	— 98	+ 353	4 +	41	4·8	33	28
6	1 —	12	23	— 81	+ 378	3 +	48	6 8	19	25
7	1 —	18	11	— 77	+ 327	9 +	48	6·8	11	24
8	1 +	26	7	— 118	+ 355	9 +	46	8·2	43	34
9	1 —	14	21	— 113	+ 289	9 +	56	7·8	25	26
10	0 aver	6	25	— 175	+ 239	5 +	43	9·5	33	29
*	0 aver	31	0	— 141	+ 248	6 +	55	7·4	50	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending March 30, is furnished from the *Meteorological Office*:—

"The *weather* during this week was very unsettled and changeable. Rain fell daily in nearly all districts, but fine intervals were experienced at times, especially in the south and south-west. Thunder and lightning occurred at several of the English stations during the earlier days of the week.

"The *temperature* did not differ materially from the mean, being slightly below it in the more northern districts, and a little above it in the south. The highest of the maxima were registered on March 24, when they ranged from 60° in 'England, E.', and 58° in 'England, N.E.' and the 'Midland Counties,' to 51° in 'Scotland, N.' The lowest of the minima were recorded during the middle part of the period, when th thermometer fell to 22° in 'Scotland, E.', 25° in 'Scotland, N.', and 28° in 'England, N.E.', and to between 30° and 35° in all other districts except the 'Channel Islands,' where the lowest reading was 39°.

"The *rainfall* exceeded the mean in all districts, the excess being considerable over the greater part of England, large in most of the Irish and Scotch districts, and in the western and north-western parts of England.

"The *bright sunshine* varied a good deal in amount in different parts of the kingdom, but showed a deficiency in most districts, and only exceeded the normal in 'Scotland, N.', 'England, S.W.', and the 'Channel Islands.' The percentage of the possible duration ranged from 11 in 'England, N.W.', 13 in 'Scotland, E.', and 16 in 'England, N.E.', to 33 in 'England, S.', 43 in 'England, S.W.', and to 50 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, *April* 4.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per dozen blooms	2 6	3 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	3 0
Daffodils, double, dozen bunches ...	3 0	4 0
— single, doz. bun.	4 0	6 0
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 0	2 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Narcissus, Pheasant-eyed, 12 bun.	9 0	15 0
— Paper-white, p. 12 bun. ...	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	6 0	8 0
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	2 6	3 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Azaleas, per doz. ...	42 0	48 0
Cinerarias, per doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	7 6
Erica hyemalis, dz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	10 0	18 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Spiræas, per doz. ...	10 0	12 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cobs, per 100 lb. ...	20 0	25 0
Grapes, 1st quality, black, English, per lb.	3 0	3 6
Pine-apples, St. Michael, each ...	2 0	6 0
Strawberries, morning gathered, lb.	5 0	6 0
„ „ 2nds., lb.	2 0	3 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Asparagus, per 100 heads	6 0	8 0
Beans, per lb. ...	1 6	1 9
Cauliflowers, p. doz.	2 0	3 0
Cucumbers, per doz.	3 0	4 0
Mint, per doz. bun.	6 0	9 0
Mushrooms, per lb.	0 8	0 10
Onions, per bushel	2 0	2 6
Potatos, Channel Islands, per lb. ...	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 9
Seakale, p. punnet	1 6	1 9
Tomatos, Canary Islands, per lb. ...	0 3	0 6
— Home-grown, lb.	1 6	1 9

Old Potatos.

Trade not nearly so good as last week, consequently prices have declined 5*s.* to 10*s.* per ton.

New Potatos.

Supplies from the Channel Islands still short, and best stuff realising good prices. Canary Islands, of large and good samples, are making 15*s.* to 18*s.* per cwt. *J. B. Thomas.*

SEEDS.

London: *April* 3.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report an active consumptive demand for Clover and Grass seeds. Country buyers are taking advantage of the moderate rates ruling in London, to secure their supplies. Spring Tares are this season choice in quality, and low in price. Haricot Beans continue scarce and firm; Peas have lately been slow. For White and Scarlet Runners there is a brisk sale. Fine Canadian Wonder Beans offer on most reasonable terms. As regards Canary and Hempseed, there is no fresh feature. Rapeseed is firm. Millet, Buckwheat, and Linseed move off on former currencies.

FRUITS AND VEGETABLES.

Borough: *April* 2.—Quotations:—Savoys, 5*s.* to 10*s.* per tally; Cauliflowers, 1*s.* 3*d.* to 2*s.* per doz.; Sprouts, 1*s.* 6*d.* to 2*s.* 6*d.* per half sieve; Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 2*s.* 6*d.* to 3*s.* 6*d.*; Parsnips, 3*s.* to 3*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Onions, English, 5*s.* to 6*s.* per cwt.; do., foreign, 3*s.* to 5*s.* per bag; Apples, 4*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 20*s.* per barrel.

Stratford: *April* 3.—The supply to this market during the past week has been excellent, and with a large attendance of buyers a brisk trade was done at the undermentioned quotations:—Savoys, 8*s.* to 10*s.* per tally; Turnip-tops, 2*s.* 9*d.* to 4*s.* per bag; Broccoli, 2*s.* 6*d.* to 3*s.* per sieve; Cauliflowers, 2*s.* to 2*s.* 6*d.* per dozen; do. 10*s.* to 12*s.* per tally; Thousand Heads, 2*s.* to 2*s.* 9*d.* per bag; Swede Tops, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Carrots, household, 24*s.* to 30*s.* per ton; do., cattle-feeding, 12*s.* to 20*s.* do.; Parsnips, 4*s.* to 4*s.* 6*d.* per cwt. Mangolds, 12*s.* to 20*s.* per ton; Swedes, 12*s.* to 20*s.* do.; Onions, English, 60*s.* to 90*s.* do.; do., Dutch, 2*s.* to 2*s.* 9*d.* per bag; do., Bordeaux, 2*s.* to 3*s.* 6*d.* per case; Apples, English, 2*s.* 6*d.* to 6*s.* per bushel; do., American, 12*s.* to 18*s.* per barrel; Watercress, 6*d.* per dozen.

Farringdon: *April* 4.—Quotations:—Broccoli, 2*s.* to 2*s.* 6*d.* per bushel, and 3*s.* to 4*s.* per bag; Turnip-tops, 1*s.* 9*d.* to 2*s.* per bushel, and 3*s.* to 3*s.* 6*d.* per bag; Kale, 2*s.* 6*d.* to 3*s.* per bushel; Greens, 1*s.* 6*d.* to 2*s.* do.; Cauliflowers, 2*s.* to 2*s.* 3*d.* per dozen; Leeks, 1*s.* 6*d.* per dozen; Sprouts, 2*s.* per half-sieve; Parsnips, 4*s.* per cwt.; Carrots, 1*s.* 6*d.* do.; Turnips, 2*s.* 6*d.* do.; English Onions, £5 10*s.* per ton; Foreign, 2*s.* per bag; Beetroot, 2*s.* 6*d.* per cwt.; Cucumbers, 3*s.* 6*d.* to 5*s.* per doz.; Rhubarb, 1*s.* 10*d.* to 2*s.* per dozen; Artichokes, 8*s.* per ton.

POTATOS.

Borough: *April* 2.—Quotations ranged from 90*s.* to 130*s.* per ton.

Stratford: *April* 2.—Quotations:—Magnums, dark soil, 85*s.* to 95*s.*; do., uplands, 90*s.* to 105*s.*; upland Bruces, 95*s.* to 110*s.*; Main Crop Kidneys, 95*s.* to 110*s.*; Imperators, 90*s.* to 105*s.* Scotch Magnums, 95*s.* to 110*s.*; Scotch Bruces, 95*s.* to 110*s.*; do. Main Crop, 110*s.* to 120*s.* per ton; German Magnums, 4*s.* to 5*s.* per bag; do. Bruces, 4*s.* to 5*s.* per bag; French Chasdons, 65*s.* to 75*s.* per ton.

Farringdon: *April* 4.—Quotations:—Dunbars, 120*s.* to 130*s.*; Scotch Bruces, 90*s.* to 110*s.*; do. Main Crop, 100*s.* to 120*s.*; Cambridgeshire Magnums, 80*s.* to 90*s.*; Bruce, 85*s.* to 95*s.*; Imperators, 90*s.* to 100*s.* per ton; Bedfords, Main Crop, 110*s.* to 120*s.*; Bruces, 90*s.* to 100*s.*; Magnums, 90*s.* to 100*s.*; Yorkshire Imperators, 120*s.* to 125*s.* per ton.

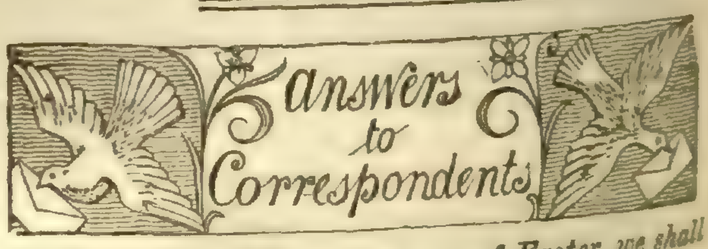
London Averages: *April* 3.—Quotations:—Dunbars, 110*s.* to 130*s.*; Snowdrops, 100*s.* to 120*s.*; Main Crops, 90*s.* to 120*s.*; Magnums, 90*s.* to 110*s.*; Hebrons, 120*s.* to 140*s.*; Regents, 100*s.* to 120*s.*; Blacklands, 85*s.* to 100*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending March 30, and for the corresponding period last year:—1895: Wheat, 20*s.* 3*d.*; Barley, 20*s.* 10*d.*; Oats, 14*s.*; 1894: Wheat, 24*s.* 6*d.*; Barley, 27*s.* 1*d.*; Oats, 18*s.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 110*s.*; do., inferior, 60*s.* to 90*s.*; hay, best, 60*s.* to 90*s.*; do., inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 30*s.* per load.



*** *Owing to the occurrence of Easter, we shall publish a day earlier than usual next week. Correspondents, please note.*

Books: *J. G. B.* (1). The best botanical book for beginners, embracing the three divisions you name is Henfrey's *Elementary Course of Botany*, 4th edition, by Masters and Bennett, and published by Jno. Van Voorst, Paternoster Row, London, in 1884. We know of no reliable work published since that date which deals with the three subjects. (2). You do not say what division in chemistry it is wished to study. (3). *Manual of Injurious Insects, and Methods of Prevention*, by Miss E. A. Ormerod, 2nd edit., published in 1890

by Simpkin, Marshall, Hamilton, Kent & Co., Ltd., London, price 5*s*. Miss Ormerod also published a smaller work through the same firm in 1884, viz., *Guide to Methods of Insect Life*, with remedies and preventions of insect ravages, price 2*s*.

Covering for Wounds in a Beech Tree: *J. H. A.* After paring the surface smooth, paint it over with slate-coloured oil-paint, or cover the wound with lead or zinc, nailed on securely, painting that to resemble the bark.

Gardenia Flower-buds Dropping: *G. K. C.* The plants have begun to make growth owing to the high degree of temperature kept up—70° to 80°—is 10° too high, the flower-buds fall off. There is nothing to be done beyond shifting or top-dressing the plants, and getting them to grow quickly. You may stop the points of the shoots or not as you think fit, remembering that the more shoots in reason the more flowers, but they will be smaller than on unstopped shoots. Afford manure-water occasionally and shade but little, and when the growth is deemed to be sufficient, or it ceases naturally, accustom the plants to more air and less moisture; in fact, in the summer-time a warm greenhouse or pit is warm enough for Gardenias.

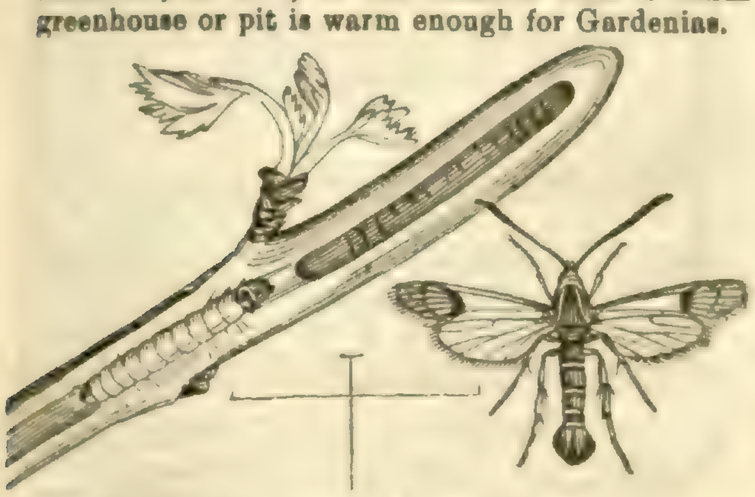


Fig. 61.—Trochilium tipuliforme.

Insect: *Bond, Battle.* There were no "weevils" in the box when it reached us. The caterpillars boring the centre of the Currant branches are those of the Currant Clear-wing Moth (Trochilium tipuliforme). Where a twig or branch is found to be bored, prune down to below the bored portion, and carefully burn the prunings. Later in the season it will be found that on some branches the leaves do not develop properly, or flag; cut these out and burn them. As the caterpillars are now nearly full-grown, the mischief is practically done for the season, and all one can do is to lessen the amount for the next. *R. McL.*

Marguerite Carnation: *E. O. W.* We cannot say how tall the plants would grow. Seedling Carnations grow usually quite 2 feet high in good land.

Names of Plants: *W. Cutbush.* Cotoneaster affinis.—*A. M. D.* Phalænopsis Parishii, Rchb. f., var. Lobbii, Rchb. f.—*W. I. T.* Gnidia carinata (syn. G. imberbis). In Gnidia the ovary is superior.—*E. O. W.* 1, Cryptomeria japonica; 2, Sequoia sempervirens; 3, Abies Douglasi; but why send such miserable scraps?—*Burbach.* The Cypripedium is of the cross you intimate, and its correct name is C. × Lathamianum. The other names given should be varietal names. The Lycaste Skinneri is a remarkably fine one. The white-lip fragrant Orchid is called in gardens, Odontoglossum Sanderianum. It is the finest form of O. constrictum, and is not a natural hybrid of it. The other is O. gloriosum, which strict botanists place under O. odoratum. The publications you mention give the best coloured plates of Orchids.—*C. H.* Candollea tetrandra.—*T. G., Sheffield.* Linaria cymbalaria.—*J. S., Notts.* Phaius grandifolius. Your plants must be very well grown.—*T. A. J.* No. 1 is called in some gardens, Cattleya Trianæi virginalis; 2. C. T. delicata rosea; 3, Cattleya labiata Luddemanniana (speciosissimum), is a pretty variety, but not very free to flower.—*J. L. McKellar* Passiflora alata

Peach Trees: *J. P. R.* The Peach under glass should have been pruned during the winter, but although it is late for such an operation, it may still be done with a fair chance of your getting a partial crop. The operator must be very careful, or he may knock off most of the bloom-buds. You had better get a manual of Peach culture. There was one published by Hamilton Adams & Co., London, price 6*d*.

Peach Trees and Pelargoniums: *W. E.* Do not fumigate the house whilst the trees are in bloom or the foliage is very young, or you will do injury to both. You might use Richards' XL vaporiser.

Pelargoniums: *J. P., Northfields.* The white sport is pretty, and, from the description you give, it ought to be worth cultivating.

Pinks: *Foreman.* New, Ernest Ladhams, large, full, pink with carmine centre, free; Her Majesty, white—nothing else so good; Duncan, rosy-purple; Emerald, red, fine form, constant; Eurydice, rosy-red, fine form; Heath's Beauty, bright red, clear and distinct—a good market variety; Irene, ruby, distinct; Mrs. Hobbs, purple, fine form; Oliver Cromwell, light rose, free; Rosy Morn, deep cerise, large, full, distinct; Tutor, deep ruby. *Fancy Pinks:* Anne Boleyne, Derby Day, Early Blush, Mrs. Sinkins, Souvenir de Sale.

Relative Position of Bracteoles and Sepals: *P. T. I.* The best thing we can do to answer your question is to cite the following passage from Dr. Vine's *Student's Text Book of Botany*, just published (see p. 506):—"As a general rule, the genetic relation between the sepals and the prophylla is that the first sepal of a successively-developed calyx arises on the opposite side of the axis (though higher) to the single prophyllum, or to the upper (B) when there are two. Hence the position of the prophylla affects that of the sepals, and, consequently, that of all the floral organs. Thus, it is not uncommon in the monocotyledons for the single prophyllum to be placed either obliquely or laterally (some Liliaceæ, Canna, &c.), and then all the whorls of the flower present a corresponding displacement (fig. 319 B); the same thing occurs in Dicotyledons, when, as is frequently the case, the prophylla are not exactly lateral, but converge anteriorly or posteriorly, or are even anterior and posterior (fig. 320 B). When the one or the two prophylla are suppressed, the position of the sepals may be the same as if the prophylla were present (e.g., Cruciferæ); but, more commonly, the first sepals are developed in the places of the missing prophylla. Thus, in the absence of two lateral prophylla, the first two sepals of a tetramerous calyx are lateral (e.g., tetramerous calyx of Francoa, Epilobium, Clarkia); again, in a trimerous calyx, the first normally anterior sepal tends to be posterior when the single posterior prophyllum is absent (e.g., Orchis, Musa); and, further, in a pentamerous calyx, the first and second sepals are postero-lateral (e.g., Primula, Reseda), since the first sepal occupies the place of prophyllum α, and the second that of prophyllum β, with slight posterior convergence."

Seakale: *J. W.* The pieces would grow if planted without first having prepared them and induced them to start into growth; but their season of growth would be shortened by about one month, and unless the autumn should be very favourable to vegetation, they would scarcely form fine forcing Kale. If, instead of cutting up the roots, you were to select all the stout pieces with one bud on each, and cut them, say to 6—8 inches in length, planting these on well-dug, fairly rich ground, dropping them into holes with the bud an inch or so below the surface, you would obtain good crowns this year. See Kitchen Garden Calendar for last week.

Shade Plants under Beech and Elm Trees: *Shirburn.* If Ruscus and Box have failed to grow, you should try the large-growing variety of Periwinkle, common Ivy and Hypericum calycinum. We know of no species of grass that would succeed.

Tropæolum speciosum: *A. F.* Plant it out at the foot of an evergreen hedge, or near evergreen shrubs, and let it climb as it will. It is much prettier so. A small quantity of fresh loamy soil and leaf-mould should be placed round the ball of roots and mould when planting these.

White Chrysanthemums for Marketing Purposes: *Foreman.* To begin with, Lady Fitzwygram cannot be excelled for flowering in September and October; Elaine, Eynsford White, and Mdlle. Lacroix for November; and for December, Léon Frache, M. E. A. Carrière, Florence Davis, and Mrs. C. Carey. While for the latest batch, no variety is so good as L. Canning, giving a profusion of pure white flowers through January and February. *E. Molyneux.*

Communications Received.—P. Grieve (thanks for newspaper. We have not space to chronicle the events of the storm).—J. O'B.—Anxious Gardener.—W. L. Y.—C. C., Penang, shortly.—W. G.—G. C.—W. Lodian, Melbourne, Australia.—P. J. G.—E. H. J.—F. W. B.—E. M.—H. C. F.—W. N.—N. E. B.—E. C.—W. G. S.—H. B., Jersey.—G. J.—P. Barr & Son.—F. R. B.—Constant Reader.—T. F.—J. L. McK.—H. O. E.—Dobbs & Co.

RANSOMES'

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In all sizes to suit every requirement.

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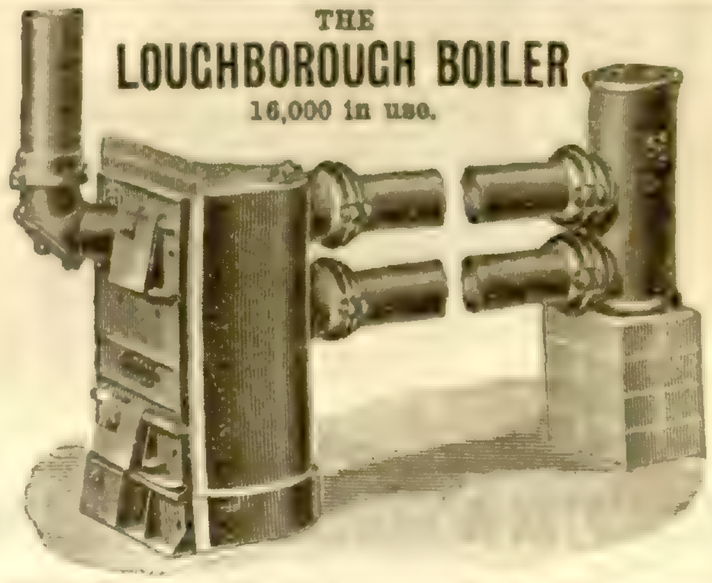

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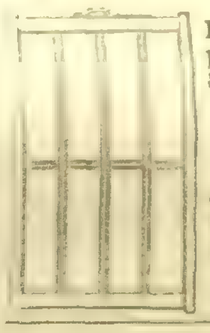

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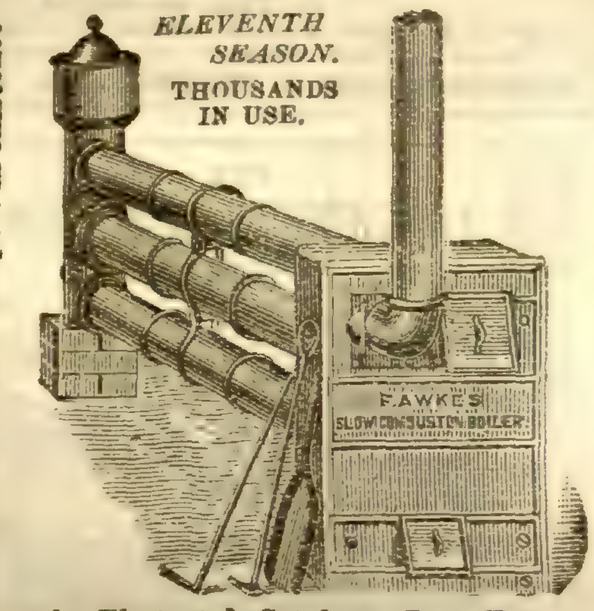

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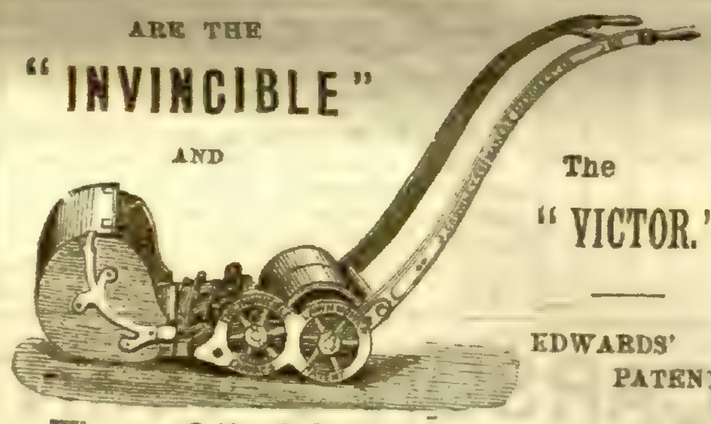

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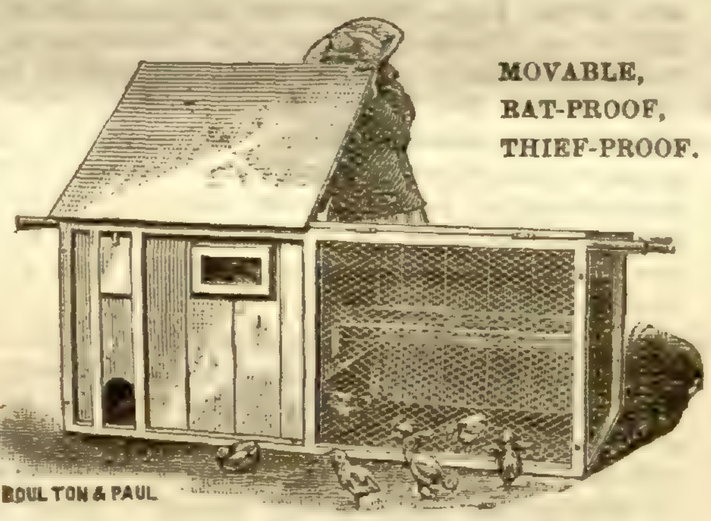

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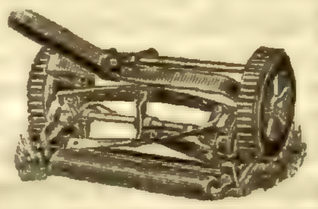

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Biggar, August 29, 1894.

GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.

ROBERT BOA.

UNSOLICITED TESTIMONIALS

The Gardens, Laleham House, Staines, June, 1894.

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THOS. ANDARSON.

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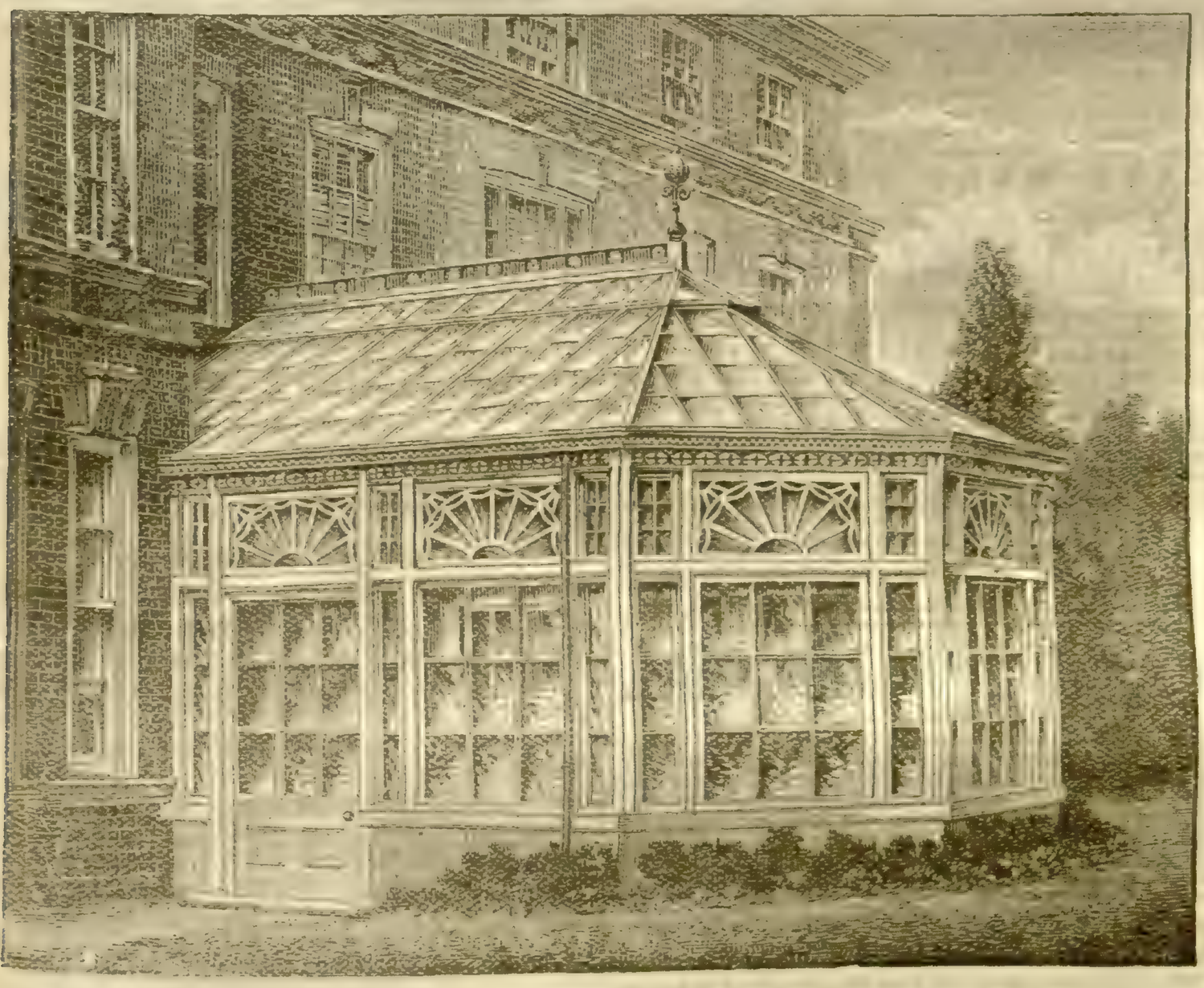

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FRIDAY NEXT, *April* 12, *being* GOOD FRIDAY, *the* "GARDENERS' CHRONICLE" *will be published on* THURSDAY, *April* 11.

ADVERTISEMENTS *for* NEXT WEEK *must therefore reach the Office not* LATER *than* WEDNESDAY MORNING, *April* 10.

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MR T. A. GLOVER, for eight and a half years Gardener at the Manor House, Wallington, Surrey, as Head Gardener to F. MACMILLAN, Esq., Temple Dinsley, Hitchin, Herts.

Mr. J. UPTON, until lately Foreman at Wykehurst Gardens, Bolney, Hayward's Heath, as Gardener to Mr. J. BLENCARE, Albron House, Lewes, Sussex.

Mr. DANIEL SHEPPARD, for over thirteen years Head Gardener and Forester at Loddington, as Gardener to Mrs. THACKWELL, Rostellan Castle, co. Cork.

Mr. W. M. DAVIS, as Head Gardener to HENRY ADAMS, Esq., Cannon Hill, Maidenhead.

Mr. F. WILLCOCKS, late Foreman at Ware Park, Herts, and Croxton Park, St. Neot's, as Gardener to J. WAGSTAFF, Esq., The Court, Alvaston, Derby.

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WM. CUTBUSH & SON, Highgate Nurseries, London, N.—Hardy, Herbaceous, and Bulbous Plants, &c.

BOEHMER & Co., 4, 5, and 28, Bluff, Yokohama, Japan—Japanese Bulbs, Plants, Seeds, &c., for exportation.

L. DE SMET-DUVIVIER, 319, Chaussée d'Anvers, Mont St. Amand, Ghent, Belgium.

WM. CLIBRAN & SON, Oldfield Nurseries, Altrincham—General Plant Catalogue.

E. H. KRELAGE & SON, Bloemhof Nurseries, Haarlem, Holland—Bulbs and Roots for Spring Planting.

JAMES BACKHOUSE & SON, York—Alpine Plants, Hardy Perennials, and Florists' Flowers.

WM. PAUL & SON, Waltham Cross, Herts—New Roses and Florists' Flowers.

E. H. KRELAGE & SON, Haarlem, Holland—General Bulbs and Roots.

B. S. WILLIAMS & SON, Victoria and Paradise Nursery, Upper Holloway, London, N.—General Plant Catalogue.

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5	„ ..	0	3	6	16	„ ..	0	9	0
6	„ ..	0	4	0	17	„ ..	0	9	6
7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

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MAT B. DODDS, Town Clerk, April, 1895.

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WANTED, a first-class GARDENER (SINGLE-HANDED).—Must have good general experience, with special knowledge of Orchids and Florist's Flowers.—Apply, D. A. S., Chalgrove, Thurleigh Road, Nightingale Lane, Balham, S.W.

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WANTED, an experienced single Lawn and Flower-bed GARDENER, between 30 and 40. Wages, 18s. per week, with bothy and linen.—Apply to A. S., 7, Sloane Square, S.W.

WANTED, FOREMAN, in Market Garden.—Must be practical and good manager. Well up in Wall Fruit and Vegetable Growing, also Peaches, Tomatos, Cucumbers, Mushrooms, &c., under Glass.—Apply, stating age, wages required, and where employed, to N. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERY FOREMEN.—WANTED, AT ONCE, in a London Market Nursery, an experienced MAN; must be thoroughly up to his work. Good Manager of men, and First-class Grower of Tomatos and Roses. No application other than from Covent Garden Growers entertained.—Address, giving full particulars and wages required, to E. F. SMITH, Fruit Grower, Isleworth.

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WANTED, an industrious MAN, who understands Growing for Market. Married, no family preferred. Must be willing and obliging.—Apply E. L. F., Battwells, Shinfold, Sussex.

WANTED, at ONCE, a young MAN, about 25, for Market Nursery. Must be well up in Vines, Cucumbers, Tomatos, and Chrysanthemums.—WM. SWALLOW, Warwick Nursery, High Barnet.

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Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

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GARDENER (HEAD).—Age 30.—JAS. STOCKS, who has been General Foreman in the Stoke Edith Gardens, Hereford, for the past two and a half years, begs to offer his services to any Lady or Gentleman requiring the services of a first-class practical man.—For full particulars, apply to Mr. WARD, as above.

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GARDENER (Head), or ORCHID GROWER.—Age 38, married; total abstainer. Twelve years gardener to a Gentleman now living in London. Highly recommended.—Particulars to J. GILKS, Oxhill, Kineton, Warwick.

GARDENER (Head), where two are kept.—Single; desires to re-engage with any Lady or Gentleman requiring a practical, experienced, energetic man. Good characters.—R. OLIVER, 1, Mawney's Lane, High Street, Romford,

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GARDENER (Head Working); age 29.—R. Jones, Barford Hill Gardens, Warwick, would be pleased to recommend his late Foreman as above. Well up in all branches of Gardening.—JAMES HOLME, Greenodd, Ulverston.

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GARDENER (Head Working), where three or four are kept.—Age 32; life experience in all branches. Five years' good character.—BURLEY, Hatherop, Fairford, Glos.

GARDENER (Head Working).—Age 27; married when suited.—Josh. Vessey, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (Head Working).—Middle-age, married, no children; life experience in Fruit, Plants, Flowers, and Kitchen Gardening; over seven years' excellent character; death of employer cause of leaving.—W. B., 11, Kennard Street, Doddington Grove, Battersea Park Road, London.

GARDENER (Head Working).—Age 34, married, one child (age 5). Abstainer. Nineteen years' experience. Land and Stock if required. Wife Dairy and Poultry. Good character.—D. COX, Aldwich Place, Bognor, Sussex.

GARDENER (Head Working, where one or more are kept).—Age 33, married, two children; well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Gardens. Good character. Five years in present situation, eight previously.—A. SMITH, Church Hill, Pullborough, Sussex.

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GARDENER (Head Working).—Age 30; thoroughly experienced in all branches. Highly recommended. Leaving through breaking up of establishment. Fourteen years character.—F. NASH, Amport, Andover, Hants.

GARDENER (Head Working), where one or more are kept,—Married, no family; experienced in all branches. Good characters.—W. H., 6, Dering Road, South Croydon, Surrey.

GARDENER (Head Working), where two or three are kept.—Age 30; desires re-engagement with Lady or Gentleman. Eighteen years' experience in England and Scotland. Good characters.—CLARK, Sussex Arms Cottages, Hanworth, Middlesex.

GARDENER (Head Working), where two or three are kept.—Life experience, all round, in good establishments; steady, sober, energetic man; would want lodge.—G. GINN, Downe, Farnboro, Kent.

GARDENER (Head, or good Single-handed).—Age 45; Wife as good Cook, or Dairy. Rev. C. E. Roberts highly recommends his Gardener to any Lady or Gentleman requiring a thoroughly practical trustworthy man.—GARDENER, Rev. C. E. Roberts, The Chilterns, Halton, Tring, Bucks.

GARDENER (Head, or Single-handed).—Age 30, single; fifteen years' experience in all branches. Highly recommended.—H. ELLIOTT, The Lodge, Mauddon, near Plymouth.

GARDENER (Head, or good Single-handed).—Age 25; thoroughly experienced in the general routine of Gardening, including Vines, Fruits, Flowers, and Kitchen Garden. Well recommended.—J. R., 49, Nightingale Lane, Clapham Common S.W.

GARDENER (Head, or Second).—Age 32, married, two children; twenty years' experience in all branches, Inside and Out. Good references and character.—M., Shenfield, Brentwood, Essex.

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GARDENER (Single-handed, or where help is given).—Age 25; single; twelve years experience in Vines, Greenhouse, Flower, and Kitchen Garden.—ASHBY, 3, Cedar Villas, Mill Lane, West Hampstead, N.W.

GARDENER (Single-handed, or otherwise).—Well experienced in the general routine of Gardening. Good character. Would not object to Lodge Keeper or place of trust.—P. PARSONS, The Lodge, Halcot, Bexley.

GARDENER (Single-handed, or Under).—nine years' experience in good places, with a knowledge of Orchid Growing. Good references.—W. P., 5, Bourne Lee, Bexley, Kent.

GARDENER, where two or three are kept.—Age 24; nine years' experience in Glass, Flower, and Kitchen Garden. Good character.—W. EDWARDS, Hale Street, Staines.

GARDENER, &c.—A Gentleman can recommend a reliable middle-aged man (married). Experienced in Fruit Growing and Poultry and Game Breeding. Competent to Manage or act as Caretaker.—Z. B., 41, Wellington Street, Strand, W.C.

GARDENER (Second), Inside, or Inside and Out.—Age 22; abstainer. Three years in present situation. Life experience. Can be highly recommended.—J. CHALLIS, High Leigh, Hoddesdon, Herts.

GARDENER (Second), or IMPROVER in Houses.—Age 22. Where five or six are kept; been used to general work. Two years' good character.—G. J., Lignum Cottage, Bushey Heath.

GARDENER (Second), where three or four are kept.—Inside and Out; age 23; can be well recommended.—G. RIDLEY, Blackmore Park, Hanley Castle, Worcester.

GARDENER (Second), where four or more are kept.—Age 25; nine years' experience Inside and Out. Good references.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (Second), as IMPROVER, or small Single-handed; been in small nursery; married when suited; abstainer.—F. PIKE, Pimperne, Blandford.

GARDENER (Second), Inside, or Inside and Out.—Age 22; abstainer. Over eight years present employer; two years Second.—C. MILLS, Holwood Gardens, Beckenham, Kent.

GARDENER (Second), Inside.—Age 25; experience in all branches. With good references from last and previous situations.—A. S., Glenavon, Saltford, near Bristol.

GARDENER (Second).—Age 25, single; well up in Stove and Greenhouse Plants, &c. Good reference. Abstainer.—J. D., 92, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (Second), or JOURNEYMAN (First), Inside, or Inside and Out.—Age 24; well recommended for both; good character and total abstainer.—S. AISH, Findon, Worthing, Sussex.

GARDENER (Under), where three or four are kept.—Inside or Inside and Out; age 22, single; four years in present place.—COLLYER, The Gardens, Aldershot Park, Aldershot.

GARDENER (Under).—Age 19; Inside and Out. Three years' good character from present situation. Strong and willing.—JAMES DEADMAN, Arnold's Cottage, Hayward's Heath, Sussex.

GARDENER (Under), where two are kept.—Age 26; nine years in Garden work; good character.—J. E., Mr. STUART, 2, Plantagenet Road, New Barnet, Herts.

GARDENER (Under).—Age 20; two and a half years' good character, six years previous. General knowledge Inside and Out. Can be well recommended.—DRAKE, Sidbrook, Taunton.

GARDENER (Under) Inside and Out.—Age 22; single. Five years in present place. Good character. Bothy preferred.—F. WATTS, The Gardens, Chacombe House, Chacombe near Banbury.

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GARDENER (Under).—Age 27, single; twelve years' experience in good places.—W. FENTON, Sullington Hall Gardens, Burton-on-Trent.

GARDENER (Under).—Age 21; experienced Inside and Out. Five years' character. No objection to look after Pony Trap. Death cause of leaving.—A. HOLBEN, Mount Pleasant Farm, Willesden.

GARDENER (good Under or Second in small place).—Age 23; seven years' good experience. Good characters.—H. SMITHERS, The Gardens, Roydon Hall, Tunbridge, Kent.

GARDENER (Under), in the Kitchen Garden.—Age 23; nine years' experience, Inside and Out. Highest references.—G. CAPSTICK, 51, Wellfield Road, Streatham, Surrey.

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MANAGER.—Many years' practical experience in Growing all kinds of Fruits and Flowers for the London Markets. Highest references as to character and ability.—W., 3, Farleigh Terrace, Becket Road, West Tarring, Worthing.

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GROWER.—Age 24; well-up in Carnations, Soft-wooded and Stove Plants. Nine years' experience, and two years in the Royal Gardens, Kew.—A. U. CHAPELOW, 75, Gloucester Road, Kew.

PROPAGATOR and GROWER.—Age 29; well-up in Raising and Growing Ferns and Softwooded Stuff for Market. Could act as Salesman. Fourteen years' experience. Good references.—H. J., 3, Gloucester Terrace, Upper Edmonton, London, N.

FOREMAN, PROPAGATOR, and GROWER.—Twenty years' experience in Hard and Soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—H. JONES, Cambridge Road, Godmanchester, Hunts.

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FOREMAN, or ORCHID-GROWER, in large establishment, age 26.—Mr. Ward, Longford Castle, Salisbury, can with confidence recommend J. Powley as above. First-class experience in all branches. Has served in the above gardens for the past two years; also at Woolton Wood, and with Backhouse & Son, Yorks.

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FOREMAN.—Age 24; well up in Plants, Fruits, Chrysanthemums, House and Table Decorations, &c. Ten years' good experience in all branches. Good characters.—L. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 27; thoroughly experienced; well recommended from last and previous situations; two years in last place.—J. HAMMOND, 33, Southwick Street, Oxford Terrace, Hyde Park, W.

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Market Growers.

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FOREMAN (Inside).—Age 25; experienced in Plant and Fruit-houses, Early and Late Forcing. Can be well recommended by Mr. C. Sims as above. Bothy preferred.—WM. ROBERTS, 28, Salisbury Road, Upper Holloway, N.

FOREMAN.—Age 24; experienced in all branches, including Orchids. Two and a half years' good character from present employer; seven years previous.—C. HABWOOD, The Gardens, Chatsworth.

FOREMAN, or JOURNEYMAN (First).—Age 25; nine years' experience. Two years in last situation. Good testimonials.—A. GRIFFITHS, Hillside, West Felton, Oswestry.

FOREMAN.—Age 28; fourteen years' experience in Stove and Fruit Houses. Good characters.—W. MILTON, Harefield Nursery, Harefield, near Uxbridge, Middlesex.

FOREMAN (General), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses, or General.—Age 24; eight years' experience in good places. Two years in present place.—L. G., Chipstead Hill, Sevenoaks, Kent.

FOREMAN.—Age 25; twelve years' experience. Life abstainer. Mr. D. Williams, The Gardens, Duncombe Park, Yorks, recommends Advertiser.—H. H. GOODYEAR, 22, Broomfield Road, Marsh, Huddersfield.

FOREMAN.—Age 28, married; good practical experience, Inside and Out. Two years' good character.—H. E., 3, Albany Cottages, Foots Cray.

FOREMAN, or Second, Inside or General.—Age 26; twelve years' experience in all its branches. Excellent character from all previous employers; disengaged.—W. J., 41, Wellington Street, Strand, W.C.

FOREMAN (or SECOND).—Age 24; nine years' experience in Plant and Fruit Houses, and an abstainer. Excellent testimonials from present and previous employers.—STOKES, Antony Gardens, near Devonport.

JOURNEYMAN.—A young Man seeks situation as above. Two years in last place. Bothy preferred.—J. DANIELS, Woodborough House, near Bath.

JOURNEYMAN in the Houses; age 21.—Mr. J. Martin, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience. Two and a half years in present situation.

JOURNEYMAN (First), in the houses in a good establishment.—Age 24; nine years' experience; well recommended.—GEO. R. MORRIS, Shavington Gardens, Market Drayton.

JOURNEYMAN, age 21, Inside, or Inside and Out. Five and a half years in the general routine of gardening.—A. H., 1, Burnaby Street, Chelsea, S.W.

JOURNEYMAN (First), Inside.—Age 25; seven years' excellent character. Last three years as Foreman. At liberty any time.—J. HILL, North Elmsall, near Pontefract, Yorkshire.

JOURNEYMAN, in the Houses; age 22.—S. Lyon will be pleased to highly recommend Edward Hussey, who has been employed in these Gardens for the last seven years, the last two and a half under Glass.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN, in the Houses; age 21.—S. Lyon highly recommends F. Harris as above. Five years' experience under Glass, the last eighteen months in Plant-houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN (First), Inside.—Private place under good Foreman. Age 22; over six years' experience. Abstainer. Highest testimonials from present and previous places.—A. FRANKLAND, Willowfield, Halifax.

JOURNEYMAN, Inside.—Age 24; well-up in the general routine. Good references.—A. ELDRIDGE, The Gardens, Normansfield, Hampton Wick, Middlesex.

JOURNEYMAN, Inside, in a good establishment.—Age 23; eight years' experience; last fifteen months at Caen Wood Towers, Highgate; two years at Leigh Park, Havant. Disengaged.—F. GREEN, Garden Cottage, Great Doods, Reigate, Surrey.

JOURNEYMAN (First), Inside.—Age 24; nine years' experience. Good character.—H. PLANCE, Royal Gardens, Hampton Court, Middlesex.

JOURNEYMAN (First), Inside, age 26.—Five years at Ketton Hall, three years at Ripley Castle, and one year present place. Excellent references.—W. WOOLLEY, Catmose, Oakham.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; four years' experience Inside and Out. Good character.—C. CUTLER, Oxton Garden, Kenton, Devon.

JOURNEYMAN, Inside.—Age 22; one and a half year in present situation, four years previous.—Well recommended. Bothy preferred.—G. HENLEY, The Gardens, Park Homer, Wimborne.

JOURNEYMAN (First), age 23.—Mr. Dowding, The Gardens, Farnham Castle, Surrey, wishes to recommend A. Hobbs. Over two years in present situation as above.

JOURNEYMAN (First), in a good establishment.—Age 23; ten and a half years' experience. Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner near Harlow, Essex.

JOURNEYMAN for the Houses in good private establishment.—Age 21; good experience, well recommended.—F. DUNNING, Highfield, Southampton.

JOURNEYMAN (Inside), in a good establishment.—Age 22; seven years' experience. Total abstainer. Can be well recommended.—A. LAMBERT, 39, East Street, St. Neot's, Hunts.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Left through breaking-up of establishment. Excellent references. Bothy preferred.—GEORGE HEMLEY, Little Billington, Leighton Buzzard, Beds.

JOURNEYMAN, in the Houses; age 20.—J. Martin, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience. Two and a half years in present situation.

JOURNEYMAN, in the Orchid-houses, in a good establishment.—Age 22; had twelve months in the above. Good reference. Bothy preferred.—T. J. JOHNSON, Shipton, Market Weighton, Yorkshire.

JOURNEYMAN; age 20.—Mr. Mills, Head Gardener to W. F. Dugdale, Esq., Merevale Hall, Atherstone, wishes to recommend C. ROBINSON as above. Five years' present situation.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; seven years' experience. Four and a half years' good character from present situation.—C. DUFFETT, Crownhill, R.S.O., Devon.

JOURNEYMAN; age 19.—A. Gooden, Shopwyke House, Chichester, would be pleased to recommend a smart young man as above. Five years' experience, Inside.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; eight years' experience. Good reference. Disengaged.—E. GOULD, 21, Broadwater, Worthing, Sussex.

JOURNEYMAN, in the Houses in good establishment.—Seven years' experience, including the past two years at Sandbeck Park, Rotherham, three years previously at Hickleton Hall, Doncaster; churchman; abstainer; excellent references.—E. SHELDRAKE, Boyland Hall, Long Stratton, Norfolk.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; eight years' experience in good gardens. Excellent references; disengaged. Bothy preferred.—ALFRED TYRRELL, 88, Queen's Road, Dalston, N.

JOURNEYMAN, in the Houses.—Age 19; four and a-half years in present situation. Can be well recommended. Bothy preferred.—W. SAWYER, Capel Manor Gardens, Horsmonden, Kent.

JOURNEYMAN, medium place, age 22.—Late at Benham Park, Newbury; previously three years with Mr. Grace, at Bickton, Fordingbridge. Good general experience.—CHAS. HICKS, Avonside, Fordingbridge, Hants.

JOURNEYMAN, Inside.—Age 21; seven years' experience Inside and Out. Eighteen months in present situation. Can be well recommended.—J. DICKER, The Hoo Gardens, Welwyn, Herts.

JOURNEYMAN; age 23.—T. Elsley, Gardener to Lady Bateman Scott, Barr Hall, Birmingham, can with confidence recommend a very active and willing young man.

JOURNEYMAN (First), in a large Establishment, or as Second in a smaller place.—Age 22; good characters from present and previous employers.—A. STARMER, The Gardens, Raithby Hall, Spilsby, Lincs.

JOURNEYMAN, age 23.—Inside, or Inside and Out. Good general experience. Total abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, in the Houses, age 19.—M. Field, Gardener, Lockner Holt, Chilworth, Guildford, will be pleased to recommend W. MEWES as above, two years present situation.

JOURNEYMAN.—I can very highly recommend a good man.—Mr. LEACH, Albury Park Gardens, Guildford.

IMPROVER.—A Youth (age 18) seeks situation as above in the Garden, Inside and Out. Will pay premium. Had twelvemonths' experience. Near London preferred.—W. G. W., 2, Canterbury Place, Sudbury, Harrow.

IMPROVER, Inside or Out.—Age 17; four years in present situation. Bothy preferred.—Apply for reference to HEAD GARDENER, Ruxley Lodge, Esher.

IMPROVER.—Age 20; twelve months' good character; three years previous. Please state wages and full particulars to F. BOLTON, Laleham Road, Staines.

IMPROVER; age 18.—J. Vessey, Kenwick Hall Gardens, would be pleased to recommend a strong youth as above. Four years in present situation. Bothy preferred.

IMPROVER.—Youth, age 18, seeks situation in Nobleman's or Gentleman's gardens; worked five years in Mr. Percy Vernon's gardens. Excellent character.—H. HADDON, Stanwick, Higham Ferrers.

£3 OFFERED to Head Gardener by youth (age 19), who wishes to IMPROVE under Glass, in large establishment. Five years' experience. Good references.—C. ABBOTT, The Gardens, Riddings House Alfreton.

IMPROVER, in the Houses.—Four years' experience. Good references. Strong and willing. Bothy preferred.—FRANK WICKS, 27, Archbishop Place, Somers Road, Brixton Hill, Surrey.

IMPROVER, Inside and Out, in Private Establishment.—Age 18; five years' experience, three in present situation. Highly recommended.—H. MONEY, Hatchford Park Gardens, Cobham, Surrey.

IMPROVER.—Gardener wishes to recommend his Son as above, four years' experience, chiefly under him, Inside and Out. Bothy preferred.—HEAD GARDENER, Ivy Cottage, Brimpton, Reading.

THE HEAD GARDENER, Trafalgar House, Tottenham, will be pleased to recommend a young man (age 21) for the Houses, or Inside and Out. Has served here two years. Good previous references. Strong, active, and willing.

GEO. HERSEY, Gardener, Down Hall, Harlow, Essex, wishes to recommend a young Man, age 19. Been in these gardens six years, in the Plant and Fruit Houses.—Apply as above.

SOUTH AFRICA.—A Manager's Son seeks situation there. Thoroughly experienced in all branches of Gardening. Good Wreathist if required.—R. B., 41, Wellington Street, Strand, W.C.

TO HEAD GARDENERS.—IMPROVER, in the Houses. I can with every confidence recommend a worthy reliable young man (age 19). Six years' experience.—GARDENER, Ruperra Castle, Newport, Mon.

TO GARDENERS.—A young Man (age 19) seeks a situation at once. Good references. Over three years in present situation.—F. BAKER, Mill Road, Royston, Cambs.

TO GARDENERS.—A Lad (age 16) seeks situation in a Gentleman's Garden under a Gardener. Good character.—T. FARR, Gardener, Corton, Sherborne, Dorset.

TO GARDENERS.—Wanted, by a youth (age 17), situation in private establishment, Inside. Experienced Inside and Out. Good character. Bothy preferred.—C. FRANKLIN, Oak Hill Gardens, East Barnet.

TO GARDENERS.—A young man (age 18), requires situation in Garden, Inside or Inside and Out. Good character.—J. W., 12, St. Gothard Road, West Norwood.

TO GARDENERS.—Young man (age 20), requires situation, Inside and Out. Two years' good character from present employer. Bothy preferred.—W. COOPER, Kenwood Gardens, Hampstead.

TO NURSERYMEN.—Age 24; situation wanted by a young Man, in good Hard-wooded Nursery. Good Knifesman. Three years' character from last situation.—V. W. P., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted by young Man; well up in management of Palms, Ferns, and other Foliage Plants, &c.—A., 15, Conduit Place, Paddington, W.

TO NURSERYMEN and MARKET-GROWERS.—Young Man (age 25) wants situation, ten years' experience in Flowering and Foliage Plants, Soft-wooded Stuff, Tomatos, &c., Wreaths.—ALPHA, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted, by a young man (age 28), in Fruit or Roses. Knowledge of all Nursery Work.—E. D., 24, Egerton Street, Chester.

TO FRUIT GROWERS, &c.—Wanted, by two young Gentlemen, instruction in Fruit Growing and Market Gardening, with Board in return for labour and small premium.—T., 13, St. Mary's Road, Dublin.

COWMAN, and help in Garden; age 30, married, no family.—Mr. Osburne, The Grove Gardens, Teddington, will recommend J. Dean as above. Used to Mowing Machines. Six years' good character. Abstainer.

HANDY-MAN.—Age 27; experience in large Nursery. Carpenter by trade.—J. H., 58, Frith Road, Croydon, Surrey.

HANDY-MAN, on Gentleman's Estate, as Painter, Glazier, Paperhanger or Distemperer, &c. Well up in Greenhouse Work. Willing to be useful. Married. Six years' good character.—A., 34, St. Leonard's Road, Horsham.

TO FLORISTS.—A young Man (age 24) with good experience in making up of every kind of Flower Arrangements and Decoration, good Grower and Propagator, also well up in Forcing, seeks engagement.—W. GARDENER, 55, Harrington Road, South Norwood, London.

FLORISTS.—Young Lady, age 22, wishes to learn the above. Would give time in a First class establishment.—MISS NICOLL, Mrs. Bishton, 116, Blair Street, Abbott Road, Poplar, E.

WHAT MONEY CAN DO.—Money can do a great deal, but it cannot do everything. It cannot stop the passing of time; it cannot make us young again; it cannot renew with health the enfeebled frame. In face of the demon ill-health, rich and poor are on an equality. Rich and poor have to seek the same remedies, and wise indeed are they if, in their sorrow and suffering, they turn to HOLLOWAY'S PILLS and OINTMENT. These are within the reach of the poor as well as of the rich, and it is no idle testimony, but the natural result of long experience, which has declared Holloway to be the poor man's friend.

GARDENER (HEAD).—Age 40, married, no family; leaving through a death. Thoroughly experienced in all Departments, and the Management of Men. Land and Stock. Character will bear the strictest investigation.—J. KENDALL, Templeton, Roehampton, S.W.

£5 HONORARIUM given to anyone assisting Advertiser (age 33, single, good experience and character) to HEAD GARDENER'S situation, or FOREMAN'S place in a good establishment. Honourable confidence.—A., 73, Oxford Gardens, Ladbroke Grove, Notting Hill, W.

GARDENER (HEAD), or ORCHID GROWER.—Age 38, married; total abstainer. Twelve years *gardener to a Gentleman* now living in London. Highly recommended.—Particulars to J. GILKS, Oxhill, Kineton, Warwick.

GARDENER (HEAD), where two are kept.—Single; desires to re-engage with any Lady or Gentleman requiring a practical, experienced, energetic man. Good characters.—R. OLIVER, 1, Mawney's Lane, High Street, Romford.

GARDENER (HEAD WORKING).—Age 44, married, one child at home, age 10; experienced in all branches. Eight years in present situation. Disengaged when suited.—J. R., 14, Woodstock Road, Shepherd's Bush, W.

GARDENER (HEAD WORKING).—Fourteen years' experience in all branches, five in present situation, previously at Royal Gardens, Kew. Good references.—C. WILKINSON, Bradwell Grove, Burford, Oxon.

GARDENER (HEAD WORKING); age 29.—R. JONES, Barford Hill Gardens, Warwick, would be pleased to recommend his late Foreman as above. Well up in all branches of Gardening.—JAMES HOLME, Greenodd, Ulverston.

GARDENER (HEAD WORKING).—Age 29; where two are kept. *Sixteen years' experience* Good characters from all employers.—T. ATTWOOD, 14, Rectory Road, Parson's Green, Fulham.

GARDENER (HEAD WORKING).—Age 35, married, no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING), where three or four are kept.—Age 32; life experience in all branches. Five years' good character.—BURLEY, Hatherop, Fairford, Glos.

GARDENER (HEAD WORKING).—Age 27; married when suited.—JOSH. VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING).—Middle-age, married, no children; life experience in Fruit, Plants, Flowers, and Kitchen Gardening; over seven years' excellent character; death of employer cause of leaving.—W. B., 11, Kennard Street, Doddington Grove, Battersea Park Road, London.

GARDENER (HEAD WORKING).—Age 34, married, one child (age 5). Abstainer. Nineteen years' experience. Land and Stock if required. Wife Dairy and Poultry. Good character.—D. COX, Aldwich Place, Bognor, Sussex.

GARDENER (HEAD WORKING, where one or more are kept).—Age 33, married, two children; well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Gardens. Good character. Five years in present situation, eight previously.—A. SMITH, Church Hill, Pullborough, Sussex.

GARDENER (HEAD WORKING), where three or four are kept.—Age 30; good experience in the general routine of Gardening, including Orchids, Stove and Greenhouse Plants, &c. First-class references from good places.—H. ROWLINSON, The Gardens, Oakley, Fallowfield.

GARDENER (HEAD WORKING).—Age 30; thoroughly experienced in all branches. Highly recommended. Leaving through breaking up of establishment. Fourteen years character.—F. NASH, Amport, Andover, Hants.

GARDENER (HEAD WORKING), where one or more are kept,—Married, no family; experienced in all branches. Good characters.—W. H., 6, Dering Road, South Croydon, Surrey.

GARDENER (HEAD WORKING), where two or three are kept.—Age 30; desires re-engagement with Lady or Gentleman. Eighteen years' experience in England and Scotland. Good characters.—CLARK, Sussex Arms Cottages, Hanworth, Middlesex.

GARDENER (HEAD WORKING), where two or three are kept.—Life experience, all round, in good establishments; steady, sober, energetic man; would want lodge.—G. GINN, Downe, Farnboro, Kent.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 45; Wife as good Cook, or Dairy. Rev. C. E. Roberts highly recommends his Gardener to any Lady or Gentleman requiring a thoroughly practical trustworthy man.—GARDENER, Rev. C. E. Roberts, The Chilterns, Halton, Tring, Bucks.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, single; fifteen years' experience in all branches. Highly recommended.—H. ELLIOTT, The Lodge, Mauddon, near Plymouth.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 25; thoroughly experienced in the general routine of Gardening, including Vines, Fruits, Flowers, and Kitchen Garden. Well recommended.—J. R., 49, Nightingale Lane, Clapham Common, S.W.

GARDENER (HEAD, or SECOND).—Age 32, married, two children; twenty years' experience in all branches, Inside and Out. Good references and character.—M., Shenfield, Brentwood, Essex.

GARDENER (SINGLE-HANDED).—Age 36, married, one child (age 8); practical experience in all branches. Willing to make himself useful in House if required. Excellent references.—A. PUSEY, The Cottage, Springfield, Staines, Middlesex.

GARDENER (SINGLE-HANDED, or where two are kept).—Middle-aged, married, no family. Understands Vines, Fruits, Flower and Kitchen Gardens. Ten years' good character.—R. SCUTT, Old Laundry, Downside, Cobham, Surrey.

GARDENER (SINGLE-HANDED, or where boy is kept).—Married when suited; experienced Inside and Out. Good references.—CHAS. BURRISS, Mr. Bradley, Valley Road, Spital, Chesterfield.

GARDENER (SINGLE-HANDED, or where help is given).—Age 25; single; twelve years experience in Vines, Greenhouse, Flower, and Kitchen Garden.—ASHBY, 3, Cedar Villas, Mill Lane, West Hampstead, N.W.

GARDENER (SINGLE-HANDED, or otherwise).—Well experienced in the general routine of Gardening. Good character. Would not object to Lodge Keeper or place of trust.—P. PARSONS, The Lodge, Halcot, Bexley.

GARDENER (SINGLE-HANDED, or UNDER).—nine years' experience in good places, with a knowledge of Orchid Growing. Good references.—W. P., 5, Bourne Lee, Bexley, Kent.

GARDENER, where two or three are kept.—Age 24; nine years' experience in Glass, Flower, and Kitchen Garden. Good character.—W. EDWARDS, Hale Street, Staines.

GARDENER, &c.—A GENTLEMAN can recommend a reliable middle-aged man (married). Experienced in Fruit Growing and Poultry and Game Breeding. Competent to Manage or act as Caretaker.—Z. B., 41, Wellington Street, Strand, W.C.

GARDENER (SECOND), Inside, or Inside and Out.—Age 22; abstainer. Three years in present situation. Life experience. Can be highly recommended.—J. CHALLIS, High Leigh, Hoddesdon, Herts.

GARDENER (SECOND), or IMPROVER in Houses.—Age 22. Where five or six are kept; been used to general work. Two years' good character.—G. J., Lignum Cottage, Bushey Heath.

GARDENER (SECOND), where three or four are kept.—Inside and Out; age 23; can be well recommended.—G. RIDLEY, Blackmore Park, Hanley Castle, Worcester.

GARDENER (SECOND), where four or more are kept.—Age 25; nine years' experience Inside and Out. Good references.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (SECOND), as IMPROVER, or small SINGLE-HANDED; been in small nursery; married when suited; abstainer.—F. PIKE, Pimperne, Blandford.

GARDENER (SECOND), Inside, or Inside and Out.—Age 22; abstainer. Over eight years present employer; two years Second.—C. MILLS, Holwood Gardens, Beckenham, Kent.

GARDENER (SECOND), Inside.—Age 25; experience in all branches. With good references from last and previous situations.—A. S., Glenavon, Saltford, near Bristol.

GARDENER (SECOND).—Age 25, single; well up in Stove and Greenhouse Plants, &c. Good reference. Abstainer.—J. D., 92, Russell Scott Buildings, Bermondsey, S.E.

GARDENER (SECOND), or JOURNEYMAN (FIRST), Inside, or Inside and Out.—Age 24; well recommended for both; good character and total abstainer.—S. AISH, Findon, Worthing, Sussex.

GARDENER (UNDER), where three or four are kept.—Inside or Inside and Out; age 22, single; four years in present place.—COLLYER, The Gardens, Aldershot Park, Aldershot.

GARDENER (UNDER).—Age 19; Inside and Out. Three years' good character from present situation. Strong and willing.—JAMES DEADMAN, Arnold's Cottage, Hayward's Heath, Sussex.

GARDENER (UNDER), where two are kept.—Age 26; nine years in Garden work; good character.—J. E., Mr. STUART, 2, Plantagenet Road, New Barnet, Herts.

GARDENER (UNDER).—Age 20; two and a half years' good character, six years previous. General knowledge Inside and Out. Can be well recommended.—DRAKE, Sidbrook, Taunton.

GARDENER (UNDER) Inside and Out.—Age 22; single. Five years in present place. Good character. Bothy preferred.—F. WATTS, The Gardens, Chacombe House, Chacombe near Banbury.

GARDENER (KITCHEN), and assist in the Houses.—A young man (age 21) seeks situation as above.—A. NEWBY, Shadwell, Thetford, Norfolk.

GARDENER (UNDER), Inside and Out.—Age 25; good character. State wages.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

GARDENER (UNDER).—Age 27, single; twelve years' experience in good places.—W. FENTON, Sullington Hall Gardens, Burton-on-Trent.

GARDENER (UNDER).—Age 21; experienced Inside and Out. Five years' character. No objection to look after Pony Trap. Death cause of leaving.—A. HOLBEN, Mount Pleasant Farm, Willesden.

GARDENER (good UNDER or SECOND in small place).—Age 23; seven years' good experience. Good characters.—H. SMITHERS, The Gardens, Roydon Hall, Tunbridge, Kent.

GARDENER (UNDER), in the Kitchen Garden.—Age 23; nine years' experience, Inside and Out. Highest references.—G. CAPSTICK, 51, Wellfield Road, Streatham, Surrey.

GARDENER (UNDER).—Age 19; under glass preferred; good character.—J. FAGENCE, 4, Holmesdale Terrace, North Holmwood, Dorking.

To Grape, Tomato Growers, &c.

MANAGER.—Many years' practical experience in Growing all kinds of Fruits and Flowers for the London Markets. Highest references as to character and ability.—W., 3, Farleigh Terrace, Becket Road, West Tarring, Worthing.

PROPAGATOR and GROWER.—Age 34; well up in Growing Cucumbers, Tomatos, Plants and Cut Flowers. Four years in last situation.—R. W. B., 2, Camden Road, George Lane, Wanstead, E.

PROPAGATOR and GROWER, or FOREMAN.—Age 27; thirteen years' experience. Ferns, Carnations, Stove, Soft-wooded, and general Market Flowering and Pot-stuff; also Tomatos and Cucumbers. Good references.—H. C., 15, School Road Avenue, Hampton Hill, Middlesex.

TO NURSERYMEN.—GROWER, or SECOND; age 25. Ten years in London Nurseries. Soft-wood and Foliage Plants. Ferns, Fruits, Roses.—G. SAGE, 35, Dover Street, Sittingbourne, Kent.

GROWER.—Well up in Ferns, Roses, Carnations, Cut Flowers, &c. Married. Long Experience.—G. M., 125A, Brettenham Road, Upper Edmonton.

GROWER.—Age 24; well-up in Carnations, Soft-wooded and Stove Plants. Nine years' experience, and two years in the Royal Gardens, Kew.—A. U. CHAPELOW, 75, Gloucester Road, Kew.

PROPAGATOR and GROWER.—Age 29; well-up in Raising and Growing Ferns and Softwooded Stuff for Market. Could act as Salesman. Fourteen years' experience. Good references.—H. J., 3, Gloucester Terrace, Upper Edmonton, London, N.

FOREMAN, PROPAGATOR, and GROWER.—Twenty years' experience in Hard and Soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—H. JONES, Cambridge Road, Godmanchester, Hunts.

FOREMAN, or GROWER for Market, under Glass.—Nineteen years' references. Last six years Foreman and Propagator in Market Nursery.—HORTICUS, 41, Wellington Street, Strand, W.C.

FOREMAN, or ORCHID-GROWER, in large establishment, age 26.—Mr. WARD, Longford Castle, Salisbury, can with confidence recommend J. POWLEY as above. First-class experience in all branches. Has served in the above gardens for the past two years; also at Woolton Wood, and with Backhouse & Son, Yorks.

To Nurserymen.

NURSERY FOREMAN.—Roses Inside and Out, Conifers, Fruit Trees, Bulbs, &c. Roses a specialty. Expert Budder and Grafter. Over twenty years in London and other Nurseries.—M. R., 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 24; well up in Plants, Fruits, Chrysanthemums, House and Table Decorations, &c. Ten years' good experience in all branches. Good characters.—L. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 27; thoroughly experienced; well recommended from last and previous situations; two years in last place.—J. HAMMOND, 33, Southwick Street, Oxford Terrace, Hyde Park, W.

FOREMAN (Inside); age 27, single.—Good experience in Flower and Fruit Growing, and Packing for Covent Garden. Mr. CLEARE, Toddington, Winchcombe, Gloucester, can highly recommend W. French as above, who has been with him four years.

Market Growers.

FOREMAN.—Age 45; experienced in Grapes, Peaches, Tomatos, Cucumbers, Plants, Cut Blooms, Hardy Fruit and Vegetables for Covent Garden. Excellent references.—G. H. M. WALLACE, Meestham, Redhill.

FOREMAN (Inside).—Age 25; experienced in Plant and Fruit-houses, Early and Late Forcing. Can be well recommended by Mr. C. SIMS as above. Bothy preferred.—WM. ROBERTS, 28, Salisbury Road, Upper Holloway, N.

FOREMAN.—Age 24; experienced in all branches, including Orchids. Two and a half years' good character from present employer; seven years previous.—C. HARWOOD, The Gardens, Chatsworth.

FOREMAN, or JOURNEYMAN (First).—Age 25; nine years' experience. Two years in last situation. Good testimonials.—A. GRIFFITHS, Hillside, West Felton, Oswestry.

FOREMAN.—Age 28; fourteen years' experience in Stove and Fruit Houses. Good characters.—W. MILTON, Harefield Nursery, Harefield, near Uxbridge, Middlesex.

FOREMAN (General), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses, or General.—Age 24; eight years' experience in good places. Two years in present place.—L. G., Chipstead Hill, Sevenoaks, Kent.

FOREMAN.—Age 25; twelve years' experience. Life abstainer. Mr. D. WILLIAMS, The Gardens, Duncombe Park, Yorks, recommends Advertiser.—H. H. GOODYEAR, 22, Broomfield Road, Marsh, Huddersfield.

FOREMAN.—Age 28, married; good practical experience, Inside and Out. Two years' good character.—H. E., 3, Albany Cottages, Foots Cray.

FOREMAN, or Second, Inside or General.—Age 26; twelve years' experience in all its branches. Excellent character from all previous employers; disengaged.—W. J., 41, Wellington Street, Strand, W.C.

FOREMAN (or SECOND).—Age 24; nine years' experience in Plant and Fruit Houses, and an abstainer. Excellent testimonials from present and previous employers.—STOKES, Antony Gardens, near Devonport.

JOURNEYMAN.—A young Man seeks situation as above. Two years in last place. Bothy preferred.—J. DANIELS, Woodborough House, near Bath.

JOURNEYMAN in the Houses; age 21.—Mr. J. Martin, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience. Two and a half years in present situation.

JOURNEYMAN (First), in the houses in a good establishment.—Age 24; nine years' experience; well recommended.—GEO. R. MORRIS, Shavington Gardens, Market Drayton.

JOURNEYMAN, age 21, Inside, or Inside and Out. Five and a half years in the general routine of gardening.—A. H., 1, Burnaby Street, Chelsea, S.W.

JOURNEYMAN (First), Inside.—Age 25; seven years' excellent character. Last three years as Foreman. At liberty any time.—J. HILL, North Elmsall, near Pontefract, Yorkshire.

JOURNEYMAN, in the Houses; age 22.—S. Lyon will be pleased to highly recommend Edward Hussey, who has been employed in these Gardens for the last seven years, the last two and a half under Glass.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN, in the Houses; age 21.—S. Lyon highly recommends F. Harris as above. Five years' experience under Glass, the last eighteen months in Plant-houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN (First), Inside.—Private place under good Foreman. Age 22; over six years' experience. Abstainer. Highest testimonials from present and previous places.—A. FRANKLAND, Willowfield, Halifax.

JOURNEYMAN, Inside.—Age 24; well-up in the general routine. Good references.—A. ELDRIDGE, The Gardens, Normansfield, Hampton Wick, Middlesex.

JOURNEYMAN, Inside, in a good establishment.—Age 23; eight years' experience; last fifteen months at Caen Wood Towers, Highgate; two years at Leigh Park, Havant. Disengaged.—F. GREEN, Garden Cottage, Great Doods, Reigate, Surrey.

JOURNEYMAN (First), Inside.—Age 24; nine years' experience. Good character.—H. PLANCE, Royal Gardens, Hampton Court, Middlesex.

JOURNEYMAN (First), Inside, age 26.—Five years at Ketton Hall, three years at Ripley Castle, and one year present place. Excellent references.—W. WOOLLEY, Catmose, Oakham.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; four years' experience Inside and Out. Good character.—C. CUTLER, Oxton Garden, Kenton, Devon.

JOURNEYMAN, Inside.—Age 22; one and a half year in present situation, four years previous.—Well recommended. Bothy preferred.—G. HENLEY, The Gardens, Park Homer, Wimborne.

JOURNEYMAN (First), age 23.—Mr. Dowding, The Gardens, Farnham Castle, Surrey, wishes to recommend A. Hobbs. Over two years in present situation as above.

JOURNEYMAN (First), in a good establishment.—Age 23; ten and a half years' experience. Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner near Harlow, Essex.

JOURNEYMAN for the Houses in good private establishment.—Age 21; good experience, well recommended.—F. DUNNING, Highfield, Southampton.

JOURNEYMAN (Inside), in a good establishment.—Age 22; seven years' experience. Total abstainer. Can be well recommended.—A. LAMBERT, 39, East Street, St. Neot's, Hunts.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Left through breaking-up of establishment. Excellent references. Bothy preferred.—GEORGE HEMLEY, Little Billington, Leighton Buzzard, Beds.

JOURNEYMAN, in the Houses; age 20.—J. Martin, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience. Two and a half years in present situation.

JOURNEYMAN, in the Orchid-houses, in a good establishment.—Age 22; had twelve months in the above. Good reference. Bothy preferred.—T. J. JOHNSON, Shipton, Market Weighton, Yorkshire.

JOURNEYMAN; age 20.—Mr. Mills, Head Gardener to W. F. Dugdale, Esq., Merevale Hall, Atherstone, wishes to recommend C. ROBINSON as above. Five years' present situation.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; seven years' experience. Four and a half years' good character from present situation.—C. DUFFETT, Crownhill, R.S.O., Devon.

JOURNEYMAN; age 19.—A. Gooden, Shopwyke House, Chichester, would be pleased to recommend a smart young man as above. Five years' experience, Inside.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; eight years' experience. Good reference. Disengaged.—E. GOULD, 21, Broadwater, Worthing, Sussex.

JOURNEYMAN, in the Houses in good establishment.—Seven years' experience, including the past two years at Sandbeck Park, Rotherham, three years previously at Hickleton Hall, Doncaster; churchman; abstainer; excellent references.—E. SHELDRAKE, Boyland Hall, Long Stratton, Norfolk.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; eight years' experience in good gardens. Excellent references; disengaged. Bothy preferred.—ALFRED TYRRELL, 88, Queen's Road, Dalston, N.

JOURNEYMAN, in the Houses.—Age 19; four and a-half years in present situation. Can be well recommended. Bothy preferred.—W. SAWYER, Capel Manor Gardens, Horsmonden, Kent.

JOURNEYMAN, medium place, age 22.—Late at Benham Park, Newbury; previously three years with Mr. Grace, at Bickton, Fordingbridge. Good general experience.—CHAS. HICKS, Avonside, Fordingbridge, Hants.

JOURNEYMAN, Inside.—Age 21; seven years' experience Inside and Out. Eighteen months in present situation. Can be well recommended.—J. DICKER, The Hoo Gardens, Welwyn, Herts.

JOURNEYMAN; age 23.—T. Elsley, Gardener to Lady Bateman Scott, Barr Hall, Birmingham, can with confidence recommend a very active and willing young man.

JOURNEYMAN (First), in a large Establishment, or as Second in a smaller place.—Age 22; good characters from present and previous employers.—A. STARMER, The Gardens, Baithby Hall, Spilsby, Lincs.

JOURNEYMAN, age 23.—Inside, or Inside and Out. Good general experience. Total abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, in the Houses, age 19.—M. Field, Gardener, Lockner Holt, Chilworth, Guildford, will be pleased to recommend W. MEWES as above, two years present situation.

JOURNEYMAN.—I can very highly recommend a good man.—Mr. LEACH, Albury Park Gardens, Guildford.

IMPROVER.—A Youth (age 18) seeks situation as above in the Garden, Inside and Out. Will pay premium. Had twelvemonths' experience. Near London preferred.—W. G. W., 2, Canterbury Place, Sudbury, Harrow.

IMPROVER, Inside or Out.—Age 17; four years in present situation. Bothy preferred.—Apply for reference to HEAD GARDENER, Ruxley Lodge, Esher.

IMPROVER.—Age 20; twelve months' good character; three years previous. Please state wages and full particulars to F. BOLTON, Laleham Road, Staines.

IMPROVER; age 18.—J. Vessey, Kenwick Hall Gardens, would be pleased to recommend a strong youth as above. Four years in present situation. Bothy preferred.

IMPROVER.—Youth, age 18, seeks situation in Nobleman's or Gentleman's gardens; worked five years in Mr. Percy Vernon's gardens. Excellent character.—H. HADDON, Stanwick, Higham Ferrers.

£3 OFFERED to Head Gardener by youth (age 19), who wishes to IMPROVE under Glass, in large establishment. Five years' experience. Good references.—C. ABBOTT, The Gardens, Riddings House Alfreton.

IMPROVER, in the Houses.—Four years' experience. Good references. Strong and willing. Bothy preferred.—FRANK WICKS, 27, Archbishop Place, Somers Road, Brixton Hill, Surrey.

IMPROVER, Inside and Out, in Private Establishment.—Age 18; five years' experience, three in present situation. Highly recommended.—H. MONEY, Hatchford Park Gardens, Cobham, Surrey.

IMPROVER.—Gardener wishes to recommend his Son as above, four years' experience, chiefly under him, Inside and Out. Bothy preferred.—HEAD GARDENER, Ivy Cottage, Brimpton, Reading.

THE HEAD GARDENER, Trafalgar House, Tottenham, will be pleased to recommend a young man (age 21) for the Houses, or Inside and Out. Has served here two years. Good previous references. Strong, active, and willing.

GEO. HERSEY, Gardener, Down Hall, Harlow, Essex, wishes to recommend a young Man, age 19. Been in these gardens six years, in the Plant and Fruit Houses.—Apply as above.

SOUTH AFRICA.—A Manager's Son seeks situation there. Thoroughly experienced in all branches of Gardening. Good Wreathist if required.—R. B., 41, Wellington Street, Strand, W.C.

TO HEAD GARDENERS.—IMPROVER, in the Houses, I can with every confidence recommend a worthy reliable young man (age 19). Six years' experience.—GARDENER, Ruperra Castle, Newport, Mon.

TO GARDENERS.—A young Man (age 19) seeks a situation at once. Good references. Over three years in present situation.—F. BAKER, Mill Road, Royston, Cambs.

TO GARDENERS.—A Lad (age 16) seeks situation in a Gentleman's Garden under a Gardener. Good character.—T. FARR, Gardener, Corton, Sherborne, Dorset.

TO GARDENERS.—Wanted, by a youth (age 17), situation in private establishment, Inside. Experienced Inside and Out. Good character. Bothy preferred.—C. FRANKLIN, Oak Hill Gardens, East Barnet.

TO GARDENERS.—A young man (age 18), requires situation in Garden, Inside or Inside and Out. Good character.—J. W., 12, St. Gothard Road, West Norwood.

TO GARDENERS.—Young man (age 20), requires situation, Inside and Out. Two years' good character from present employer. Bothy preferred.—W. COOPER, Kenwood Gardens, Hampstead.

TO NURSERYMEN.—Age 24; situation wanted by a young Man, in good Hard-wooded Nursery. Good Knifesman. Three years' character from last situation.—V. W. P., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted by young Man; well up in management of Palms, Ferns, and other Foliage Plants, &c.—A., 15, Conduit Place, Paddington, W.

TO NURSERYMEN and MARKET-GROWERS.—Young Man (age 25) wants situation, ten years' experience in Flowering and Foliage Plants, Soft-wooded Stuff, Tomatos, &c., Wreaths.—ALPHA, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted, by a young man (age 28), in Fruit or Roses. Knowledge of all Nursery Work.—E. D., 24, Egerton Street, Chester.

TO FRUIT GROWERS, &c.—Wanted, by two young Gentlemen, instruction in Fruit Growing and Market Gardening, with Board in return for labour and small premium.—T., 13, St. Mary's Road, Dublin.

COWMAN, and help in Garden; age 30, married, no family.—Mr. Osburne, The Grove Gardens, Teddington, will recommend J. Dean as above. Used to Mowing Machines. Six years' good character. Abstainer.

HANDY-MAN.—Age 27; experience in large Nursery. Carpenter by trade.—J. H., 58, Frith Road, Croydon, Surrey.

HANDY-MAN, on Gentleman's Estate, as Painter, Glazier, Paperhanger or Distemperer, &c. Well up in Greenhouse Work. Willing to be useful. Married. Six years' good character.—A., 34, St. Leonard's Road, Horsham.

TO FLORISTS.—A young Man (age 24) with good experience in making up of every kind of Flower Arrangements and Decoration, good Grower and Propagator, also well up in Forcing, seeks engagement.—W. GARDENER, 55, Harrington Road, South Norwood, London.

FLORISTS.—Young Lady, age 22, wishes to learn the above. Would give time in a First-class establishment.—MISS NICOLL, Mrs. Bishton, 116, Blair Street, Abbott Road, Poplar, E.

WHAT MONEY CAN DO.—Money can do a great deal, but it cannot do everything. It cannot stop the passing of time; it cannot make us young again; it cannot renew with health the enfeebled frame. In face of the demon ill-health, rich and poor are on an equality. Rich and poor have to seek the same remedies, and wise indeed are they if, in their sorrow and suffering, they turn to HOLLOWAY'S PILLS and OINTMENT. These are within the reach of the poor as well as of the rich, and it is no idle testimony, but the natural result of long experience, which has declared Holloway to be the poor man's friend.

SALES BY AUCTION.

Friday, April 19.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Alban's, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 19, at Half-past Twelve o'Clock, the following Imported Orchids—

DENDROBIUM BENSONIÆ,

From a Consignment which has come to hand in grand order; the plants are in splendid condition, the Bulbs large and plump, and the eyes dormant.

ONCIDIUM SPLENDIDUM,

(True.)

This Plant is exceeding rare in its native country, the present Importation is really Grand, the plants have great thick leaves, the old flower-spikes are very strong. The Flowers of this handsome species are very large and lovely, resembling Oncidium tigrinum, but more chaste and beautiful.

LÆLIA (BRASSAVOLA) GLAUCA in robust health; DENDROBIUM FARMERI, a lovely Dendrobe, very compact; D. FORMOSUM GIGANTEUM,

ODONTOGLOSSUM GRANDE,

A large importation of this noble Orchid. It is very difficult to get access to these plants in their habitats, and consignments are always very scarce. The plants we now offer are in superb health, and in very useful and compact pieces. We have great pleasure in offering this beautiful species. Also—

CYPRIPEDIUM PARISHII,

DENDROBIUM AGGREGATUM MAJUS,

D. THYRSIFLORUM,

CATTLEYA SKINNERI PARVIFLORA, a fine variety of the beautiful C. Skinneri.

VANDA KIMBALLIANA,

Healthy, well-leaved plants of this charming species.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 19, at half-past 12 o'Clock.

Catalogues may be had, and the Plants viewed, on the morning of the Sale.

"Bown's" Collection of Established Orchids.

ATTRACTIVE SALE of this important COLLECTION of ORCHIDS, by order of W. Bown, Esq., who is giving up their cultivation in consequence of leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Holly Lawn, Beech Lane, Hagley Road, Birmingham, early in May, the above valuable Collection of ESTABLISHED ORCHIDS, comprising in all about 2000 plants, and including a large number of very fine specimens for Exhibition purposes; these having been shown successfully at the Birmingham Spring and Autumn Shows, and also at Liverpool, and gained many Prizes and Special Certificates.

The EXHIBITION SPECIMENS comprise:—

- Cattleya Mossiæ specimen
- ,, Skinneri
- ,, gigas variety
- ,, labiata
- ,, Trianæi
- ,, Mendeli
- Dendrobium Dalhousianum
- ,, nobile
- ,, fimbriatum
- Epidendrum prismatocarpum
- Lælia purpurata alba
- ,, crispa
- ,, Perrini
- ,, anceps
- ,, ,, Barkerii
- Odontoglossum grande
- ,, Alexandræ

Also

200 ODONTOGLOSSUM ALEXANDRÆ, extra fine plants

50 ,, GRANDE, very fine plants

100 CYPRIPEDIUMS, various

The plants may be viewed any day prior to the Sale.

Catalogues may be obtained of Mr. PALMER, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, April 19, at half-past 12 o'Clock, 80 lots of well-grown choice ESTABLISHED ORCHIDS, in vigorous health, from the collection of S. G. Lutwyche, Esq., of Eden Park, Beckenham, including:—

- Dendrobium hybrid Chrysodiscus
- ,, nobile nobilius, in flower
- ,, hybrid Lutwycheanum, a rare and magnificent cross between D. splendidissimum superbum and D. Wardianum Lowii
- ,, nobile, special variety, with white sepals and petals
- ,, Rœbelingianum, a very rare and beautiful hybrid
- ,, album
- ,, hybrid Endocharis
- ,, hybrid Cheltenhamense
- Cœlogyne cristata alba
- Lycaste Skinneri alba
- Lælia purpurata Brysiana
- ,, elegans alba
- ,, autumnalis alba
- ,, anceps Williamsii
- ,, ,, Hilli
- Cypripedium orphanum
- ,, Cypripedium Brownii
- ,, Ashburtoniæ expansum
- ,, Eyermannianum var. Diana
- ,, insigne Lutwycheanum, a yellow insigne, similar to Ernestii, but with spots on dorsal sepal more defined
- ,, Schrœderæ splendens, in flower
- Rare Cypripedium seedlings

And a few yellow ARUM LILIES, "The Pride of the Congo," &c.

On view Morning of Sale, and Catalogues had.

The Selwood Collection of Established Orchids.

Unusually IMPORTANT SALE, by order of the Executors of the late G. D. Owen, Esq., without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the premises, Selwood, near Rotherham, Yorkshire, on WEDNESDAY, April 24, and TWO FOLLOWING DAYS, at half-past 12 o'Clock each day, the above valuable collection of Established Orchids. The collection was formed by the late Mr. Owen, with great care and judgment, regardless of expense, and, as is well known, it is celebrated for the richness of the varieties of the plants, many having secured First-class Certificates and Awards of Merit.

Among the principal Plants the following may be specially mentioned:—

- Cattleya aurea
- ,, Eldorado Owenii
- ,, Exoniensis
- ,, Gaskelliana alba
- ,, Gigas
- ,, Hardyana, Selwood variety, A.M.R.H.S.
- ,, Hardyana
- ,, ,, E. G. Wrigley's variety, A.M.
- ,, ,, Leopold II.
- ,, ,, Wilson variety, A.M.
- ,, Labiata alba
- ,, ,, Countess Fitzwilliam, F.C.C.R.H.S.
- ,, ,, Foleyana, F.C.C.R.H.S.
- ,, Massaiana
- ,, Mendeli Blunti
- ,, Mossiæ
- ,, ,, Reineckiana
- ,, ,, white
- ,, Mrs. Astor, hybrid
- ,, Partheniæ
- ,, Rex
- ,, Schroderæ
- ,, Skinnerii alba
- ,, Trianæi alba
- ,, ,, Backhouseiana
- ,, ,, Oweniæ
- ,, ,, Reine des Belges
- ,, ,, Wagenerii
- Cœlogyne cristata
- ,, ,, alba
- Cymbidium eburneum
- ,, Winnianum
- Cypripedium præstans Kimballianum
- ,, Winnianum
- Dendrobium Aspasia
- ,, atro-violaceum
- ,, Burfordense
- ,, Juno
- ,, Luna
- ,, nobile Amesiæ
- ,, ,, Ballianum
- ,, ,, Nobilius, fine plant and variety
- ,, ,, Oweniana
- ,, ,, Palleus
- ,, Phalænopsis Schroderæ
- ,, ,, Th. Pearl
- Dendrob. Phalænop. Williamsii
- ,, Wardianum
- ,, ,, album
- Epidendrums of sorts
- Eulophiella Elisabethæ, showing bloom
- Lælia anceps, G. D. Owen's variety, A.M.R.H.S.
- ,, ,, Amesiæ
- ,, ,, Ballantineanum
- ,, ,, Dawsoni
- ,, ,, Schroderæ
- ,, elegans Turnerii
- ,, grandis tenebrosa
- ,, Owenii
- ,, Oweniæ, A.M.R.H.S.
- ,, præstans alba, F.C.C.R.H.S., the only known plant
- ,, purpurata
- ,, ,, Backhouseiana
- ,, ,, Princess May
- Lycaste Skinneri
- ,, ,, alba
- Miltonia Lubbersiana
- Odontoglossum album
- ,, Chestertoni
- ,, Fowlerianum
- ,, guttatum
- ,, Imperator
- ,, Leopardinum
- ,, Massarelianum
- ,, Owenianum, F.C.C.
- ,, picturatum
- ,, Rœblingeanum
- ,, Stevensii
- ,, Thompsonii
- ,, Wattianum, Hardy's variety
- ,, Willsianum
- ,, Wattsianum
- ,, Williamsii
- ,, Wilckeanum
- Odontoglossum Pescatorei Lindeniæ
- ,, ,, Vervættii
- Oncidium of sorts
- Phaius Cooksoni
- ,, Oweniæ
- ,, Owenianus
- Sobralia, white
- ,, xantholeuca

Also the GREENHOUSE and other PLANTS, AZALEAS, CAMELLIAS, a choice assortment of Double and Single BEGONIAS, BEDDING PLANTS, FLOWER-POTS, &c.

The Plants are in the best possible condition, none will be sold privately before the Sale, and the whole will be offered entirely without reserve.

Catalogues may be obtained of Mr. WATTS, the Head Gardener, on the Premises, of Messrs. PARKER, RHODES AND CO., Solicitors, Rotherham; Messrs. W. B. PEAT AND CO., 3, Lothbury, E.C.; and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

Friday Next.

1000 DISA GRANDIFLORA SUPERBA.

Splendid fresh imported tubers in perfect condition, ready to pot and grow at once, perhaps the finest ever imported. This variety has short stout spikes bearing very large flowers, varying in colour from orange-scarlet to crimson. They will be lotted to suit both private buyers and the trade. Also a few true blue DISAS (Herschelia cœlestis), and some mixed tubers of HABENARIAS, DISAS, and SATYRIUMS, collected at Du Toits Kloof; also ORCHIDS in FLOWER and BUD, and GREEN TREE FROGS.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE, on FRIDAY NEXT, April 19, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

TO BE SOLD, a COMPACT NURSERY, as a Going Concern, well situated, near several large Midland Towns: 1000 feet run of Glass and 10 Acres outdoor, all fully stocked with General Stock. Rent low. Advertiser will be glad to answer fully any enquiries. Suit gentleman. Efficient staff.—Write, NURSERY, Box P 52,109, Smith's Advertising Agency, 132, Fleet Street, London, E.C.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

FOR DISPOSAL, Genuine SEED, FLORIST, and JOBBING BUSINESS.—Good connection, situated on main road, within 1½ mile of centre of Bournemouth; established 9 years.—X., 31, Town Hall Avenue, Bournemouth.

TO BE LET, with Immediate Possession, the NEW GARDENS at GREAT TEW PARK, Oxon., 7 miles from Heyford Station, G.W.R., and 6 from Chipping Norton. Walled in. Excellent Stock of Trees; Orchard House, Vineries, &c.—Apply to Messrs. FRANKLIN, Land Agents, Ascott, near Wallingford Berks.

WILLIAM THOMSON MEMORIAL FUND

A FUND is being raised to commemorate the services to Horticulture of the late WILLIAM THOMSON, of Clovenfords, the sum collected to be given to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund. Should a sufficient sum be obtained, it is proposed to keep a pensioner in perpetuity on the Funds of each institution. To enable this to be done, a sum of £1250 is necessary; a perpetual pension to the G. R. B. I. requiring £750, and that to the R. G. O. F. £500, the power of electing these pensioners being in the hands of the Royal Caledonian Horticultural Society, Edinburgh.

Should a sufficient sum not be obtained for this purpose, it is proposed to divide the amount raised between the two Institutions proportionately.

It is hoped that a very liberal response will be received, not only on account of the esteem in which Mr. THOMSON was held, but also on account of the object to which the Fund is to be devoted.

A committee has been formed to collect subscriptions, and I trust you will become a contributor to this very laudable object.

J. G. VEITCH.

544, King's Road, Chelsea, S.W.

TO LET.—TWO Valuable NURSERIES, suitable for Beginners or others. Situate within easy distance of London, at low rents. £20 and £30 per annum. Capital opportunity for an energetic man. Full particulars of ROBERT PECKITT, 45, Plumstead Road, S.E.

MIDDLESEX.—TO LET, in best part of Market Garden District, 15 miles from London, 1½ mile main line station, 160 Acres (50 of which are old pasture), with 10-room well-built House, and commodious Buildings. Suitable for Market Garden and Dairy-farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

TO FRUIT-GROWERS under Glass, NURSERYMEN, or MARKET-GARDENERS.—Good LAND near Railway, suitable for above, TO LET.—Apply by letter. H. FOURTEEN, Hertford.

MILLER'S LAWN GRASS SEED is the best; it quickly forms a thick, dwarf, permanent beautiful velvety lawn, 1*s.* 3*d.* per lb., 22*s.* 6*d.* per bushel. Carriage paid. Seed Catalogue free.

F. MILLER AND CO., 267, Fulham Road, London, S.W.

5,000 CHRYSANTHEMUMS.—Cheap, to clear. Best Market Varieties, Princess Teck, Boule de Neige, Elaine, Mrs. Norman Davies, Fair Maid of Guernsey, Cullingfordii, Mrs. H. Cannell; well rooted, 6*s.* 6*d.* per 100.

3,000 TOMATO PLANTS.—Splendid stuff.—Challenger, Empress of India, 8*s.* per 100.

JAMES GREEN, Reliance Nurseries, March.

Seed Potatos.

H. & F. SHARPE'S Special Priced List of SEED POTATOS, has been posted to their Customers, but a further copy will be sent to those who have not received it, if applied for. It comprises all the best kinds in cultivation, and at prices very advantageous.

SEED-GROWING ESTABLISHMENT, WISBECH.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.

Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

CHRYSANTHEMUMS, surplus Stools of LADY CANNING and LADY LAWRENCE, 5*s.* per doz., with many strong cuttings on.

RASPBERRY CANES, CARTER'S PROLIFIC, clean and healthy, 14*s.* per 1000, or offer.

STRAWBERRY, SIR JOSEPH PAXTON, out of large 60's, 5*s.* per 100. Free on rail.

TRADE CHRYSANTHEMUMS, LADY CANNING and LADY LAWRENCE, strong, vigorous, healthy cuttings, 2*s.* 6*d.* per 100; £1 1*s.* per 1000, post-free. LADY CANNING, out of thumbs, 7*s.* 6*d.* per 100.

DWARF BOX EDGING, 30*s.* per 100 nursery yards. Free on rail.

FOREMAN, Nightingale Nurseries, Bath.

CUCUMBER PLANTS.

IMPROVED TELEGRAPH, strong and healthy, warranted true, 3*s.* per doz.; 17*s.* 6*d.* per 100, free.

THOMAS COLEMAN, Saffron Walden, Essex.

BARR'S SEEDS.—UNEQUALLED.

VEGETABLE SEEDS, the best sorts only. Much valuable information in our CATALOGUE, FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—General Descriptive Catalogue of the best Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. Also Descriptive Catalogue of special collections not detailed in our general catalogue. FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

ORCHIDS

Of every description, from 1*s.* each; samples, post-free, 1*s.* 3*d.* RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.

THE LEEDS ORCHID CO.,

ROUNDHAY, LEEDS.

EXHIBITIONS.

NEWCASTLE-ON-TYNE
GREAT SPRING FLOWER SHOW,
WEDNESDAY AND THURSDAY, April 24 and 25, 1895.
Entries close April 19. For Schedules, apply to—
Cross House Chambers. J. J. GILLESPIE, Junr.

SHREWSBURY GREAT FLORAL FÊTE,

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The Society Offers this year nearly **£300 in Prizes.**
SPECIAL CLASS FOR DECORATIVE ARRANGEMENT OF FRUIT. **£51 in Prizes.**
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It is a clean and dry powder with very little smell.
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Have received instructions to SELL by AUCTION, at the Effra Hall, upon the above date, commencing at 2 o'Clock sharp, the SURPLUS STOCK of Messrs. W. Cooper, Ltd., Horticultural Providers, Old Kent Road, London, S.E. Amongst other goods will be Catalogued—

About 150 **LEAN-TO and SPAN-ROOF PORTABLE GREENHOUSES and CONSERVATORIES**, various sizes, entirely new, with everything complete, ready for erecting by any handy-man or Gardener in a few hours. (Every house will be erected, and on view.)

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There is no risk of poisoning Birds or Animals if directions are followed when applying this preparation. Guaranteed to clear all weeds; mixes at once; no sediment; leaves the paths bright and clean, without stains.

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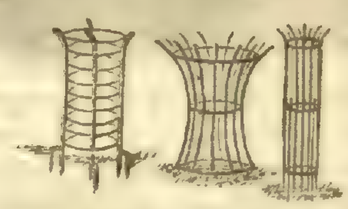

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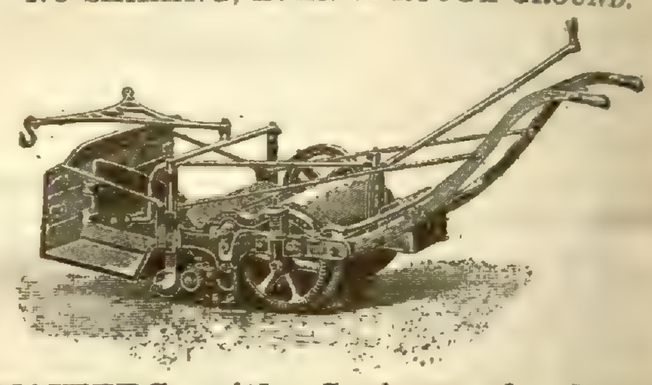

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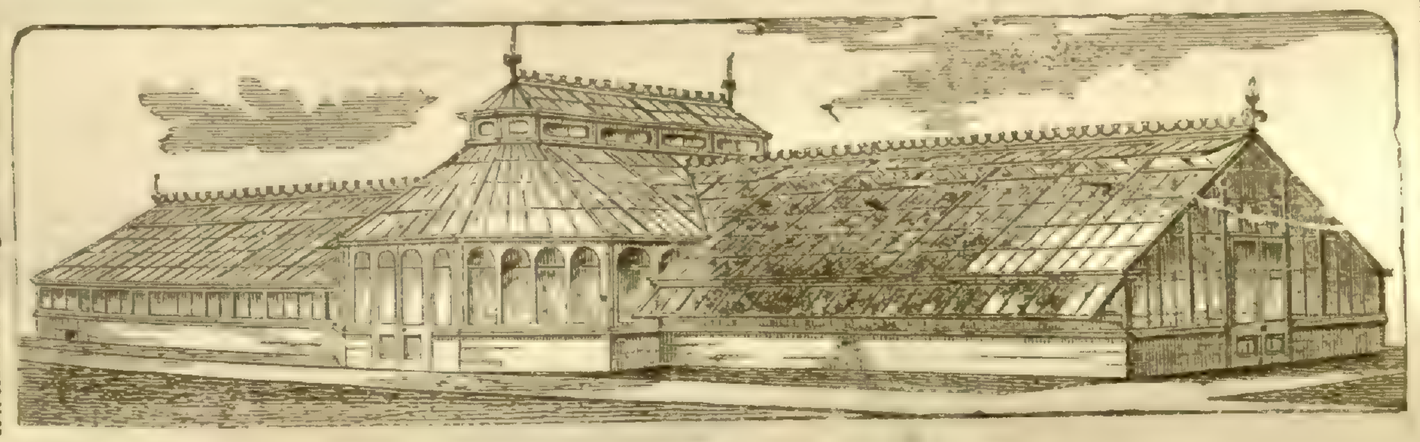

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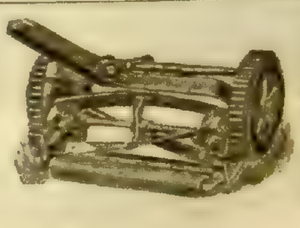

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UNSOLICITED TESTIMONIALS

The Gardens, Laleham House, Staines, June, 1894.

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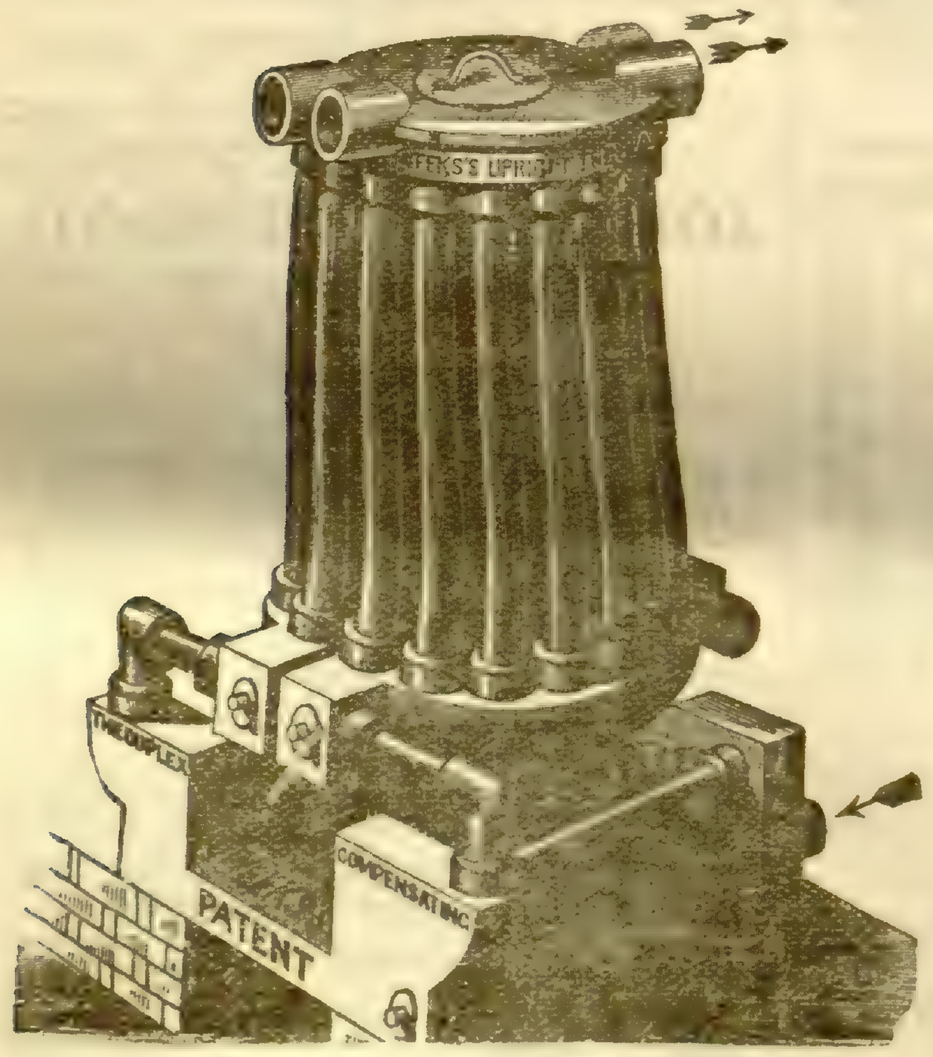

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THE

Gardeners' Chronicle.

SATURDAY, APRIL 15, 1895.

TRAVELS OF OGIER GHISELIN DE BUSBECQ [1544—1562.]

"He has stories to charm a child, and tales to make a grey-beard weep."

BUSBECQ, or Busbequius, the celebrated Flemish traveller and ambassador, was born at Bousbecque * in Flanders in 1522, and he died in 1592 near that place, after a useful and eventful life of seventy years. To gardeners especially his memory should be an interesting one, since, as one of his biographers has well said, "We cannot turn to our gardens without seeing the flowers of Busbecq around us, viz., the Lilac, the Tulip, and the Syringa. So much was the first of these associated with the man who first introduced it to the west, that Bernardin de Saint Pierre proposed to change its name to Busbequia." He was also most helpful and friendly to those great botanists of his era, Matthiolus and Clusius; for the first he collected rare MSS., and sent an apothecary of Pera to gather the aromatic Reed or Sweet Flag (Acorus) on the shores of Lake Nicomedia; while for the latter he obtained many rare plants, including the first Tulip roots from Constantinople imported to Europe, these having arrived in Vienna in 1562.

In July, 1544, Busbecq was in England attached to an embassy to congratulate Queen Mary on her marriage with Philip of Spain, and ten years later, viz., in 1554, he started on his memorable embassy to Constantinople, a full account of which is given in his *Turkish Letters*. At Buda-Pesth he tells us the janissaries (a sort of military-police force) brought him nosegays of Hyacinth and Narcissus flowers, as an excuse for begging!

At Philippopolis he saw Rice in the marshes growing like Wheat, and after stopping at Adrianople, he set out on the last stage for Constantinople, which is not far distant. "As we passed through these districts (in December) we were presented with large nosegays of flowers, the Narcissus, the Hyacinth, and the Tulipan (as the Turks call this last); we were very much surprised to see them blooming in mid-winter, a season which does not suit flowers at all. There is a great abundance of the Narcissus and Hyacinth in Greece; their fragrance is perfectly wonderful, so much so, that when in great profusion, they affect the heads of those who are unaccustomed to the scent.

"The Tulip has little or no smell; its recommendation is the variety and beauty of its colouring. The Turks are passionately fond of flowers, and although somewhat parsimonious in other matters,

* A village on the River Lys, about 2 miles from Comines. Formerly a part of Flanders, it is now included in the French Département du Nord.

do not hesitate to give several aspres* for a choice blossom. I, too, had to pay pretty dearly for these nosegays, although they are nominally presents, for on each occasion I had to pull out a few aspres as my acknowledgement of the gift." At the Turkish inns or caravanserais, he mentions Onions and Leeks, also such fruits as dried Prunes, Peaches, Pears, Figs, Quinces, Raisins, and Cornel-berries, as being exposed for sale to travellers. Here, also, he mentions "arab sherbet," a fermented drink made of Raisins, hot-water, and afterwards cooled with snow. At Algeos, he and his suite discovered a copse of Liquorice trees, and "gorged themselves with the juice from their roots." Here, also, he found the Grapes, which in many places they keep till summer, most refreshing at times; and he further describes the following method of preserving them:

"They select a bunch in which the Grapes are of good size and fully ripe, a condition which is easily brought about by the sun in Turkey. These bunches they put into a vessel of wood, or earthenware, after first covering the bottom with a good layer of ground Mustard. On the top of the Mustard flour they place the Grapes, then pouring in more of the Mustard gradually, so as to pack the fruit tightly in it, and continue putting in more Grapes and Mustard, and finally they pour in over all a quantity of unfermented wine as fresh as possible, after which the vessel is then sealed and kept in a cool place until the hot summer weather sets in, when people are thirsty, and refreshment of this kind is acceptable. They then unseal the vessel and expose the Grapes for sale, together with the sauce of wine and Mustard, which last the Turks like quite as well as the Grapes themselves."

Busbecq adds, that the flavour of Mustard was not to his own liking, so that he had his Grapes washed carefully before he ate them, when he found them refreshing and wholesome during the great heats.

'You must not be surprised," says he to his correspondent, "at my gratefully recording in my letter to you the things that proved beneficial to myself, for you will remember that the Egyptians carried this feeling to such an absurd length, that they worshipped as gods the vegetables of their own gardens from which they had derived benefit."

At Tolna in Hungary he was impressed by the civility of the people, and the superior quality of their white wine! Arriving at Laszko, across the river Drave, on his homeward journey, the officials of that place surprised him with presents of the very finest fruit he had ever seen, together with bread and wine. "They brought," he says, "enormous Melons, Pears, and Plums, of different kinds, everything most excellent, a veritable horn of plenty, a long table in my bedroom being covered with these beautiful gifts;" and Busbecq is so enthusiastic that he doubts if even the far-famed and fertile Campania itself could have furnished such superb fruits as were here given to him. He mentions again the Grapevine as being planted at the foot of the tallest trees, bearing good Grapes, and lasting many years; while at one place he says, "The very Pumpkins show the fertility of the soil, as they are not only of a delicious flavour, but are often quite 3 feet long." In another place he mentions "green Water Melons with red seeds, as large as cannon-ball" [the Melons]. Then, in reply to an inquiry from his correspondent as to whether he rides abroad, he replies, "The country and the fields are what I enjoy, and not a town, but I am now a prisoner here. I keep at home, where I hold converse with my old friends—my books, as I want to make the Turks think that my rigorous confinement is no great punishment to me."

On his second expedition to Constantinople he took with him Quacquelben as physician; and also a draughtsman, to prepare drawings of objects of natural history. On his final return from Constantinople, Busbecq brought to Europe several very beautiful thorough-bred horses, an exploit of which he evidently was very proud, as he adds complacently "which no one before me has done." He also imported six she camels, and mentions some original drawings of plants and animals which he had had made for Matthiolus, adding, "but as to plants and shrubs themselves, I have few or none. I have besides a great quantity of old coins, and whole waggonfuls, whole shiploads of Greek manuscripts. There are, I believe, not much fewer than 240 books, which I sent by sea to Venice, to be conveyed from there to Vienna, for their destination is the Imperial Library. There are some not to be despised, and many common ones. I ransacked every corner to collect in a sort of final gleaning, all that remained of such wares. The only one I left at Constantinople was a copy of *Dioscorides*, evidently a very ancient MS., written throughout in uncial characters, and containing drawings of the plants, in which, if I am not mistaken, there are also some fragments of Cratevas (= Greek herbalist), and a treatise on birds. It belongs to a Jew, the son of Hamon, who was Solyman's physician, and I wanted to buy it, but was deterred by the price: for he demanded 100 ducats, a sum suiting the imperial purse, but not mine. I shall not leave off pressing the Emperor, till I induce him to ransom so famous an author from such foul slavery." It is some consolation to know that the Emperor eventually did secure it for the library at Vienna, where it is still preserved. It was written at Constantinople towards the end of the fifth century for Juliana Anicia, daughter of the Emperor Olybrius, who died A.D. 472. Throughout the MS. each plant described is illustrated by a figure, and there are two miniature drawings on second and third pages, each representing seven famous botanists and physicians assembled in consultation; and there is a picture of Dioscorides on the fifth page engaged in the composition of his work.*

Thus far I have extracted from Busbecq's *Turkish Letters* in Forster's and Daniell's *Life and Letters* † of this remarkable man, a few only of the interesting remarks of this celebrated traveller, who was singularly enlightened and modern in his ideas and taster, even though he lived and wrote considerably over three centuries ago. His finding of the MS. of Dioscorides seems to have incited Matthiolus to write his great work or commentary on that author, while, by introducing the Tulip, and probably other bulbs, through his friend Clusius to Vienna, and eventually to Holland, he doubtless laid the foundation for a great national industry. We are proud of our own travellers and authors on garden botany Turner (1568), Gerard (1597), and Parkinson (1629-1640), but Busbecq had advantages in time and in place, and right worthily he turned them to his country's advantage, and we never ought to see the glowing sheen of a Tulip, or smell the fragrance of the Lilac in our early summer's sunshine without feeling grateful to the man who was instrumental in bringing them to our gardens. *F. W. Burbidge.*

* An "aspre" or "asper" the lowest coin in Turkey, equal now to about the 100th part of a penny, but worth much more in Busbecq's time.

* See Visconti *Iconographie Grecque*, i., ch. 7, and also Montfaucon *Palæographia Græca*, iii., ch. 2, for engravings of these remarkable pictures.

† *The Life and Letters of Ogier Ghiselin de Busbecq, &c.*, by Chas. Thornton Forster and F. H. Blackburne Daniell, 2 vols. London (1881): Kegal, Paul & Co., Paternoster Row.

NEW OR NOTEWORTHY PLANTS.

ARISTOLOCHIA DAMMERIANA, *Mast* ‡

This is an undescribed species met with by our friend Dr. Dammer in Mr. Büths' nursery at Lichterfelde, near Berlin, and introduced from Central America with, or for, the seeds of A. grandiflora. Search in the Berlin herbarium for a species identical with it has been fruitless, and so also has been our own examination of the Kew herbarium, nor among the notes taken when preparing our monograph of the genus is there any record that will fit the present plant. The foliage is like that of A. maxima, but the inflorescence and the straight-tubed perianth are quite different. It is a climber, the old stems covered with a corky bark, the shoots slender, striated, the leaves rather leathery, cordate, oblong, acute; the petioles short, densely covered when young with reflexed pilose hairs. The perianth is nearly 2 inches long, the lower portion distended and oblique, expanding into a trumpet-shaped tube terminated by a limb, which on one side is two-lobed, the two lobes separated by a narrow notch, and on the other prolonged into a flat oblong acute, caudate expansion. Dr. Dammer has observed some curious facts relating to the different positions assumed by the leaves, the younger leaves near the tip of the shoot are appressed to the shoot and directed upwards ↑; the central leaves are similarly appressed, but bent downwards ↓; whilst the oldest ones at the base spread at right angles from the stem ←. *M. T. Masters.*

‡ *Aristolochia* (§ *Gymnolobu*) *Dammeriana*, Mast., sp. nov.—Volubilis, scabriuscula, pilis appressis recurvis, ramis herbaceis gracilibus sulcato-striatis; foliis circa 17—18 cent. long. 6 cent. lat.; subcoriaceis, glabriusculis oblongis acuminatis basi cordato bilobis, lobis rotundatis nervo medio subtus prominente nervis secundariis remotis ascendentibus arcuatis, nervis tertiariis subapproximatis horizontaliter patentibus; petiolis 25 mill. long, juventute densissime pilosis; pedunculis axillaribus 1-floris quam petiolis duplo longioribus; perianthio 50—60 mill. long, stricto basi oblique ventricoso in tubum infundibularem dilatato limbo antice cordato-bilobo, postice in laminam late oblongo-ovatam acutam expanso; columna infra apicem 6-loba lobis ovatis acutis, antheris 6 loborum basi attingentes; ovario angusto elongato torto; fructu . . . In hort. Blüth, Berolinensi, cult; ex Amer. Centr. introduct.

THE FERTILISATION OF GOODENIACEÆ, &c.

Mr. Alexander G. Hamilton has lately written two interesting papers, published in the Proceedings of the Linnean Society of New South Wales, May 20 and 28, 1894, upon the fertilisation of the remarkable flowers of this order, as well as of Clerodendron and Stylidium. The chief peculiarity of the flowers of members of Goodeniaceæ lies in a cup or "indusium," which is an outgrowth from the style, just below the stigma, which surrounds and conceals this within itself. The five anthers surround and are pressed close to the cup; and when they burst, the stiff hairs of the fringed margin of the cup, by its growing upwards, scrape the pollen out of the anthers, which then falls within it. At this time the stigmas are quite immature, so that self-fertilisation cannot then take place. In the next stage the style grows up within the cup, elevating the stigmas, which thrust the mass of pollen out at the top of the cup. All this is done in an immature state of the flower, the petals expanding simultaneously with the ejection of the pollen from the cup. The mouth of the cup rests upon the "brush-like," sticky collecting-hairs of the petals, upon which the ejected pollen falls. In the genus Scævola, but not in others, the leaf, which together with the flower-bud in its axil, was at first erect, now becomes horizontal, the flower also lying upon it, so that insects find a convenient landing-place on the leaf, and have free access to the flower; so that, apparently every facility is afforded for intercrossing.

But now follows a perplexing anomaly which the author thus describes:—"Before the stigma has grown so much as to project from the opening of the indusium, the flower withers . . . the supporting leaf, by a twisting of the leaf-stalk, moves round so as to be above the flower, and then turns on one side and conceals it. It is during this movement, and after it is complete, that the stigma first emerges from the indusium." It would thus seem to prevent intercrossing just before the period when it would be possible to do it. Proof, however, that stigmas do receive foreign pollen is forthcoming from the fact that moth-scales are generally found adhering to them. Hence it would seem that the flowers are visited at an earlier stage, and the pollen from other flowers is left outside the cup on the brush-like hairs of the petals, from which it is subsequently picked up by the stigma on its maturity. A somewhat analogous procedure to the first part of the above process takes place in Campanulas, for the anthers

deposit the pollen, in this case, on the style, from this the bees remove it and apply it to the stigmas of other flowers. Lastly, Mr. Hamilton observes that, "if the flowers should not be at all visited, they are very likely to be self-fertilised by the pollen which dropped on the brushes." The nearest approximation to the cup or indusium among British plants is probably the spoon-like extremity of the style in Polygala, the edges of which are gripped by the eight finger-like anthers which empty their pollen through terminal pores into the spoon. The flower can then be intercrossed or generally self-fertilised as well.

Mr. Hamilton next describes the fertilisation of Clerodendron tomentosum. The flower somewhat resembles a Jasmine with a long tube. The petals are situated vertically, so there is no landing-place for an insect. The anthers, when mature, are held out in front, the filaments being up-turned. The stigmas at that time are undeveloped, adpressed together, and hang down below. After the anthers have shed their pollen they retire downwards, the stigmas now mature, rise up and occupy their place. This transference of positions is not at all uncommon in flowers, as, e.g., in our common Wood-sage (Teucrium Scorodonia), and in the lemon-scented Pelargoniums, &c. The creamy-white flowers of Clerodendron are visited at night by numerous hawk-moths of the species Deilephila Celerio, which suck the honey while hovering in front of them, just as is done with our Honeysuckle.

The last flower examined is that of Candollea or Stylidium. The remarkably sensitive column or gynostemium is formed by the adherence of the style and filaments, so that the anthers are in contact with and at first conceal the miniature stigmas. An insect alighting to suck the honey touches the sensitive point at the base of the style, which causes it to fly over (having been previously bent down on the opposite side), and if the insect be of sufficient size, the column comes down upon it like a hammer, and, of course, deposits the pollen on the hairy thorax. If the flower be in a later condition, when the stigmas are mature and the anthers withered, then their hairy surfaces pick up the pollen and the flower is cross-fertilised. *George Henslow.*

Fig. 62.—SHORTIA GALACIFOLIA: AS GROWN IN LADY BOWMAN'S GARDEN AT JOLDWYNDS, DORKING.

SHORTIA GALACIFOLIA.

"Like the botanist for whom it was named, it is so retiring in its habits that it is not known as it ought to be, but lives as yet unseen, except by a single botanist of a former generation (Michaux), in some secluded recess of the Black Mountain of North Carolina. It will some day be found again and appreciated." These are the words of the late Asa Gray. He wrote at a time when the only specimen known was a dried specimen, in fruit only, in the herbarium of Michaux. After many years—nearly half a century—Gray had the happiness to see his prediction verified. The plant was found and ascertained to be to the full as interesting to the botanist as was anticipated, whilst to the flower-lover its beauty at once appealed. Its relationship with the Japanese Schizocodon is also a very interesting detail to those who concern themselves with the history of the globe and its inhabitants, and with the question why plants are where they are and whence they came. The history of the re-discovery of the plant, and of its introduction into cultivation, is given with the illustration, fig. 73, in vol. v., for 1889.

What a fine plant it becomes when well cultivated, was exemplified by the specimen shown at one of the recent meetings of the Royal Horticultural Society, from the garden of Lady Bowman, near Dorking. The plant was growing in a shallow pot, and from amidst the luxuriant foliage sprang some forty flower-spikes, many with two, and one with evidence of three flowers. It did credit to the cultural skill of Mr. Cornish, the gardener, who kindly sends the following particulars of the method of culture pursued with this plant:—'The soil found from experience to be the most suitable for this plant is black fibrous peat, mixed with silver-sand, and sandstone broken to the size of Hazel-nuts, the latter assisting drainage when most necessary, and maintaining coolness. The best aspect is the north-east, in partial shade during the hot weather, with ample moisture during the growing season. The plant is suitable either for the outside rockery—being perfectly hardy, or for growing in pots or pans in cool houses; in the latter case, the plants should be placed in shady positions in the open air in the summer. A plant grown at Joldwynds, near Dorking, under these conditions, produced about seventy fully-formed flowers during February in a cold-house. This is probably the finest specimen yet seen in this country. Its beautiful blossoms appear in April on plants out-of-doors.

FOREGROUND STUDIES.

Those who are at all interested in the part which the photographer's camera is destined to play in connection with pictures of the woodland and the garden, will find an exceptionally interesting paper in the current issue of the *Studio*. The article, which is by Mr. C. F. Townsend, is accompanied by a number of examples, which are more striking proof than whole reams of written eulogy. Indeed, some of these examples strike us as being not only exceedingly beautiful pictures, but as opening up an almost entirely overlooked field for the botanist. The illustrations of Wood Anemones, Bracken, Brambles, Foxgloves, grasses, Angelica, and Bulrushes, not to mention the larger pictures of more general subjects, are so clear, and so effectively done, that any

descriptive legend is almost superfluous, for down to the minutest point every detail is true to Nature. Not so very long ago it was a cheap kind of witticism on the part of the Philistine to ask the amateur photographer whether his picture was intended to represent a horse or a church steeple. It may be conceded that some of the early amateurs' work left much to be desired; but the science or art of photography has made such rapid strides during the past ten or fifteen years, that bad work, even on the part of the amateur, now argues a total absence of artistic feeling or "nous" on the part of the operator.

No phase of photography is so exasperating as that which is often erroneously styled "still life," for the "still-life" subject is scarcely ever sufficiently quiescent for a successful photograph. The slightest movement is quite enough to spoil a negative, as hundreds of lovers of woodland scenery have discovered to their chagrin. Even when the effects of a slight breath of wind on reeds and grasses has subsided, such subjects as Foxgloves, Hollyhocks, and other "heady" vegetation, continue to nod until the next gust of wind gives a fresh lease to their vexatious animation. The study of "Foxgloves" above-mentioned as accompanying Mr. Townsend's paper, is the result of an hour's patient watching. The result, it is true, is well worth the time expended upon it, but if Job had to write his Book of Lamentations up-to-date, he would have to give the photographer a considerable space! "Standing in a cramped attitude for ten minutes, craning our necks to watch the changing light on the distant Grass as it is bowed by the wind, or raising our eyes in, not always mute, invocation to the summer clouds." Oh, the agony of it, indeed!

After a good deal of experimenting, Mr. Townsend comes to the conclusion that as most foreground studies are of the narrow order, so with a square-shaped camera much of the plate is wasted; the most convenient size, therefore, in his opinion, is 7½ by 5. And further than this, "it is not well to work with anything smaller than ½-plate, as the detail, which constitutes the great charm of these studies, is liable to be lost." Small negatives can be enlarged, and we have seen some so manipulated with great success; but the result is much more frequently a dismal failure. A single lens, in an ordinary way, would be by far the best, but unfortunately, the necessary exposure is rarely practicable. Some of Mr. Townsend's most successful photographs of foreground studies have been taken with a 7½ by 5 long-extension camera, provided with a R.R. lens of 9½-inch focus and a single Grubb lens of 7-inch focus. The question of "exposure" of foreground studies is one of exceeding importance, and is guided greatly by the time of day at which the photo is taken. In a strong light at noon, for example, the exposure may be even less than a second; in a wood at 4 P.M., 150 seconds may be necessary to obtain the desired effect. Nothing is more difficult to determine than this in connection with a satisfactory foreground study, and as no definite rules can be formulated, it will be necessary for the amateur to use his discretion, taking care, however, not to fall into the very common error of under-exposing, which is much more productive of failure than over-exposing.

A collection of foreground studies, when successfully done, would prove of exceeding interest and value to the botanist and to the horticulturist; and might form a distinct relief and contrast to the stiff and unlovely series of snap-shot views of castles, churches, and so forth, with which the peripatetic sight-seer overloads his albums. To a globe-trotting botanist—if he escapes imprisonment as a political "spy"—the camera may be made a most valuable adjunct; for a few of these foreground studies would, in after years, be more helpful reminders than pages of written detail. Clearly, quite a new field of photographic enterprise has been opened, and as it is one which appeals more closely to the botanist than to any other members of the community, we have great pleasure in referring to Mr. Townsend's *Studio* article, where the fullest details will be found. *W. R.*

ASPIDISTRA FUNGUS.*

QUITE recently living leaves of Aspidistra lurida have been received showing irregular, colourless blotches, of variable size, and differing very materially from the streaky variegation so often present on the leaves. The irregular blotches alluded to, which, had they been normal, would, in all probability, have constituted the basis of a new trade variety, unfortunately prove to be due to the presence of a parasitic fungus belonging to a genus (Ascochyta) containing numerous species parasitic on living leaves and twigs; as a rule the fungus is seated on a more or less extended, bleached spot, the absence of colour being due to the destruction of the chlorophyll of the leaf by the mycelium of the fungus. In Aspidistra leaves, the earliest indication of the parasite is the presence of very minute blackish spots, and if the leaf is held between the eye and the light, each spot will be seen to be surrounded by a colourless margin, due, as already explained, to the disappearance of the chlorophyll. As the mycelium spreads in the tissue of the leaf, the bleached spot increases in size, and not unfrequently originally distinct patches run into each other, forming irregular blotches from 1 to 4 inches long, and spotted here and there with short black streaks, which generally run across the leaf. The numerous very minute perithecia or spore-conceptacles are arranged in scattered groups on the bleached spots, and contain myriads of minute spores, which germinate within twenty-four hours when placed on the moist surface of a living Aspidistra leaf, the germ-tube passing through a stoma into the interior of the leaf, and soon giving origin to a minute black spot.

It is impossible to save leaves that are attacked, as the fungus is completely buried in the living tissues, only bursting through the epidermis to shed its numerous spores. As the presence of the fungus is so well marked, even in its earliest state, it should be a comparatively easy matter to stamp it out by burning infected leaves before the spores are matured. As the fungus is an undescribed species, its specific diagnosis is given in the footnote. *George Massee.*

* Ascochyta Aspidistræ, Massee.—Maculis variis, latis, arescendo dealbatis, vix marginatis; perithecis, gregariis, prominulis, lenticularibus, initio tectis, 75—100μ diam.; sporulis cylindrato-fusoideis, 1-septatis, ad septa subconstrictis, hyalinis, 9—15 × 3μ.

FLORISTS' FLOWERS.

SEASONABLE NOTES ON CHRYSANTHEMUM CULTURE.

AT this season the growth of Chrysanthemum plants being more rapid than hitherto, very close attention to them is essential, for if this be not given, the results are sure to be unsatisfactory. Inexperienced growers frequently err in certain particulars, and it may be useful to these if I point out a few of the common errors, and afterwards remark upon the immediate requirements of the plants. My remarks will principally apply to the growth of plants for the production of large blooms, not necessarily, however, for exhibition, for ideas of public showing are not by any means in the minds of all who interest themselves in the culture of Chrysanthemums; but where the plants are grown primarily for that purpose, no doubt a deeper interest is usually taken in their culture. The first mistake I shall allude to is that of growing too many varieties. In order to satisfy an abnormal craving for novelties, too much space and attention are absorbed in growing varieties which prove to be of less merit than older ones. It is a blunder for any grower to burden himself with too many varieties, and especially with those whose superiority to others has not been proved. Much better grow an extra number of plants of reliable sorts than an equal number of untried ones.

Crowding the plants too closely together is much too common and serious a mistake to be passed over. The success or otherwise in cultivating all varieties, but especially those of the incurved section, depends very much upon a perfect maturity of the growth. Not only does overcrowding injure a few varieties seriously, but it is the means of lowering the average culture of the collection. A very good rule to observe is not to allow the leaves of any plant to overlap those of its neighbour.

Some growers commit a mistake in employing a compost of too poor a quality during the early stage of the plant's growth. I have committed from this an error myself, and have proved its effect. If the compost be poor, the growth made for the foundation is too weak. This error alone is sufficient to cause failure. I do not believe it possible to grow the plants too strong during their early stages. It is in the late days of summer when over-luxuriant growth is productive of injury, owing to the want of time to mature such shoots that injury is done.

The management of the shoots now requires prompt attention. The regular and early removal of all shoots which are not required is imperative. Plants intended for the production of large blooms often produce twenty times as many shoots during the season as are required, and this because early attention has not been paid to the removal of the surplus growth.

Irregularity in root waterings is another common mistake. Too often the plants while in 4-inch pots may be seen with their leaves hanging flaccidly down, thoroughly flagged, and a few such experiences as this will produce "spot" on the leaves of many varieties. Again, others thinking that because Chrysanthemums are moisture-loving plants they cannot have too much water. This is a mistake that can easily be proved. In some collections where the watering is done in a haphazard manner, there may be found plants with pale coloured leaves, and this is the result of a check to the roots by an excess of moisture. Such plants should be placed on their side, and only sufficient water given them for a time to prevent the leaves flagging absolutely. A change in the colour of the leaves will quickly ensue; but a few weeks will elapse before they thoroughly recover.

Having pointed out a few common errors in culture, I will now offer a few suggestions upon the necessities of the plants at the present time. The bulk of the plants is probably growing strongly in 3½-inch pots, and should be occupying a cold frame in a sunny spot. Directly the pots are full of roots, and before they are matted together, the plants should be transferred to pots of 5½ inches in diameter. From these they will go direct into 9-inch ones, which is the most suitable size for flowering them in, and quite large enough. For the present shift the compost should consist of three parts fibry loam, and if this be heavy in character, remove the bulk of the fine soil by passing it through a fine sieve, retaining only the fibrous parts, one part leaf-mould, and the same amount of half-decayed horse-manure. Assuming the loam to be heavy, horse-manure is the best for use; but if light in texture, partly-decayed cow-dung which has been dried is preferable. If the loam lacks lime, ground oyster-shells should be added freely, and a few handfuls of unslaked lime. Some soils are much infested with small earth-worms, and the lime, if sprinkled thinly, will destroy the bulk of these. Coarse silver-sand ought to be added in proportion to the state of the loam, be it heavy or light. In the making of the compost, it must be borne in mind that it is essential the whole should be porous. To every bushel of compost add 1½ lb. of Thomson's Vine or other reliable manure. Pot the plants firmly, which promotes solid growth. For a week the plants should be kept rather close, to encourage them to make new roots. If the soil is moist when used, as it should be, no water will be required for a few days after potting.

As the growth progresses, air should be admitted to the frame freely on the opposite side to that from which the wind is blowing, especially if it be in the east, as cold draughts of air produce mildew. Draw the lights entirely off the frame for a few hours during the day when the weather is suitable, and encourage a sturdy growth as far as possible. Some varieties

notably Viscountess Hambledon and Miss Anna Hartshorn, have a decided tendency to the formation of premature buds. It is difficult to account for this, but the plants lose much valuable time while persistently showing so many flower-buds instead of clean growth. The continued removal of the buds is all that can be done to lessen the evil. *E. Molyneux.*

NURSERY NOTES.

MESSRS. B. S. WILLIAMS AND SONS.

In the Victoria and Paradise Nurseries, Upper Holloway, the advantages are witnessed of cultivating a general collection of plants, and this, at the present time, in a very marked degree, after the long and severe winter. From the large winter garden at the entrance, furnished with lofty Palms and tree Ferns, and brightened by a brilliant display of such flowering plants as can be obtained by gentle forcing at this season, throughout every department there is a good display of bloom. In the New Holland houses the Darwinia fuchsioides, D. tulipifera, and other large specimens in bloom, taking us back to the days when they formed the principal feature at flower shows. Of a more modern class of plants are the houses of greenhouse Rhododendrons just commencing to make a fine show. Of Hippeastrums (Amaryllis), for which these nurseries are famed, a gorgeous display is furnished, the Holloway strain of a dark shade of scarlet being very noticeable. The fine forms of Cliveia (Imatophyllum) miniata, a genus of plants the improvement of which Mr. H. Williams has also essayed with success, evidence of which can be seen in the three fine varieties, specially noticeable among the mass of globular-orange and orange-scarlet heads of blooms, viz, C. Holloway Beauty, Scarlet Gem, and Model, all with flowers of perfect form and fine colour. The last-named variety was Certificated by the Royal Horticultural Society. Glancing at the things in flower, after passing the Ferneries, in which there is a fine collection of rare Ferns, we noted in one of the houses, plants in bloom of the violet-coloured Franciscea, scarlet-spotted Anthuriums, and brilliant flower-spikes on Canna Königin Charlotte, the colours scarlet with a yellow edging. In another house a collection of Sarracenias was observed, whose large and quaintly-formed flowers look to advantage, showing above their tall pitchers. In every house there are some plants of interest in flower, and the Nepenthes and coloured-foliage plants are fresh and bright as usual.

The Orchids.—These plants are a special feature at these nurseries, and yield at the present date a bright display. In future, however, the show will be even more select than heretofore, the more popular species and ordinary varieties having to be cut as soon as ready in order to supply the shop which the firm has taken in Piccadilly.

In one of the chief Orchid-houses we noted a pretty group, in which were a fine specimen of Cymbidium eburneum, some well-flowered C. Lowianum, Trichopilia lepida, Calanthe Sanderiana, Cypripedium exul, several well-flowered Cymbidium Devonianum, Lycaste fulvescens and other species, and a splendid lot of Oncidium sarcodes laden with flower was suspended overhead. In another house visited was a show of Dendrobiums, mostly varieties of D. nobile, D. n. nobilius, and D. × Leechianum; and with them were some rich, mauve-coloured Calanthe Masuca, white C. veratrifolia, Cypripedium × Harrisianum superbum, C. Argus, C. Boxalli atratum, and a number of Selenipedium × Sedeni crosses. Suspended overhead were two striking and uncommon Cœlogynes, viz, C. tomentosa, somewhat resembling C. Massangeana, but with salmon-coloured sepals and petals; and C. lactea, with pretty sprays of milk-white flowers. The cold houses have little flower at present, although the very healthy plants afford plenty of promise. A few Sophronitis, Odontoglossum crispum, O. Andersonianum, O. cristatum, O. Pescatorei, and O. blandum are in bloom, however, and Masdevallias showing colour, associated with them being the fine, rich, crimson-coloured Pinguicula caudata, the handsomest of its class, and certainly the easiest to cultivate if it be properly placed.

In the compact block of private houses, and smaller houses devoted to plants requiring special care, is a collection of Cypripedium species and hybrids. In bloom were a grand example of C. Rothschildianum with two spikes, some plants of C. × Alice (Spicerianum × Stonei), C. × Ashburtoniæ expansum, C. × Morganiæ, C. × politum, C. × Io grande, C. callosum, C. × Haybrechtianum, C. Mastersii, and many other species.

In another warm, moist house the varieties of Pescatorea, Bollea, and Batemannia are growing vigorously and sending forth buds. They are suspended near the roof, and probably some who fail to grow these plants in pots and on the stages would do better if they suspended them in a suitable warm moist atmosphere as at Holloway. Still another warm house, in which was a quantity of Vanda teres showing flowers, the blush-white V. teres Aurora being in full bloom, and thus for some reason in advance of the ordinary kind. Here is a plant of the true Dendrobium cucullatum giganteum in flower—a very pretty object; also D. × Cassiope, D. nobile Cooksoni, D. n. nobilius, Angræcum modestum, A. citratum, Phalænopsis Schilleriana, Ornithocephalus grandiflorus, and a large number of other pretty and rare things.

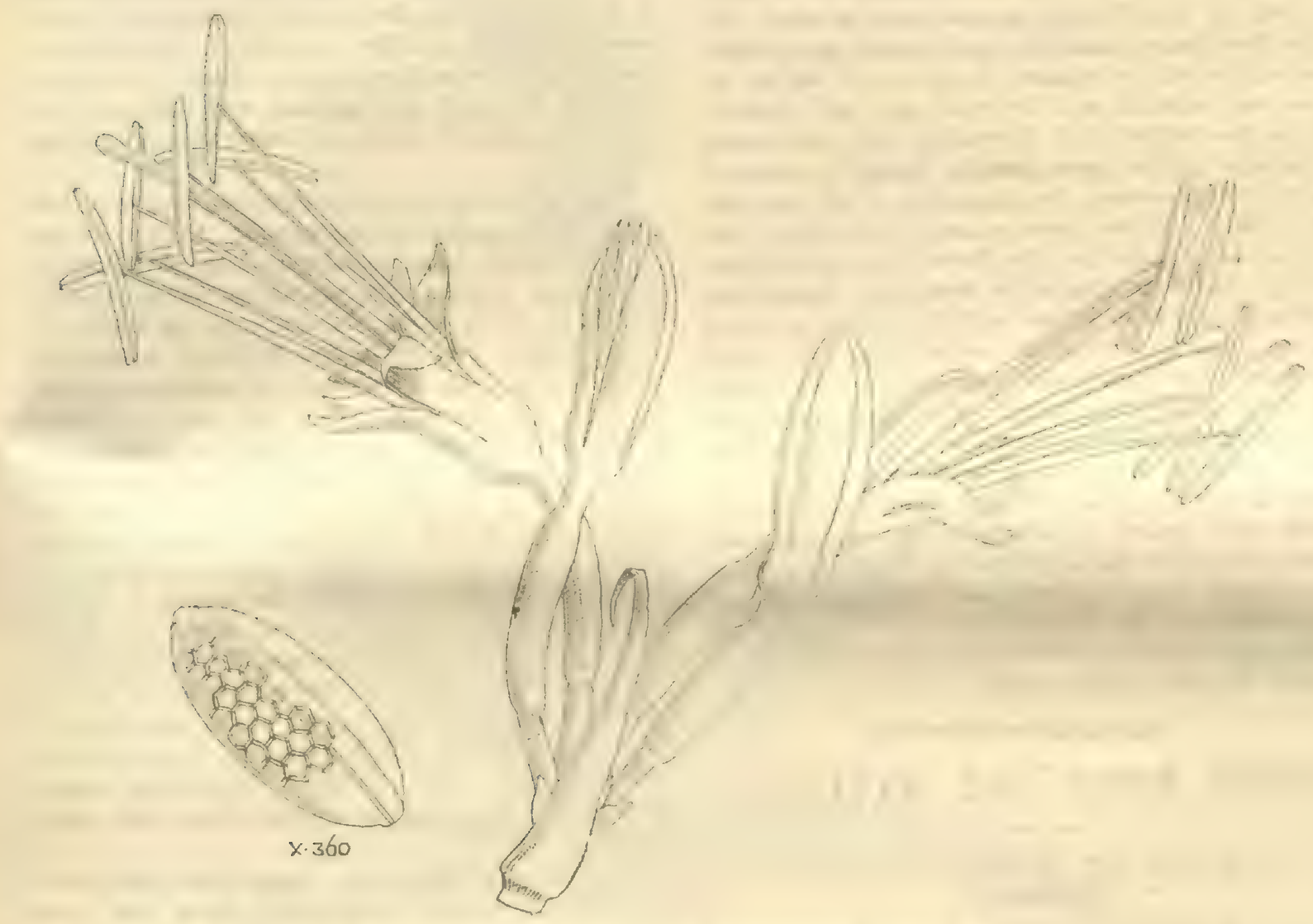

FIG. 63.—FLOWERS OF AGAVE ATTENUATA. (SEE P 457)

BOOK NOTICE.

A STUDENT'S TEXT-BOOK OF BOTANY. By Sydney Vines, M.A., D.Sc., &c. (Swan, Sonnenschein.)

This volume is now completed by the issue of the second moiety, which begins with the account of the Phanerogams, and then passes on to the subject of general physiology and the special physiological history of the nutritive, motile, and reproductive systems. Two full indexes, one devoted to classification and nomenclature, the other to morphology, anatomy, and physiology, are given; and thus is concluded what has been long wanted, an authoritative text-book, brought up to date. In view of the dozens of such publications, this may seem strange; but it must be remembered that most of these books have only a very limited range, and are not produced for the advancement of science, but for the convenience of pupils and examiners. The best of them are the work, not of experienced botanists, but rather of successful teachers; while the bulk, whether elementary or advanced, are mere compilations and condensations, designed to meet the requirements of the examination-room. The present is an original work, that is, so far as such a compendium can be original. It is the work of an expert, who knows what to select, and what degree of importance to assign to the several subdivisions or elements of his work. The newer morphological ideas are stated with a clearness and precision very welcome to the student, whilst the number of neologisms is—it may be fanciful—relatively less than in the former half. The account given of the several natural orders of Phanerogams is the weak portion of the book. It would have been better to have treated the more important orders at full length, and to have omitted all but the mere mention of the orders of minor importance. As it is, it is easy to see that the account of the orders has been starved, and the student desirous of information on this head must refer to other books.

The system followed is Bentham and Hooker's modification of De Candolle's arrangement, with the Gamopetalæ placed last, and the Monochlamydæ first. The Discifloræ are retained — a doubtful advantage, as the characteristic is an artificial one. Nepenthaceæ are surely very unnaturally placed next to Sarracenias. The common possession of pitchers is no proof of affinity, and beyond that there is not much to link the two orders.

In such a mass of detail, slips must occur. One such we may note in the case of the anthers of Restiaceæ, which are not usually two-celled; nor does the figure representing the foliage of Thuya (fig. 306) represent the heterophylly of this genus. In Passifloraceæ the andræcium is almost invariably, not sometimes, elevated upon an extension of the axis.

The physiology of plants is treated shortly, but in an excellently lucid manner. The cause of the

"ascent of the sap," now called the transpiration current, to the top of the tallest tree, is still unexplained—or rather, we should say, none of the proposed explanations is entirely satisfactory.

The author designates his work *a* student's text-book; we venture to think that for some time to come it will be *the* student's text-book—at least, so far as advanced pupils are concerned.

GARDENS IN LONDON SQUARES.

It must have struck the ordinary passer-by what a melancholy-looking thing is the garden in the London square. No doubt it would surprise him on entering one to find how charmingly they are arranged, and full of flowers—as, indeed, many of them are. But could they not be laid out to give a better effect outside for the benefit of the public, and add to the general beauty of our great metropolis? especially now as so much has been done to improve its appearance, owing to architects of great cleverness and taste having been employed—at all events, in the better part of London, particularly on the estates of the large landowners. They might be arranged to give a good effect both from the street and from the inside, and yet remain private for the dwellers in the square, who make their annual payment to keep them in order. Much more might be done with the money that is spent on these gardens, as every householder round the square of say sixty or more houses pays £1 or more yearly.

One great mistake that is invariably made is planting a hedge or shrubs all round quite close, if not touching, the heavy-looking iron fence that surrounds it. It would have a much better effect to allow a space—say, from 6 to 8 feet—of grass between the fence and the planting; leaving an open space between the shrubs at intervals, making a peep into the lawn inside, but not large enough to destroy its privacy.

Trees planted at wide intervals outside on the pavement, if there should be one, next the garden, would improve the appearance from outside; the trunk of a tree, especially a Plane, a tree largely planted in and suitable for London, is one of its greatest beauties, but hardly shows in a London square garden from outside. Of course, planting trees on the outside of the fence would necessitate trees that grow to any height being planted away from the edge of the garden inside, to prevent their growing into them.

The design of the garden should be of a formal description, not being, as a rule, of an irregular shape, and being surrounded by buildings, it is a great mistake to make a pretence of being in the country, and laying out the naturally-flat ground into a sort of miniature hill-and-dale landscape. The making of mounds upon which the shrubs are to be planted does not give a good effect, and prevents their growth, as they do not get the necessary amount of moisture. Certain herbaceous plants that will thrive in London should certainly be encouraged; they make a very good effect with the shrubs as a background. A hedge would answer the purpose; but no shrub suitable for a hedge does well in the smoky atmosphere. The paths should be straight, and bordered with beds of flowers. Pelargoniums and bedding plants of different sorts, although they have the great merit of flowering perpetually through the whole summer and autumn, should be used sparingly, as cuttings cannot be raised in the garden, so entail a certain amount of expense.

Posts and chains covered with trained Virginia-creeper, Grape-vines, Ivy, and Clematis, all of which do well in London, would look well as a background to the beds along the path. A path shaded by Plane trees interlaced and clipped would make a variety, the shady alley having a very picturesque effect. The lawns should be as little cut up as possible by paths, but should be broken with groups of two or three trees here and there.

Standard evergreens, such as Bay, Rhododendrons, or clipped Laurel in tubs, placed in a formal manner at the entrance gates and various points, would look well during the summer months. The surface of the soil being planted with annuals, especially of a drooping nature, would give a touch of colour. Annuals even of the commonest sort should be largely used, being quick growers, and lasting as long as the weather permits the garden being enjoyed. *H.*

CULTURAL MEMORANDA.

EUPHORBIA JACQUINÆFLORA.

For a number of years we have grown this plant successfully by treating it in the following manner. Through failure to do much with the plant under pot culture, I resolved to try how it would do when planted out, where its roots, I thought, would enjoy a more regular medium in regard to moisture as compared to the fluctuating conditions of pot culture. To this end I had ten plants placed along the front of a 40-feet pit, and as the shoots grew, they were trained up under the glass in arch fashion, forming a lovely floral canopy over some Orchids which stand on a bed beneath. The soil consisted of a small quantity of loam, but not so much sand as usual. In this they throve amazingly, and planted out in early spring, the shoots reached to the top of the pit by the next autumn, and the wood was well ripened. From the beginning of November until the present time, the plants have literally formed a mass of scarlet inflorescence, the admiration of all who have seen them. Where there is much decoration of the dinner-table to be done, the flower-bracts and foliage of the plants are invaluable materials. Sometimes the table has been draped with the flowering shoots alone, and sometimes in conjunction with other flowers. The flowers and leaves, when placed upon a white cloth, accompanied with either a silver or a gold dinner service, have a very handsome effect. The beauty of the plants is now nearly past, and we shall shortly cut them hard back. They will break and form their growth in course of the summer, and under the slight shade afforded by this leafy canopy, the Orchids seem to thrive, and are apparently all the better for it. Treated in a similar manner, I have been equally successful with Poinsettia pulcherrima. *W. Miller, Combe Abbey.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT WARNHAM COURT, HORSHAM.

The interest of C. T. Lucas, Esq., in Orchids continues unabated, and although all classes of flowering plants are cultivated in these fine gardens, the Orchids may be said to be the centre of attraction, and to share with the beautiful rock and alpine garden the chief regard of Mr. C. J. Lucas, who is the presiding genius in gardening affairs at Warnham Court, and of his gardener Mr. Duncan. From the stately mansion (an illustration of which we gave in the *Gardeners' Chronicle*, June 11, 1892, p. 757), the houses form a continuous chain, those nearest the house being filled with tropical Palms and flowering plants. In passing through the houses devoted to these we noted as interesting objects, two fine Cocoa-nut Palms (Cocos nucifera), raised from nuts gathered in Florida by Mr. C. J. Lucas, who also succeeded in collecting there the pretty rose-lipped Epidendrum Tampense. Some rock-bordered greenhouses filled with Azaleas, Richardias, Hyacinths, and other flowers, are passed through, and then one comes to the Odontoglossum-house, which may at present be said to contain the best example of good Orchid culture to be found at Warnham Court, and one that would not be easy to excel. The house is not built on the usual plan; indeed, it is rather lofty, and the open woodwork staging has to be adapted to it, and rises high against the back wall, after the manner of the staging in some of the houses designed for growing Pelargoniums in the olden time. But the desired end is accomplished, and the whole of the Odontoglossums brought to much about the same distance from the glass of the roof, whether they are placed on the front of the staging, or at the back of it. In this way space, too, is gained, and the plants suited admirably. Over the whole house is one uniform show of sleek, fat bulbs, and clean, bright green foliage, the plants bristling with flower-spikes; in almost every instance, the whole presenting a pleasant sight to behold.

As in most collections, the forms of O. crispum predominate, and many fine ones there are. Some O. Andersonianum are in flower, but only one is remarkable, viz., O. Andersonianum, "Mildred," named after the wife of Mr. C. J. Lucas. It is a remarkably fine form, with the broad petals more nearly like O. crispum, but the colour is pale yellow, the inner half of the segments being spotted with dark red. Its sweet odour and triangular labellum tell plainly that it is an Andersonianum, but as such, it is a remarkable advance on the type. Also in bloom are O. Hallii, O. cirrhosum, O. constrictum, and other species; a pretty Masdevallia Shuttleworthii, and other Masdevallias; and a bright lot of scarlet Sophronitis. Oncidium Marshallianum, O. Forbesii, and all that section of Oncidium, thrive remarkably here, together with the Odontoglossums, and there are some fine plants of them. Cool treatment is the only safe method with this class of Oncidium, but not every cool house will grow them well.

Passing through the ornamental rockery-house, we come to the warmer Orchid-houses. In one of these we were shown some healthy seedlings of Richardia Elliottiana, crossed with the pollen of R. hastata, known as Pride of the Congo, some of which, at least, might well be called Pride of somewhere much nearer home, for ordinary R. hastata they seem to be. In the first house the rare cinnabar-scarlet Epidendrum Schomburgkii is sending up four strong spikes. The plant is simply suspended with its ball of roots as collected, and the plan adopted suits it well. Here, too, the large plants of all the species of Anguloa are sending up flowers in profusion. In the next house the plants of Phaius tuberculosus have been flowering well, and Eulophiella Elisabethæ, Cypripedium Rothschildianum, and a few other warmth-loving species are in bloom. Then we come to a Dendrobium-house with Dendrobium Farmeri and allied species in flower; then a Cattleya-house with Cattleya Schroderæ, Lælia harpophylla, &c., making a good show, with other things.

The next is a rather lofty warm-house, and in it is another specially well-grown class, viz., the Angræcums, some or other of which are always in flower at Warnham Court. At present, several grand plants of A. sesquipedale bear their large ivory-white flowers; A. Leonis has some very fine blooms; some compact plants of the charming A. citratum have many spikes, as also the beautiful A. Sanderianum, A. articulatum, and others of the A. Ellisii section. These, except the A. sesquipedale, are mostly suspended from the roof, in which position they grow best, and send down their long drooping spikes to a greater length than they usually do when placed on a stage. In the same house is a giant plant of Dendrobium undulatum which has many spikes of its crimped brown flowers; well in flower were D. albo-sanguinum, Cypripedium × Wallaertianum (Harrisianum × villosum), C. × Lathamianum, C. × Calypso, and other Cypripediums; Oncidium Krameri, &c. Here, too, are some strong little plants of interesting hybrids, the most promising of which are Lælia cinnabarina × Cattleya Trianæi, and some crosses with L. tenebrosa.

The next house has a splendid show of Cattleyas and Dendrobiums, one plant of D. × splendidissimum grandiflorum suspended at the end of the house being a beautiful object, covered with hundreds of flowers. Had the plant been staked upright, it would not have looked nearly so pretty, but it has been suffered to bloom as it grew, the pseudobulbs covered with bloom, hanging around in irregular order, while the centre displays some green young growth, and the shorter unflowered pseudobulbs appear here and

there to artistically balance the picture. Many plants of Dendrobium nobile are also in bloom, and there is great variety among them; also D. Farmeri, D. densiflorum, D. thyrsiflorum, D. superbum, D. aureum, and other Dendrobes, not the least beautiful of which is the pretty purple-tinted dwarf D. Kingianum. Among the Cattleyas the show is almost entirely confined to the varieties of Cattleya Trianæi, and with them are the pretty chrome-yellow Lælia flava, which is by no means a common plant; and its ally, L. cinnabarina; also the cherry-crimson Epidendrum × O'Brienianum, one of Messrs. Veitch's first crosses of Epidendrum, and which is so free to propagate, even by cuttings, that it is fast getting a common, though beautiful, garden-plant. Oncidium sarcodes, the new and pretty clear yellow Oncidium Lucasianum, and other species, are also sending up their spikes freely.

Connecting the garden under glass with the gardens in the open air, are some patches of Cypripedium spectabile and other Cypripediums in the boggy part of the rock-garden, and which have passed the winter well; indeed, so far as can at present be seen, but few of the delicate rock-plants have perished, and the rocky heights and sloping banks of the garden are already commencing a bright show of flowers with the Saxifraga oppositifolia, S. o. alba, S. Burseriana, and other Saxifrages; some of the dwarf blue-flowered Scillas and Chionodoxas, the Erythroniums, Hepaticas, Cyclamen Coum, from corms gathered in Devonshire; Narcissus cyclamineus, and a few other Narcissi; and one specially pretty and rather rare yellow plant, Morisia hypogæa. Special care has been taken to give each class of plants the position, rock, or soil, suitable for its successful culture—hence the satisfactory state of the rock-garden at Warnham Court.

Fig 64.—Agave attenuata: from the garden of H.M. the King of the Belgians. Height, 3 ft. 3 in.; length of spike, 4 ft. 10 in. Flowers, straw-coloured.

Cattleya Trianæi.

In the current number of the *Orchid Review* is a careful enumeration of fifty-three varieties of this popular species.

Dendrobiums at Buxted Park.

In these well-kept gardens an unusually fine collection of Dendrobiums is to be seen in flower at the present time, one huge specimen of D. nobile carrying nearly 4000 blooms; D. densiflorum, a grand specimen with sixty-five fine trusses; D. crassinode, although going off, shows three spikes with sixty-two good blooms; and several other specimens of D. nobile show well for at least from 2000 to 3000 blooms. These superb plants evidence great cultural skill in Mr. Prinsep, the gardener at this place. *T. E. S.*

HOLLAND.

Dutch Gardening Periodicals.—Holland is certainly rich in gardening periodicals. We have the following weekly journals:—*Sempervirens* (Editor, H. Witte); *Het Neederlandsche Tuinbou-blad* (G. A. Kuyk); *Floralia* (A. Tiet); *Flora et Pomona* (G. A. Kuyk); *Bloembollencultum* (Joh. de Breuk); *Rosarium* (T. T. van Walsem); *Tydschrift over Plantenziekten*, Diseases of Plants (Messrs. de J. Ritzema Bos and G. Staes). Soon we shall have another new-comer, which will be called *Tuinboukundis Tydschrift*, with numerous editors. If all these little gardening journals were amalgamated into one it would be better.

The Late Show at Haarlem.

The statement of our correspondent as to the award made to Messrs. Krelage is not quite correct. Those gentlemen were awarded one Silver-gilt and one Silver Medal, but the Gold Medal was assigned to Mr. W. J. Daudey (?), of Haarlem. Mr. Schertzer was 1st, Mr. Daudey 2nd, and Messrs. Krelage 3rd.

AGAVE ATTENUATA.

The illustrations, figs. 63, 64, represent a plant which is attracting much attention just now in the gardens of H. M. the King of the Belgians at Laeken, near Brussels. The whole plant, as we are obligingly informed by Mr. Knight, is a mètre in height (3 feet 3 inches), while the flower-spike arising from the tuft of leaves is 1½ mètre in length, covered with hundreds of straw-coloured flowers, each about 2 inches in length. No wonder His Majesty considers it a *merveille*. The leaves are glaucous, from 2 to 2½ feet in length. It is a native of Mexico, and has been figured as A. glaucescens in *Bot. Mag.*, t. 5333. (See Baker, *Handbook of Amaryllideæ*, p. 193)

MUSAS FOR CONSUMPTION AND FOR SHOW.

The usefulness of the various species of Musa in decoration is so generally known and admitted, that most gardeners who possess houses large enough to grow large tropical plants find space for a Banana or two, which is both a useful and an ornamental subject. Musas vary a good deal in height, and some of the taller species cannot be accommodated even in large houses, attaining, as they do, a height of 40 feet. There are, however, some species, viz, M. paradisiaca and M. p. sapientum, which reach 25 feet, and fruit well, if the house is large enough to allow development of their huge leaves. Dr. Morris has given much valuable information respecting Musas in the *Kew Bulletin* for August, 1894; and he has given the names of many additional species fit for use or ornament, and particulars respecting them which most persons were ignorant of—at least, I feel sure many gardeners were. That number of the *Kew Bulletin* is a mine of information, and a valuable manual of reference. I can say that it was of much benefit to myself, from the copious notes it contained as to varieties, their value and habitat; and I heartily thank the author for the information afforded. The Musa or Plantain has been grown at Syon for many years, and I must also thank the authorities at Kew for several valuable new varieties, some of which would shortly have been ripe had not an accident which I much regret prevented them ripening. The work referred to above is more valuable to many than it would at first sight seem to be, giving, as it does, names and descriptions of varieties which have not hitherto been grown in this country for their fruit, but for their noble foliage. Some of these may be shy fruiters, and as regards growing Musas only for the production of fruit, I do not suppose that any is the equal of M. Cavendishii chinensis, a variety sometimes called the Dwarf

Banana. Dr. Morris in his notes describes this variety fully, but as it is the one mostly grown in this country, it is needless to go at length into the matter. I may be allowed to say that some varieties of M. Cavendishii are inferior as edible fruits. Doubtless, there are forms of M. nana, or some inferior type, cultivated as the true variety; on the other hand, cultivation has much to do with the size of the fruit and the size of the plants. As a Banana for fruiting in houses of medium size in a short space of time, M. Cavendishii is, in my opinion, the most profitable variety, but it has not the largest fruit, and it is a more reliable fruiter than those that come of a larger size. M. sapientum has large fruits, but there are many types, some differing considerably in the size of the fruits, the clusters, and the colour of the mid-rib of the leaf. Some take a long time to ripen their fruits; whereas M. Cavendishii may be grown to a large size in twelve months from time of planting. Dr. Morris places the variety M. paradisiaca as an inferior form of Banana, and if that be so, the varieties of it [at Sion] cannot be rightly named, as it is our most delicious variety. Dr. Morris describes it as the common Plantain, not fit to be eaten in the uncooked state; otherwise his description agrees with our plants, that is, 18 to 20 feet in height, yellowish-green when ripe, and the size of the fruit about that of a man's finger, whereas the fruits at Sion are soft and juicy and sugary, and they are preferred to all others. Owing to the great number of varieties, it is an easy matter to tack on another name, and probably ours is not the true paradisiaca. It is a troublesome variety under cultivation, is a slow grower and fruiter, and requires much space, and if it be afforded much moisture or a low temperature, the plants often decay near the top of the stem, much time being thereby lost; but, as I have said, the fruits are superior in flavour although very small for so large a grower. The large M. sapientum attains a height of 20 feet and more, and doubtless this is the variety largely imported into this country. These imported fruits, gathered whilst green and unripe, cannot be compared to those grown in this country, the latter, when well-grown, being luscious and comparable to a good home-grown Pine-apple.

At Kew M. sapientum fruits grandly, but even when planted out of a good size it requires from two to three years, so that for private gardens, unless grown as a decorative-plant in conservatories, it cannot be called a profitable species, and I do not think the flavour is equal to that of the smaller M. Cavendishii; but it is a useful plant, as it produces noble foliage and a large bunch of fruit, and when grown in a tub, or the roots are restricted to a certain space, it may be fruited in a shorter time.

There is nothing difficult in fruiting M. Cavendishii in twelve months from the time of planting, and those who can devote a light house to it, will find it an easy matter to get large bunches of fruit. Those who have houses which are dark and lofty, would do well to grow the plants as near to the light as possible, and in tubs or pots. I have said that we failed to finish some of the newer varieties of Musa, and this was owing to a break-down of the heating apparatus during the severe frosty weather in some lofty and exposed hothouses, so that we could not maintain the requisite degree of warmth. I find large houses in exposed positions, with tall and dwarf plants mixed together, not at all beneficial for the smaller varieties, and better results are obtained by growing M. Cavendishii alone, and as near the light as possible. *G. Wythes.*

(To be continued.)

The Week's Work.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

PEACH AND NECTARINE TREES.—Now that the fruits on the earlier forced trees have passed through the stoning period without mishap, the forcing-house may be kept warmer. The final thinning of the fruit should be done as soon after stoning as possible, the number of fruits that each tree should carry being in accordance with the peculiarity of the variety and the amount of vigour in the trees, the chief aim being the securing of an average crop of large and highly coloured fruit. A healthy tree of the large-fruited kind will bring to perfection a crop of fruit that has been thinned evenly to about 1 foot apart all over the surface of the tree, though many of the early varieties, and all varieties of the Nectarine, may be left somewhat closer together; while trees which are of extra vigour should be cropped much heavier than those whose growth is moderate or weak, and the leaves thin and pale in colour. To ensure highly-coloured fruits, a strip of lath 1 inch wide should be placed under each, to support it above the foliage. The laths should be tied on the upper side of the trellis, and to bring the fruit into the right position it may be necessary to unfasten the shoot from the trellis above and below the fruit. When the fruit is shaded by the foliage till nearly ripe, it is apt to be scalded when suddenly exposed; but by exposing it early, there is no fear of this occurring. The young shoots should be kept tied to the trellis as they lengthen, and only a sufficient number to furnish the tree with fruiting wood for another season should be retained. Lateral shoots on the young wood should be pinched back when three or four leaves have been made, and kept in check afterwards; and as such growths mostly show on trees which have too much vigour, manure-water should be withheld from them, and the trees cropped heavily. Greenfly is not so troublesome as during the earlier stages of growth, but red-spider will quickly appear on the foliage if syringing be not persevered with. The borders should be lightly pricked over, and such trees as are carrying full crops of fruit mulched with fresh cow-manure, affording tepid water in abundance to carry its fertilising properties to the roots. Nothing is gained by keeping the house at a higher temperature than 65° at night, but the temperature may be raised to 90° at 3 P.M. by closing the house whilst the sun is still upon it, and after duly syringing the trees and all surfaces. Ventilation at the front of the house may be increased in quantity in fine, mild weather, but draughts should be most carefully avoided.

GENERAL ORCHARD HOUSE. — Apricots are generally the first to flower, and these, with Cherries and the early varieties of Plums, may be well syringed when the petals fade. Apples and Pears are some days later in flowering than those, and for a time the air in the house should be kept buoyant. To assist the "setting," draw a bunch of feathers lightly over the flowers. Do not neglect to lightly syringe the trees at this period; it has a good effect on the setting. Established trees in borders should have sufficient water at the roots when the soil has become dry, and those in pots may require water at frequent intervals as often as twice a day as the season advances. Keep a sharp look out for weevils, which, among other injuries they do, deposit an egg in the flower-buds, which becoming maggots, feed upon the young fruit. Caterpillars of various species must be searched for daily and destroyed. The temperature and general management of the house should be the same as that given in a former calendar. Pots of Strawberry plants placed on the shelves will come on slowly, and afford fine fruit before it is obtainable from plants out of doors. The shelves may also be used for plants that are in flower, putting them into warmer houses when a good set is obtained.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

LILY OF THE VALLEY (CONVALLARIA MAJALIS) in old-established beds should be given a top-dressing of rich soil and short manure before the crowns are through. Place handlights and frames over some good beds to induce them to flower soon. New plantations should be made from roots which were lifted during the winter for forcing, selecting the crowns that were not strong enough for that purpose. Make plantations in different aspects, such as east, west, and north. They prefer a deep rich soil. Beds about 5 feet wide are suitable for them, with a path between each. Plant in lines 1 foot apart and 3 inches between each crown. Blooms are afforded earliest in most seasons from plants immediately under an east wall.

BEDDING PLANTS.—Propagate all plants that are likely to be required to be planted at the end of May or in June. Iresines, Coleus, Alternantheras, &c., should be struck in small pots or shallow boxes, so that no more potting will be required before planting. Pot off and prick out cuttings and seedlings as soon as they are ready, affording them good warmth and a close, moist, shaded house or pit for a time, and then gradually expose them to light and air. Iresines, Lobelias, Asters, Stocks, Phlox Drummondi, Zinnias, Marigolds, annual Chrysanthemums, and single Dahlias do very well pricked out in boxes, and these are more handy than pots for moving about. Pelargoniums, Coleus, and Centaurea candidissima should be kept in small pots till planted out. The dividing and boxing of Dahlias, Cannas, tuberous-rooted Begonias, &c., should be undertaken as soon as possible, Pelargoniums being removed from heated houses to frames and pits, and kept shaded and close for a time. Much care is needed for a week or ten days by all tender subjects turned out of warm-houses, or from under Vines or Peach trees, and a close shaded pit is the best place for them for a time. Any neglect in this matter gives a check from which the plants are a long time in recovering. Cover up at night till the weather becomes warm—say, the beginning of June.

CARPET-BEDDING AND FINE-FOLIAGE PLANTS that are used for the centres of beds, viz., Dracæna australis, Agaves, Echeveria agavoides, E. metallica, Tussilago Farfara, Aralia Sieboldi, Ricinus, Giant Hemp, Maize, &c., should be pushed by affording them light and air, so as to get them strong before turning them out of the warm houses. Hollyhocks that have been wintered in pots in cold frames should now be planted, if they have been properly hardened off. Fresh loam and rotten manure placed about the roots when planting will help the plants greatly.

CALCEOLARIAS in pits or frames should be kept short and stout, by pinching the points of the shoots until about a fortnight before planting them in the beds; and expose them to the full light whenever the weather is fine and not frosty. Protect from frosts at night.

FLOWER BEDS AND BORDERS that are not occupied with spring-flowering plants should be dug deeply, and if the soil is poor and sandy, rotten stable and cow manure and some strong loam should be dug into it. If the staple is strong and retentive, decayed leaf-mould will be beneficial to the plants. Flower beds which are thickly planted always require some manuring before digging. Newly-made beds should be trenched two spits deep, and if the soil is not good, remove some or all of it, and employ fresh loam.

SHRUBBERIES. — The planting of evergreens ought soon to be finished for the season; and the pruning of Laurels, Box, Berberis, and Hollies should be done this month. Grass edgings should be rolled, and when irregular they should be cut with the edging-knife. All beds and borders should be hoed and raked, and made tidy for the season. Lawns should be rolled and swept over previous to beginning the mowing. Grass-edging of walks and carriage-drives should be neatly edged; and fresh gravel laid on walks where it is required, heavily rolling it. Weedy roads and walks should be dressed with weed-killer, and they will keep them clean for the season. If the weather sets in dry, newly-planted trees and shrubs will require watering and to be made safe by stakes, ties, and guys of wire, always placing pads between stake and bark to avert injury to the latter.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

DENDROBIUMS.—The many different species of Dendrobium and distinct hybrids are increasingly appreciated, not only by Orchid specialists, but also by those who cultivate the plants for cutting and decorative purposes, and by amateurs. The plants do not take up a great deal of space, and they yield an abundance of bloom, which compensates well for the amount of care given them. Especially is this true of such varieties as D. Wardianum, D. Ainsworthii, D. Dominianum, D. Findleyanum, D. splendidissimum, D. Burfordiense, the numerous forms of D. nobile, and many of the fine hybrids recently introduced. Such varieties as have already bloomed should be repotted or top-dressed as they may require.

Re potting, &c.—Top-dressing is a very necessary process, as the new roots delight in running into fresh compost, and the appearance of the plants is improved. This process is specially advisable when the plants

have sufficient space wherein to grow, and are in a strong healthy condition, with abundance of roots clinging firmly to the pots or baskets in which they are grown. Previous to commencing the work, allow the plants to become quite dry, as the old material can be more easily removed in that condition. Pick out carefully as much as is possible, even down to the crocks, cutting away all decayed roots; and, if necessary, additional drainage may be given to lessen the amount of compost required about the plants, too great a depth of this being injurious. In repotting established plants, root disturbance should be avoided as much as possible. Carefully break the old pot, and take away as much of it as is practicable; and if the drainage be well filled with roots, do not disturb it, but place the whole into a pot a size larger, which may be filled up with clean broken crocks to within half-an-inch of the rim.

Composts.—After repeated trials I have found a compost best suited for strong-growing species to consist of equal parts of fibrous peat and sphagnum mixed with broken crocks, the compost should in all cases be pressed moderately firm around the plants. For such species as D. Huttoni, D. sanguinolentum, D. McArthi, D. O'Brienianum, D. Wattianum, D. triadenium, D. aduncum, D. Pierardii, D. lituiflorum, the pretty hybrids D. micans and D. rhodostoma, and small-growing species generally (seedlings in their early stages may also be included), sphagnum moss alone is preferable. All newly-imported plants of Dendrobium should at first be placed in crocks only, and kept in an intermediate temperature until growth is apparent, when the plants should be potted and placed in a more stimulating atmosphere. Overpotting must in all cases be avoided, for if the roots get into a mass of sodden compost they speedily decay, and the young growths thus stopped prematurely start again thin and weakly.

Treatment after re-potting.—For the first few weeks after re-potting, and until the young growths have commenced to send forth new roots, water must be supplied with unusual care, but when the roots have a firm hold of the compost, the amount of water may be gradually increased. Dendrobiums, with but few exceptions, require a hot moist atmosphere, and an abundance of light. If an East Indian-house is not available, an ordinary plant stove will suit them perfectly.

Propagation.—Nearly all of the species and hybrids above mentioned may be propagated by cutting off some of the old back bulbs, choosing, if possible, those that have omitted to bloom, and laying them down on a bed of fresh living sphagnum moss in a hot moist propagating-case. In a few weeks new growth will appear upon the stems, and immediately they commence to emit new roots they should be taken off and potted in the ordinary way.

THE EVERGREEN OR RACEME-FLOWERING DENDROBIUMS, as D. thyrsiflorum, D. densiflorum, D. Schroderi, D. suavissimum, D. chrysotoxum, D. Griffithianum, and D. Farmeri, are now commencing to show their flower-buds; such of these as have been in a cool temperature should, in order to properly develop their spikes, be brought into a warmer atmosphere, and be given more water at the roots; but discretion must be exercised in this matter, or the tips of the flower-buds may turn black. The tall-growing D. Dalhousieanum, D. fimbriatum, D. clavatum, D. calceolus, and D. moschatum are also of this section, and require identical treatment. D. Brymerianum is always highly appreciated, its large golden-yellow flowers, with beautifully fringed lip, being exceedingly attractive. This species should be suspended well up to the light at this period, as its blooms will come on with greater freedom than if sheltered among the larger plants.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

WINTER FLOWERING CARNATIONS should now be ready for potting into 5-inch pots. The compost is a most important item, and should consist of good turfy loam, peat, and leaf-soil, with a good quantity of wood-ashes or charcoal broken rather small, and plenty of coarse Bedfordshire sand added. The pots should be perfectly clean, well drained, and the crocks protected with a piece of peat. Pot firmly, and leave plenty of room for watering. A small stake should be placed to each plant, and each of them carefully examined for green-fly, using a small brush to dislodge them. When potted, they should be stood on a bed of ashes in a cold frame, as near the glass as possible, and water withheld for two or three days, after which period a thorough soaking will be necessary. The frame should be protected at night in case of frosts, and kept rather close until the roots have entered the fresh soil, when plenty of air must be admitted, and the lights taken entirely off on warm days. Syringe twice a day in sunny weather.

GARDENIAS.—Put in a good batch of cuttings, choosing for this purpose large pieces with four to six breaks on them. Plunge them in strong bottom heat in the propagating-frame under bell glasses. They will soon make roots, and if kept growing they will make fine plants before the winter.

BOUVARDIAS.—A few plants of each variety should now be cut back, watered, and placed in heat, where they will soon furnish cuttings. These should be put rather thickly in 60 pots filled with sandy loam, and plunged in a close warm frame. When rooted, pot off into small 60-pots, and keep growing in a warm greenhouse or heated frame. Stop the shoots at every three joints in order to ensure dwarf and bushy plants.

AMARYLLIS that were not potted should receive liberal supplies of manure-water, or be top-dressed occasionally with Clay's Fertiliser. If any of the plants were taken to the conservatory to flower, they should be brought into a warmer house to finish their growth, if possible, being plunged in hotbed of tan or cocoanut fibre over hot-water pipes.

CINERARIAS.—If plants of these are required for early flowering, a small quantity of seed should now be sown. Sow thinly in shallow and well drained pans of loam, leaf-soil, and sand. Place the pans in a cold frame, with a piece of glass over them to prevent a too rapid loss of moisture, keeping shade over them until the seedlings appear, when they should be gradually inured to the light, but never allowed exposure to direct sunshine. A frame facing the north is a very suitable place in which to grow them during the summer.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SPINACH.—Make another sowing of Spinach from the present time onwards; where this vegetable is in large demand, a small sowing may be made once a fortnight. The improved varieties should be grown in preference to older ones, as they do not run to seed so soon. Spinach which has withstood the winter is now looking well, here, and growing fast. Hoe between the rows, and encourage it to grow as much as possible.

CARROTS.—Preparations should be made for the main crop of these, that the first favourable weather may be taken advantage of to sow the seed. If the ground was not manured in the autumn and trenched, it should be deeply dug now, but avoid the use of green manure. If the ground is in good heart, I would prefer not to give it any rather than use such. A sprinkling of bone-dust or spent Mushroom-bed manure would be best for a present dressing, adding plenty of burnt refuse and soot. If the maggot is very troublesome, nothing is so effectual as trenching the land in the autumn, and giving it a good dressing of gas-lime both in the bottom and top-spit, but it should be used as dust, like quick-lime, and not thrown on the surface in large lumps. If this was not done in the autumn, use plenty of quick-lime and soot, but not both at the same time. Sow in drills 1 foot apart, and not over 1 inch in depth, and only sow the seed thinly if it is known to be good. James' Intermediate and Veitch's Matchless, among others, are good varieties; the latter is rather long, and more symmetrical, with less yellow centre than others. A second sowing may be made on a warm border, but delaying the sowing if the land is very wet. The soil should, when sowing, crumble readily on a handful of it being pressed together. Too much time is often spent in making the Carrot-beds too fine on the surface, which heavy rains cause to run together, to the detriment of the plants. Draw drill for Carrots 1 inch deep and 1 foot apart, and sowing thinly. Dress the land occasionally on damp mild evenings with dry soot.

SHOW CARROTS.—In many gardens it is necessary to grow these in prepared soil, placed in holes made with a model Carrot of wood similar to that recommended for Parsnips. The mixture may consist of more sand than that used for Parsnips, and fairly rich but light. The lines for these may be 13 inches in width, and the holes made as closely together in the lines as convenient. Put three or four seeds 1 inch below the soil, in the centre of each hole, and take care that the soil be well pressed into the holes and not left too high, or the young seedlings will be washed bare by heavy rains.

DWARF OR KIDNEY BEANS.—A first sowing of these may be made in gardens the soil of which is of a light description, choosing the warmest site that can be found, and affording the lines both before and after the seeds germinate, protection in cold weather.

MARROW BEDS.—Seeds should be sown in heat. Moore's Cream is one of the best varieties for the dining-room, but large, long green and white may be sown for other purposes. If well-fermented manure has been prepared for this purpose, the beds may be made upon the first convenient day. These should not be less than 3 feet in depth, and 6 feet or more wide. Let them stand for about a week before soiling, and in three or four days afterwards plant on raised mounds 6 feet apart or so, and place handlights over them for protection for a short time. Holes may also be dug in the ground and filled with manure for these, and in light warm soils they will do well.

SEEDS.—Make another sowing of Broccoli, both autumn and early winter, also Cauliflowers, Lettuce, Savoys, Brussels Sprouts, Cabbage, Kales, purple and white sprouting Broccoli. Sow thinly, and these and the next sowings will stand through the winter better than the Broccoli of early sowings. Attend to those previously sown by dusting them occasionally, and thinning them out where too thick.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PEACHES AND NECTARINES: COVERING, THINNING BLOOM, AND DISBUDDING.—When the Peach and Nectarine trees show for flower, adequate protection against cold rains and frosts should be afforded them. If thickly set with bloom-buds, some of these should be removed by rubbing the finger along the back of the shoots, and by taking off any flowers which are too close to the face of the wall to allow of the fruit to be of good shape. The gardener may do much in this way in a short space of time in lessening the labour of thinning fruit later on, which will be of great benefit to the trees in preventing waste of energy. For the same reasons disbudding should be commenced as early as it can be conveniently done, the check to the trees being so much reduced when quite young growths are removed. If the shoots have grown an inch or two in length it is enough. Many of the young shoots will be found next to the wall—at the back of the branches, these, if allowed to grow, only form hiding-places for insects, and may safely be taken off first; others will be growing straight out on the front of the shoots or branches, and may be removed at the same time. In a week or so the trees should be gone over again, this time to reduce the number of wood-buds starting at the sides of the branches; a good rule to follow is to regulate these to 1 foot apart on the branches, going over the trees two or three times at intervals of a week, so as not to remove too many at one time, as this would cause a check. A good shoot should be allowed to remain at, or near the base of last year's shoot, and another at the top of the shoot; this last to be stopped when it has made four or five leaves. Any blank spaces requiring to be filled up, should be provided for by retaining conveniently placed side-shoots. By following this plan the trees will be kept well-furnished with young fruitful wood, and with judicious disbudding the centre will be as well-furnished with bearing-wood as the extremities. Crowding the trees with young wood can never result in any good, one healthy well-developed and well-ripened shoot being worth a dozen spindly, immature growths, therefore the foliage should not overlap to any extent. Trees newly planted, young trees, and those recently planted should have the main branches disposed at a distance of 15 to 18 inches apart, and in disbudding some shoots may be reserved, as in the older trees, for next year's fruit-bearing; and due attention should be paid to the selection of suitable shoots for extending the tree, care being taken to allow each shoot plenty of space, so as to ensure proper ripening. Secure the top branches and shoots loosely to the wall when grown sufficiently long, or some of them may get twisted off by the wind.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

THURSDAY, APRIL 18—Linnean Society.

SHOW.

THURSDAY, APRIL 18 { Norfolk and Norwich Horticultural Society's Show.

SALE

FRIDAY, APRIL 19 { Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—48°.4.

Azaleas.

THOSE interested in the culture of the Azalea, and conversant with the French language, will be glad to possess themselves of a little treatise entitled, *Les Azalées*, written by M. DUVAL, and published in Paris, 8, Place de l'Odéon, by M. O. DOIN. The great development of the so-called Indian Azalea, as a gardener's flower, dates from about 1832, when KNIGHT and PERRY, SMITH and others set to work to raise new varieties by way of crossing. Ten years after the names of IVERY, ROLLISON, VERVAENE, VAN HOUTTE, VERSCHAFFELT, LESÉBE, DERNAY, and MABIRE begin to be prominent, and from that time to the present the newly-raised varieties may be counted by the thousand, some few of the old varieties still retaining an honourable position. The author of the present book has a right to speak, for his grandfather, C. DUVAL, was a noted raiser; and, moreover, he is himself an enthusiast, who repeats emphatically that the Azalea is the most beautiful flowering plant in existence. The botanical history prefixed to the practical sections is interesting and accurate. Of course, from a strictly botanical standpoint, we ought to call all the species Rhododendrons; but for garden purposes, this would be very inconvenient, and custom in such matters being more potent than law, we have no doubt Azaleas will continue to be Azaleas, and not Rhododendrons, nor Loiseleurias, nor Tsutsias. In the same way we shall continue to speak of Indian Azaleas when we ought to say Chinese; but in the olden days our forefathers were vaguer in their knowledge of geography, and things from China were commonly spoken of as of Indian origin.

The body of the book contains directions for the preparation of cuttings, grafts, and for carrying out other cultural points. It is interesting to learn that Messrs. SEIDEL, of Dresden, graft the Indian Azaleas on Rhododendron cœlestinum, "CUNNINGHAM'S White." The stock is hardy, and confers its qualities on the scion, so that the grafted plants can be sent to Russia and other northern countries with greater security than when grafted on more tender stocks such as Concinna or Phœnicea. Moreover, plants grafted on R. cœlestinum attain in thirteen months a size and vigour only attainable after two years under ordinary circumstances. For forcing purposes, M. DUVAL commends early-flowering varieties, such as 1, Deutsche Perle; 2, Pauline Mardner; 3, punctulata; 4, Sigismund Rucker; 5, versicolor; 6, Vervaeneana; the varieties being named in the usual order of their flowering. If these plants are started the first week in November, they may be expected to flower in the third or fourth week of December. After these come other varieties, which, started at the same time, flower in the end of December or early in January, viz., 1, Simond Mardner; 2, Eborina plena; 3, Madame Van der Cruyssen; 4, Paul de Schryver; 5, Professor Walters; 6, Sakuntala.

Many of our best Azaleas have originated from sports. Among these may be mentioned Sigismund Rucker, Jean Vervaene, Dame Melanie, Harlequin, Comte de Kerchove, and Pharailde Mathilde. These fine varieties often spring from sorts which are defective in colouring, and otherwise unattractive. The fixity and invariability of some other varieties is equally remarkable in its way. The double varieties, Raphael, Bernhard Andreas, alba, Deutsche Perle, are said not to have sported at present, although M. DUVAL repeatedly says he states the facts without explaining them, and asserts that this matter of sporting is "*une question toute de hazard;*" he nevertheless proceeds to furnish an explanation, which is good enough so far as it applies, though it will not fit all cases. In spite of his previous declaration, only a few lines above, he says, "the reader must not imagine that these variations are produced by chance. It seems easy to trace the origin of these sportive varieties to the old Azalea vittata. In any case, it is the varieties with brick-red or clear rose-coloured flowers which furnish the varieties in which the petals are edged with white, fringed or margined; whilst those varieties which have cherry-red flowers, have, up to the present, not shown any variation. Among the illustrations cited by M. DUVAL, we may mention Souvenir du Prince Albert, a variety with dull-red flowers and indifferent habit. The striped variety of this has a deep rose ground striped with purple, margined with pure white, and is extremely vigorous in habit. A white variety of this form has also been fixed, but it is of delicate habit. Dame Melanie, synonymous with Mrs. Turner, sprang from a branch of Roi Leopold, a flower of a clear salmon colour, whilst the sport has a salmon-coloured flower bordered with white, and set off by a bluish blotch. Azalea Vervaeneana originated from a dull coloured form itself, being rich deep salmon, speckled with red and edged with white.

All these variations may, to our thinking, be merely due as it were to a shake of the kaleidoscope causing the separation and re-combination of previously mixed elements. Atavism—or the reversion to an ancestral condition—is, of course, only a more marked and clearly defined separation. Under this heading we should place the case mentioned by M. DUVAL, where one Azalea is tardy in development, whilst the sport from it is early and more vigorous. Double-flowered varieties are also alluded to. They have the advantage of longer duration, but we quite agree with the author that, from a purely æsthetic point of view, the single varieties are preferable. Perhaps in a group to be seen at some distance, the double varieties may be more effective.

A list of desirable varieties is given—short, indeed, but all the better for that, and for the benefit of exhibitors a chapter is given on the best method of packing for transport. Soils suitable for the culture of Azaleas are treated of in a separate chapter, and to the insects which attack these plants is allotted another. The last few sections of the book are devoted to the Ghent Azaleas, and to those of the mollis and amœna types. These are not treated at such length as the Indian Azaleas, but to have done so would have entailed much repetition. This is a small book of some 111 pages only, but it is one of the most instructive and clearly-written treatises we have ever met with. We commend it heartily to the notice of those interested.

The Haarlem Show.

IN the ordinary run of things, nothing could be more interesting or pleasant to the horticulturist than a bulb show at Haarlem; and those who read our Special Correspondent's report of the Quinquennial Exhibition in our issue for March 30, will admit that, at all events, it was comprehensive enough in character. But an interval of five years is a long one, as exhibitions go now-a-days, especially when the importance and magnitude of that held at Haarlem is only fully realised on this side of the water when it is too late for Englishmen to participate in it. As a matter of fact, the Dutch Society is a purely local one, confined, indeed, to the boundaries of Alkmaar on the one side and Leiden on the other, with Haarlem as the great centre. The Society is composed of 1500 members, for whose special benefit a weekly journal, *Weekblad voor Bloembollencultuur*, is issued, now in the fifth year of its existence. The suggestion has been made that this Quinquennial Exhibition should become an international affair; and the suggestion is certainly one of considerable interest to English and other growers. The Dutch florists, as a community, are essentially conservative, but, like other business communities, they would hardly stand in their own light when an innovation would be synonymous with a magnificent advertisement. An international show would mean a publicity for Haarlem which it has not enjoyed since the famous Tulipomania sensations. English growers can scarcely expect to triumph over the Dutch in regard to Hyacinths, Tulips, and several other classes; but in many respects we venture to hazard the belief that our friends across the water would not have it all their own way. The rivalry would be beneficial for both countries, and many useful lessons learnt.

The chief objection to an international show is that of transit, particularly if the flowers presented as seedy an appearance as their exhibitors would probably do at the end of the journey. Haarlem is less than a twelve hours' journey from London, and the splendid facilities of the new Hook-of-Holland route has brought the famous old city within as easy reach of London as Edinburgh or Cornwall. If practical proof were needed of the satisfactory manner in which properly-packed plants arrive at their destination, the fine show of Amaryllis (Hippeastrum) staged by Messrs. R. P. KER & SONS, Liverpool, would be sufficient.

One of the most interesting lessons of the great show at Haarlem was the result of the several experiments which had been made in growing certain bulbous plants with the aid of artificial manure. So far as we could see, after a very careful examination into the fruits of these trials, the time-honoured method of dressing the ground with cow-manure is indubitably the correct one. In other words, artificial manure has failed entirely: it has neither increased the robustness of the plant, nor the brilliancy of the flowers. The soil of Haarlem is the most natural one possible for the majority of bulbous plants, with the addition of the nourishment already indicated; and it would be a waste of both time and money to seek for aid in the form of artificial manures.

Another lesson is too important to be overlooked. We refer to the innovation, carried into effect for the first time this year, of judging exhibits by "points." Apart from the great additional labour which this system involved on the jurors, the results, as a whole, were sometimes unpleasantly surprising, and astonished none more than those who had adjudicated. In the

case of the collection of twenty-five single Hyacinths in pots, 275 points were the maximum: of this total, four points were the limit given for neatness of form, both with regard to the flower and the plant; three for freshness of colour, and three for breadth of flower. These ten points, multiplied by the twenty-five pots in the collection would amount to 250 points, whilst another twenty-five points for neatness of arrangement &c., brought the total up to 275 points. The highest number of points secured by the collection to which the 1st prize was awarded amounted to 163, whilst the 2nd best exhibit secured only 151, or less than half of the possible total. In the case of a collection of thirty pots of single Tulips, the highest total of points which could be awarded was fifteen, divided thus:—Culture, flower, shape of the flower, correctness of name, and colour of the flower, to each of which the maximum was three points, or a total of fifteen. The 1st prize received thirteen, and the 2nd eleven points.

The system of judging by points has undoubtedly its certain advantages, but its results are, as we have said, sometimes disagreeably surprising. To the average man its conclusions are sometimes roundabout and tortuous. A fine plant may possess all the qualities of a perfectly grown result of the cultivator's art and skil' but when it is dissected or diagnosed, it may possess scarcely any quality commendable to the views of "point" judges.

Fig. 65.—THE MONUMENT TO J. E. PLANCHON AT MONTPELLIER.

J. E. Planchon.—It is not often that we have to chronicle so important a memorial to the services of a botanist as it is now our pleasure to do. The memorial, of which we give an illustration (fig. 65), was inaugurated at Montpellier in December last, and we are indebted to the courtesy of Professor Flahault for the opportunity of so doing. Planchon was well known to horticulturists in this country, not only for his residence here as curator to the herbarium of the late Sir William Hooker, now the Royal Herbarium at Kew, but as the Professor of Botany in the School of Horticulture at Ghent at that time, under the direction of the late Louis Van Houtte. During this period of his career, and for long after, Planchon contributed very largely to the literature of garden botany in the *Flore des Serres* and other periodicals. Planchon was a very acute and painstaking botanist, and was the author of numerous monographs, but his chief claims to the gratitude of his fellows lie in the work that he did in connection with the life-history of the Phylloxera and the introduction into French vineyards of American Vines, which from their power of resistance to the evil effects of the insect, have proved to form excellent stocks whereon to graft the choicer Vines. By the introduction of this method the vineyards of the south and central portions of France have been reinstated, and a most important industry saved from ruin. A more striking illustration of the benefits accruing from the application of science to practice can hardly be quoted.

Linnean Society.—At the evening meeting intended to be held on Thursday, April 18, 1895, at 8 p.m., a paper will be read on the "Observations on the Loranthaceæ of Ceylon," by Mr. F. W. Keeble, B.A.

The Royal Society.—In the list of candidates for election into the Royal Society, we note the names of the following botanists: Henry John Elwes, Dr. Joseph Reynolds Green, George R. M. Murray, and Prof. Stewart.

The "Botanical Magazine."—In the April number are given figures and descriptions of the following plants:—

Macaranga Porteana, André, t. 7407.—The stately foliage plant figured in these columns Sept. 8, 1894, as a Supplement.

Saintpaulia ionantha, Wendland, t. 7408.—This pretty little Gesnerad excited much attention when shown for the first time at the last Ghent Quinquennial. "The Saintpaulia was," says Baron St. Paul, President of the Dendrological Society, "discovered by my son in East Tropical Africa, where he owns plantations of Vanilla and India-rubber trees. It was found in two localities; one about an hour from Tanga in wooded places in the fissures of limestone rocks, as well as in rich soil with plenty of vegetable matter. The place is not more than 50 to 150 feet above the sea-level. The second place is in the primæval forest of Usambara, likewise in shady situations, but on granite rocks 2500 feet above the sea . . . Several varieties have been discovered, that differ slightly in the colour of the flowers, but all are blue."

Ixianthes retzioides, Bentham, t. 7409. See *Gard. Chron.*, 1889, ii., p. 136, f. 19.—Flowered at Kew from seeds sent by Professor Macowan.

Piptospatha Ridleyi, N. E. Brown, t. 7410.—A Malayan stemless Aroid, with long stalked leaves, blades lanceolate, tapering to both ends, green, mottled with lighter blotches, peduncles long, cylindric, recurved at the top spathes 2 inches long, ovoid, with an upturned beak, closed, pinkish in colour, with streaks and dots of like colour, but deeper. Spadix cylindric, obtuse, much shorter than the spathe. Discovered in Johore by Mr. Ridley, and sent by him to Kew. It is a pretty and interesting stove foliage plant.

Magnolia parvifolia, Siebold & Zuccarini, t. 7411.—A deciduous-leaved Magnolia from the mountains of Japan. Leaves broadly oblong, acute. Flowers creamy white, 3 to 4 inches across. Stamens crimson. Kew.

The Newcastle-on-Tyne Spring Show will be held in Olympia on Wednesday and Thursday, 24th and 25th inst. Last year the show was a very fine one, and a great success. This year the committee have added classes for groups of Plants and Roses; the prizes in the Cut-flower Classes have also been increased; the committee also endeavour to give space for trade stands from a distance.

Scottish Horticultural Association.—At an ordinary meeting of the Scottish Horticultural Association, held on Tuesday, April 2, at 5, St. Andrew Square, Edinburgh, Mr. R. W. E. Murray, President, in the chair, a paper on "Eucharis and Pancratiums" was read by Mr. D. L. McIntosh, Kingsmeadows, Peebles. He treated of their beautiful flowers, and of the method of cultivation. The exhibits on the table included flowering herbaceous plants, from Mr. Mungo Chapman, Easter Duddingston; Maréchal Niel Roses in bloom, from Mr. T. Fender, Cultoquhey Gardens, Crieff; and Azaleas in flower, from Messrs. R. B. Laird & Sons, Edinburgh.

Orchid Spot.—Mr. Massee announces in the *Annals of Botany* for March that the brown spots so common in cultivated Orchids are due to the presence of a slime-fungus—Plasmodiophora orchidis—of which a description is promised later on.

The Surveyors' Institution.—The next ordinary general meeting will be held on Monday, April 29, when the adjourned discussion on the paper read by Mr. G. Cadell (Associate), on "Forestry," at the last meeting, will be resumed. The chair to be taken at 8 o'clock.

The Action of Glycerine on Plants.—The *Revue Horticole* tells us that a German naturalist has discovered that if a plant deprived of its starch by planting, be watered with two parts of glycerine to a thousand parts of water, and exposed to light, the starch soon appears; but as this would happen in any case under exposure to light, we do not see what part the glycerine plays.

Oyster-shells.—The use made of these substances in agriculture leads us to mention the analysis of the shells of various kinds of oysters made by MM. Chatin & Muntz. So far as cultivators are concerned, the principal thing to be noted is the large proportion of lime, varying from 48·4 to 53·7 per cent. of the dry matter. Phosphoric acid varies in proportion between 0·01 in the Marennes variety, and 0·90 in the Portuguese oyster. The presence of minute quantities of iodine and bromine goes towards explaining the use of oyster-shells in medicine in olden times.

Dwarf Sweet Pea.—Messrs. Allee, Burpee & Co., of Philadelphia, announce a Sweet Pea which does not climb, but attains a height of only a few inches.

The Late Alexander Goodman More.—In the brief notice in a recent issue, there was an error which needs correcting. The ever-memorable exhibition of 1866, and the International Botanical Congress connected with it, had nothing to do with the Royal Horticultural Society, and the paper on the "Climate, Flora, and Crops of Ireland," was published, not in any report of the Royal Horticultural Society, but in the *Report of the Proceedings of the International Horticultural Exhibition and Botanical Congress*, accompanied by an excellent map, which is superior to the one published in the *Contributions towards a Cybele Hibernica*.

Stock-taking: March.—The month closed with the announcement that the revenue for the financial year was in excess of that for 1893-4 by some £3,400,000; that the receiving orders issued during the past quarter showed a decided decrease compared with those issued for the same periods in 1893 and 1894; and, further, that the bankruptcies for the twelve months showed such a decrease, as to prove that trade was of a more healthy order than in the preceding twelve months; and as showing the condition of "textiles," it was affirmed the other day that "Bradford is choked up with work." Now, the Board of Trade Returns for the past month show an increase in imports to the extent of £653,553, whilst exports have increased over the same period last year by £424,127. Here may be placed in evidence our usual excerpt from the "summary" table of imports for the month of March:

Imports.	1894.	1895.	Difference.
	£	£	£
Total value of imports	35,327,037	35,980,590	+653,553
(A.) Articles of food and drink — duty free	11,079,892	10,691,199	−388,693
(B.) Articles of food and drink—dutiable	2,101,530	2,450,617	+349,087
Raw materials for textile manufactures	7,264,173	8,049,763	+785,590
Raw materials for sundry industries and manufactures ...	2,450,049	3,131,237	+681,188
(A.) Miscellaneous articles	1,679,271	1,239,505	−439,766
(B.) Parcel Post ...	75,967	81,853	+5,886

It is pleasant to have to record a rise in the value of imports, because there was a decrease to make up amounting to £6,889,425, and we can only trust that this may soon be in a fair way of being obliterated, by reason of higher values, as well as increased quantities. As to the imports of fruits, roots, and vegetables, we give the following from the general mass of figures:—

Imports.		1894.	1895.	Difference.
Fruit, raw:—				
Apples ...	... bush.	217,714	219,373	+1,659
Cherries ...	... ,,	...	...	...
Plums ...	... ,,	...	14	+14
Pears ...	... ,,	4,464	4,247	−217
Grapes ...	... ,,	1,240	2,131	+891
Unenumerated	... ,,	25,853	29,679	+3,826
Onions ...	... ,,	259,594	425,666	+166,072
Potatos ...	... cwt.	23,205	322,261	+299,056
Vegetables, raw, unenumerated ...	... value	£ 64,023	£ 74,574	£ +10,546

Some of the figures in the above extract are of a rather extraordinary character, and must be of mixed interest to the market gardener—but it is useless to quote them against the existing state of things, so far as the land is affected; very many things now on the market cannot be grown in the first quarter of the year by us, not even if we had light railways all over the country to facilitate transport, and the mass of the population are grateful for, on the whole, cheap vegetables. In the face of the present price of Potatos, the foreign cultivator manages to get rid of his Magnums and Chardons at a fair price; and there can be no objection to his getting 60s, when our salesmen get 90s. to 120s. per ton. As to our

Exports

for March, we have noted that they exceed by £424,127 the value for March, 1894; and considering the terrible winter through which we have passed—through the tail-end of which we are now steering our way—this return must be considered satisfactory. Our friends on the other side of the Channel are very seriously considering the question whether the Melin Tariff is the best of all possible tariffs, and friends of true political economy are placarding France with some most valuable facts on the existing state of taxation in that much-taxed country. This is not the place to publish any of these figures, but we imagine that Frenchmen must be obtuse indeed who cannot learn the lesson placed before them. Should the armistice at present existing between the opposing forces in the East culminate in an early peace, the commercial advantages to follow will largely fall to the share of our manufacturers and shippers.

Trees in Paris.—We cite from the *Revue Horticole* the following figures showing the number of trees planted in lines (avenues) in Paris. The total number at the end of December, 1894, was 87,958. The species made use of were as follows—we now give round numbers only:—Planes, 26,000; Horse-chestnut, 17,000; Elms, 15,000; Tree of Heaven, 9000; Sycamore, 6000; Norway Maple, 4000; Robinias, 4000; Limes, 2000; Paulownias, 1000; 400 American Walnut, 100 Acer Negundo, 38 Cedrela sinensis, 25 Planera crenata, 13 Pterocarya, 12 Canada Poplar, 4 Ash, 1 Catalpa, 1 Oak, 1 Paper Mulberry, 1 Sophora.

A Japanese Douglas Fir.—In the number of the *Tokyo Botanical Magazine* for Feb. 20, is a description and figure of a new species of Pseudotsuga, discovered in the province of Kü in Japan, at an altitude of 2000 feet, by Homi Shirasawa. Mr. Shirasawa puts his new discovery in the genus Tsuga section, Pseudotsuga. The description which he gives (in German happily), and specially the illustrations, leave no doubt as to the correctness of Mr. Shirasawa's identification. The original Douglas Fir, as is well known, is a native of North West America, and so far, has been the only representative of its genus or section. That a Japanese form should occur is most interesting. It forms a parallel case to the occurrence of Tsuga Mertensiana and Tsuga gigantea in California, &c., and of Tsuga Sieboldi, Thuya japonica in Japan, and there are other cases of parallelism in the floras of the two countries known to botanists, which furnish ground for interesting speculation. The newly-discovered tree grows in association with Tsuga Sieboldi, Fagus japonica, Magnolia hypoleuca, and others. It has an erect straight trunk, horizontal spreading branches and conical top. The height is given as 15 to 20 mètres, with a circumference of 3 mètres, so that in point of dimensions it is far exceeded by its American congener.

Cheshunt, Wormley, and District Horticultural Mutual Improvement Society.—The Society under the above title has recently been inaugurated, and already gives promise of being a very successful one. Papers have been read, and discussions initiated, at the technical classes at Wormley, and interest was excited in its proceedings, with the result that a general meeting was held at the Wormley school, to frame rules, &c., and to elect officers. The following gentlemen have consented to act:—H. J. Bushby, Esq., President; and H. N. Bushby, Esq.; J. J. Deller, Esq.; Rev. F. W. Greenstreet, M.A., Vice-Presidents; and Messrs. T. Hamilton, N. Mackenzie, W. H. Miles, G. Paul, E. Rochford, J. Rochford, T. Rochford, W. L. Service; the Hon. Treasurer is Mr. W. Greenleaf. A committee was elected, with Mr. F. S. Hutchinson as chairman. Up to the present time five meetings have been held.

Fungus on Aspidistra.—A short time since we received from a correspondent some leaves of an Aspidistra with large white patches from which the green matter had been removed. We should probably have thought this due to contact with glass wet by condensation of moisture, fluctuations of temperature, or some similar cause, but for the appearance of small black spots or bars crossing the blanched patches at irregular intervals. To ascertain the nature of the fungus producing this appearance, we submitted the leaves to the authorities at Kew, who are obliging enough to inform us that the fungus is Ascochyta Aspidistræ, and to recommend that all diseased leaves should be burnt, as the spores of the fungus are very numerous, and germinate very readily.

Isaac Sprague.—American papers record the death of this famous botanical artist, whose drawings were valued for their strict accuracy of detail. Many of Asa Gray's works were illustrated by Sprague.

Malformed Cypripedium.—M. Lucien Linden has been good enough to send us a malformed flower of Cypripedium callosum, showing some interesting peculiarities. M. Linden himself notes that the lip is imperfectly developed, and

divided into two segments, one of which has more or less of the ordinary lip-like character, whilst the other resembles one of the lateral petals. The column bears three anthers and a staminode. One of the anthers is a little divided. The anthers are not symmetrically arranged, and the three lobes of the stigma are also not equal, there being one large and two smaller ones. M. Linden was, however, unwilling to dissect the flower, but sent it to us for that purpose. Having now done so, we find M. Linden's description substantially correct, but open to a slightly different interpretation as to some of the details. The axis or main diameter of the flower is oblique, not vertical. The upper sepal normal, the two lower ones partially disjoined, and one much larger than the other. The two lateral petals are normal, the other two are as described by M. Linden, but whether the supernumerary petal is a sub-division of the lip or a separate petal is doubtful. The column bears a staminode a little twisted out of position, a lateral stamen (outer) imperfectly developed, a similar one on the other side perfectly developed, so that all three of the potential outer stamens are present. Of the inner stamens (of which it will be remembered the two lateral ones are those usually developed) there are two, one lateral or nearly so, the other anterior. The stigma, which M. Linden describes as three-lobed, when examined with a strong light and a lens, is seen to be four-lobed, with one large lobe posteriorly, two smaller lateral ones, and one much smaller anterior. The ovary is one-celled, with three parietal placentas as usual.

Select Plants for Industrial Culture.—The ninth edition of Baron von Mueller's useful publication is in the press, and will be published at the Government Printing Office, Melbourne.

Torquay District Gardeners' Association.—The third annual meeting of the above took place on Friday, April 5, Dr. R. Hamilton Ramsay being in the chair. The Hon. Secretary (Mr. F. C. Smale) read the report and balance sheet, the latter showing a balance in hand of £4 15*s.* 11*d.* Dr. R. Hamilton Ramsay having been unanimously re-elected President, and other officers and committee appointed, the meeting proceeded to discuss the next summer outing. It was decided that this should take the form of a moorland trip, the details of which were to be left to the committee to arrange. At the close of the ordinary business, a pleasing ceremony took place, Mr. F. C. Smale, the honorary secretary, being presented by the members with a handsome mahogany writing-table. Accompanying it were a pair of brass candlesticks and an inkstand. On a plate affixed to the table was inscribed, "Presented, with a pair of brass candlesticks and an inkstand, to Mr. F. C. Smale, by 100 of the officials and members of the Torquay District Gardeners' Association, in recognition of his zealous and efficient services as honorary secretary of the Society." The President made the presentation on the part of the members, and Mr. Smale suitably replied.

"The Natural History of Plants."—The eleventh part of the English edition of this excellent and comprehensive work has been issued by Messrs. Blackie & Son. It contains the continuation of the very elaborate discussion on the fertilisation of plants. Self-fertilisation is here called "autogamy," and Darwin's views on the subject are modified. "It is true that cross pollination appears to be the primary object aimed at, but it is not true that autogamy is avoided. If cross-pollination takes place, there is naturally no necessity for subsequent autogamy; but if cross-fertilisation fail, autogamy assumes an importance of its own, and the contrivances which have been observed to bring about autogamy are no less numerous than those which favour cross-pollination. The observations of Henslow and Meehan are thus corroborated. Kerner tells us in the present part that for five-and-twenty years he has been studying, with special reference to the phenomena in question, the flowers of many more than a thousand species in all stages of development from budding to fruiting, some growing wild in their original habitats, some in the gardens under his direction; and his notes are so numerous, that even the briefest outline of the cases observed would fill several volumes. Of course, it is not possible to give all the details in such a work as the present, nor, indeed, is it necessary. As it is, the reader is embarrassed by the volume of facts presented to his notice. It would greatly have helped the student if many more head lines and similar devices had been employed to break up the too "solid" pages. Page after page occurs without a break of any kind. A student preparing for examination would make an analysis as he went on, and insert his own divisions of the subject; but the busy reader, turning to the volume for information on a special subject, has no time to do this. Like the bee who avails himself of the route-marks in a flower in his search for the nectar, so the reader requires some fuller indication of the whereabouts of the treasures contained in these pages. That the work is brought up to date is exemplified by the fact, that not only is the fertilisation of Casuarina through the chalaza mentioned, but also the similar and more recently-discovered phenomena of like kind in the Hazel and Alder.

The Harvests of 1893 and 1894.—We take the following figures from the *Journal of the Board of Agriculture*. They show vividly the effect of the long drought of 1893:—

Wheat.—In 1893, the estimated produce for the whole of Great Britain was 49,247,000 bushels, or 25·9 bushels per acre. In 1894 the total produce was estimated at 59,173,000 bushels, or 30·7 bushels per acre. The average yield for nine years per acre is 29·3 bushels.

Potatos.—In the whole of Great Britain in 1893 there were grown 3,476,000 tons of Potatos, whilst in 1894 the amount was 21,789,000 tons. The average yield per acre is 5·8 tons.

Clover, Hay, and Rotation-grasses, furnished in 1893, 1,918,000 tons, or 18·7 cwt. per acre, in Great Britain, the average for nine years being 28·2 cwt. per acre. In 1894 the total amount was 3,448,000 tons, or 32·5 cwt. per acre.

Meadow-hay.—In 1893, in the whole of Great Britain, 2,681,000 tons were produced, or an average of 12·6 cwt. per acre. In 1894 the quantity was 6,942,000 tons, or 28·6 cwt. per acre, the average yield for nine years being 23·9 cwt. per acre.

Commercial Fibres.—The third of a series of Cantor Lectures was delivered before the Society of Arts by Dr. D. Morris, M.A., C.M.G., on Monday, April 1, 1895. The following is a summary:—Continuing the review of fibres yielded by the Palm order, the lecturer drew attention to the remarkable vegetable substance, resembling whalebone in strength and elasticity, called bass, or piassava. This is extensively used for making brooms and brushes, and consists of the indurated fibre-bundles thickly investing the stems of Palms. Some are strong and bony, while others are soft and elastic, resembling horse-hair. The bass or piassava of commerce is obtained chiefly from native Palms at Para and Bahia. Latterly it has been obtained from the Wine Palm of West Africa, and still more recently from the Palmyra Palm of Ceylon. The fibres yielded by the husk of the Cocoa-nut were of considerable commercial importance. They afforded material for brushes, mats, and matting, cords, ropes, and tow. Cocoa-nut refuse, on account of its wonderful properties of absorbing moisture, has been recommended for use as a backing material in the construction of men-of-war. Of all vegetable substances, the most noted substitute for horse-hair was the fibre of the Spanish Moss (Tillandsia usneoides). The plant grows in long hanging tresses on Cypress trees in the Southern United States. The fibre is prepared by steeping the narrow stems and leaves in hot water. The preparation of Pine-wool from the leaves or needles of the Scotch Fir was mentioned as a local industry in Germany, but now extending to other countries. The supply of material for paper-making was becoming more and more dependent on wood-pulp. This was imported into this country to the extent of 216,000 tons annually. It was important, however, to distinguish between mechanical wood-pulp and wood-cellulose. In the latter the extraneous matters were so fully eliminated that the pulp was practically pure, and suitable for the best papers. In mechanical wood-pulp no chemical purification took place, and although sometimes sufficiently white to be used in "white" papers, the stability of such papers when used in public documents and works of great historical value was open to grave doubt. Many most valuable materials for paper-making, such as the Paper-Mulberry of Japan, and the Nepal Paper Plant, were not at present in European commerce. The lecturer concluded the course by discussing in some detail problems connected with the introduction of new fibres and improvement of fibre plants by systematic selection and cultivation, and by a general review of the methods adopted, by mechanical and chemical means, for the extraction of commercial fibres.

Cypripedium insigne as a Room Plant.—In the March number of *Meehans' Monthly*, this Himalayan species is recommended for cultivation in living rooms.

The Gardeners' Orphan Fund.—The friends of this charity assembled at the annual dinner at the Hôtel Métropole on the evening of Friday, the 5th inst., H. J. Veitch, Esq., in the chair. Among those present were Sir Trevor Lawrence, Bart.; and Messrs. N. N. Sherwood, J. H. Veitch, J. G. Veitch, Arnold Moss, J. Assbee, A. H. Smee, A. W. G. Weeks, M. J. Sutton, A. W. Sutton, O. Thomas, W. L. Corry, Imre Kiralfy, C. Penny—the originator of the Fund, numerous representatives of the metropolitan and provincial seed and nursery trades, well-known gardeners and other supporters of the Fund, several of whom are connected with Covent Garden Market, and the gardening press. The toast of the Royal family having been given and responded to, the Chairman in a brief but touching speech pictured to his hearers the sad case of the mother with young children deprived by death of the bread-winner, and showed in what manner this most excellent charity gave her assistance at once, if her needs demanded it, and eventually placed one of her fatherless children on the Fund of the Institution until it had reached its fourteenth year. The Chairman's appeal for monetary assistance was well responded to. We publish a list of donors and their donations:—

Harry J. Veitch, Chairman.	£	s.	d.
Harry J. Veitch ...	52	10	0
J. Veitch & Sons ...	26	5	0
Mrs. H. J. Veitch ...	10	10	0
J. H. Veitch ...	10	10	0
J. G. Veitch ...	10	10	0
	110	5	0
H. J. Jones	55	1	6
Covent Garden Table, per J. Assbee ...	52	10	0
Wills & Segar ...	40	0	0
J. Reynolds (including Leopold de Rothschild, £20; and Alfred de Rothschild, £10 10*s.*	37	11	0
N. N. Sherwood ...	35	10	0
The Hortus Lodge ...	35	9	0
Baron Schroder ...	30	0	0
Lord Rothschild ...	25	0	0
N. M. Rothschild ...	25	0	0
E. Hill	20	0	0
Sir Julian Goldsmid, Bart., M.P. ...	21	0	0
W. Robinson ...	15	15	0
Arnold Moss, (Wrench & Sons)	15	15	0
Sir Trevor Lawrence, Bart.	10	10	0
J. B. Haywood ...	10	10	0
Baron Ferdinand de Rothschild, M.P. .	10	0	0
Alfred de Rothschild	10	0	0
Mrs. Head	10	0	0
J. R. Stirling ...	8	16	6
D. C. Ward	7	2	6
J. Willard	6	13	6
R. P. Glendinning	5	15	6
J. Laing & Sons ...	5	10	0
E. Gilbert	5	14	0
A. H. Smee	5	5	0
Martin J. Sutton ...	5	5	0
Anthony Waterer, jr.	5	5	0
W. G. Head	5	5	0
H. Hartley	5	5	0
A. W. G. Weeks ...	5	5	0
H. J. Wimsett ...	5	5	0
H. Hicks	5	5	0
A. W. Sutton ...	5	0	0
Sir Donald Currie ...	5	0	0
T. Statter	5	0	0
Proprietors of *Amateur Gardening* and *Gardeners' Magazine*...	5	0	0
G. A. Dickson ...	5	0	0

And various smaller sums, the total receipts amounting to about £800.

Mr. Sherwood, in replying to the toast of the Orphan Fund, found fault with its cumbrous title, and said he thought it should be called the Royal Jubilee Fund, a title which would be better understood by those who come after us. The speaker also alluded to the proposed alteration of Rules 13 and 14, by which assistance could be afforded for starting children in life on reaching their 14th year. He likewise made allusion to the presence

of Mr. Penny in the room, and hoped that he, one of the originators of the Fund, with Mr. Clayton, would live long to enjoy his well-earned repose.

The Temple Show.—We hear that H.R.H. the Princess of Wales has announced her intention of visiting the Temple Show of the Royal Horticultural Society on May 21.

Mr. J. Förstermann.—We have received intimation of the death of Mr. J. Förstermann, the well-known botanical collector. We hope shortly to be able to give further particulars as to his career.

Mr. W. S. Kimball.—We greatly regret to have to announce the death on March 26, of one of the foremost citizens of Rochester, U.S.A., and a most enthusiastic cultivator of Orchids. In our next issue we shall give further details relating to this estimable man.

Collins' Fund.—The final meeting of the committee of the above fund was held in the Horticultural Club Room, Hotel Windsor, Victoria Street, S.W., on Monday, April 8, Mr. George Gordon (the treasurer) occupying the chair, in the unavoidable absence of Dr. Maxwell T. Masters. The treasurer reported that the total amount received amounted to £66 2*s*. 9*d*. After some discussion it was unanimously agreed, on the proposition of Mr. R. Hooper Pearson, seconded by Mr. G. Hollingworth, that the sum of £66 2*s*. 9*d*. be paid to Mrs. Collins for the purpose of enabling her to purchase a business, concerning which satisfactory enquiries had been made, and the treasurer was accordingly authorised to draw and forward a cheque for that amount. It was generally felt by those present that the money could not be devoted to a better purpose.

New Publications.—*Les Plantes Bulbeux* (Bulbous Plants). Par D. Guihéneuf. (Paris: Octave Doin, 8, Place de l'Odé n.)—Beeton's *All about Gardening*. New Edition. (Ward, Lock & Bowden.)

Trade Publications.—We have received the following, all of which contain useful cultural information, in addition to commercial announcements:—

Guide to the Raising from Seed and Cultivation of all kinds of Vegetables, Flowers, Shrubs, &c. (2nd edition). Published by F.C. Heinemann, Erfurt, Germany.—*Disease-Resisting Potatos, with Cultural Notes, &c.* By Archibald Findlay, Markinch, Fifeshire, Scotland.—*Plants without Earth, and How to Grow them in Jadoo Fibre:* being a Lecture given at the People's Palace for East London by Col. Halford Thompson, R.A. (Published by Charles & Edwin Layton, 56, Farringdon Street, London).—The pamphlet entitled, *A Year's Work at Fordhook Farm*, by E. J. Wheelock, to which is added, "The Year at Fordhook Farm as it appears to the Superintendent, E. D. Darlington," gives an interesting account of the horticultural routine as it is energetically followed at Fordhook Farm, Doylestown, Pennsylvania, under the auspices of the eminent seedsmen, W. Atlee Burpee & Co., Philadelphia.—The *P. C.* (*Publishers' Circular*) *Supplement* for March 23 contains many jottings interesting to writers, publishers, and readers. The price is but ½*d*. It is published by Wm. Dawson & Sons, Bream's Buildings, E.C.

FORESTRY.

WOOD OF CONIFEROUS TREES.

(*Continued from p.* 265)

P. excelsa (Bhotan Pine).—Various ages from 30 to 43 years; cubic contents of largest, 42 feet; soil good, rich, yellow loam. Timber highly fragrant and resinous, compact, but easily indented, and nearly white in colour. Out-of-doors it soon decays, but where kept as a plank sample, the period of nearly fifteen years since it was cut does not seem to have affected it to any appreciable extent. I do not consider that the tree will be of any value in this country in a purely economic sense.

P. insignis.—Age 38 years; cubic contents 33 feet; soil gravelly loam. Timber clean, close-grained, easily worked, and of fair lasting quality. Not tried out-of-doors, but indoors it stands well.

P. laricio.—Nearly all ages up to 71 years; cubic contents of largest, 57 feet; soil gravelly. Timber of excellent quality, and well suited either for out or indoor work. It is yellowish-white in colour, very resinous, tough and elastic, easy to work, and planes smoothly. Eleven years ago we instituted a number of experiments with wood of the tree cut from a specimen, 18 feet of the butt of which contained 30 feet of timber, some of the plants being 27 inches wide. For fencing-posts, rails, shed cleading, and such like the timber was used, and with very promising results. In 1894, I examined the timber, and was surprised to find it so sound and well-preserved, and in the case of that used indoors it has certainly hardened with age. Unlike the wood of several other species of Fir, which get hollowed between the growths owing to the loss of resin and shrinkage, that of the Corsican Pine remains perfectly smooth, the beautiful longitudinal dark yellow, resin-containing portions being quite intact after eleven years wear. The timber does not splinter readily, but wears uniformly and well when subjected to the constant bumping and rough usage consequent on railway travelling, as a large box that has been through many parts of England and Scotland during the past ten years bears ample testimony.

I consider the timber next to that of the Larch for lasting qualities, at least amongst such Conifers as have been found of sufficiently rapid growth to warrant their recommendation for forest planting in this country.

P. laricio austriaca (Austrian Pine).—Ages ranging from 30 to 43 years; cubic contents 37 feet; soil gravelly. Timber very resinous, rough, owing to the branching stem [Owing, doubtless, to being a free standing tree. Ed.]; remarkably strong and tough, and rather coarse of grain. Fully ten years have now elapsed since the timber was cut up and used for fencing, for supporting the sides of a rapid-flowing river, and for indoor carpentry. In every case the results have been satisfactory, and prove that when compared with the Scotch and Spruce Firs this wood is better than those. The timber becomes lighter with age, but owing to its generally rough, knotty nature will never rank very high for constructive work.

P. monticola.—Age 36 years; cubic contents 41 feet; soil deep and sandy. Timber light, tough, elastic, and durable, easily worked, and polishes beautifully. Not tested out-of-doors, but highly satisfactory, and a beautiful ornamental timber for indoor carpentry.

P. Pinaster (Cluster Pine).—Age of trees cut up, 93 years; cubic contents 75 feet; soil gravel, with a little loam. Timber very resinous, brittle, and deficient in lasting qualities. I had a large tree, containing fully 90 feet of timber, cut into boarding, and the boards stored away, partly to dry, and partly as flooring for a faggot-shed. In three years the whole were perfectly rotten, and had to be removed. It is but fair, however, to add that dry faggots were stored on top of the planks, but the barn was perfectly dry, and thoroughly ventilated.

P. ponderosa.—Age 54 years; cubic contents 44 feet; soil good loam. Timber heavy, and saturated with resin, of a light red colour, and not particularly durable. The strong resinous smell of the wood is justly remarkable, and the veining is much admired.

P. rigida.—Age probably 40 years; cubic contents 27 feet; soil sandy. Timber light, coarse grained, brittle, and of no special value in this country.

P. Strobus (Weymouth Pine).—Age unknown; cubic contents 93 feet; soil vegetable mould, on shaly rock. Timber of good quality, clean, and easily worked, but much affected both by soil and site. British-grown timber revealed but small difference when compared with that sent to the late Colonial and Indian Exhibition. I consider this a most valuable forest tree for not too exposed parts of these Isles; but it does not succeed well on too light or poor soils [and the wood is useless for outside work. Ed.].

P. tuberculata.—Age unknown; cubic contents 44 feet; soil rich loam. Timber very resinous, reddish-white, brittle, and finely-grained. Not tried out-of-doors.

Pseudotsuga Douglasii (Douglas Fir).—Age from 25 to 45 years; cubic contents of latter 57 feet; soil gravelly. Timber when young soft, and liable to insect attacks and sudden decay; when older of a desirable yellowish colour, hard and firm, and susceptible of a high polish. It gets darker with age, harder and brittle, and more difficult to work. For fencing purposes and boat-masts outdoors, and in temporary work where not exposed to the weather I have used the timber extensively, and in every case the results have been fairly satisfactory. I do not, however, consider the timber equal in lasting qualities to at least that of three other Conifers, whose merits as regards quantity of timber produced and fitness for culture in this country place them higher in the rank of such as are suited for economic planting. The production of timber is ahead of that of any other tree in this country of which I have kept a record, viz., 240 feet in fifty years, or nearly 5 feet per year for half a century.

Sequoia gigantea.—Age 33 years; cubic contents 73 feet; soil loam on gravel; sheltered. Timber very distinct and beautiful, the groundwork being yellow, marked with deep red bands longitudinally. It is light in proportion to the bulk, compact, and works readily. I had the butt of the above specimen cut into 2-inch thick boarding for the purpose of hut-making for charcoal burners, and was, with every one else who saw them, astonished at the deep, rich colouring and shading of the wood. The lasting qualities are not very remarkable, although the timber darkens with age, and the outdoor experiments were not very encouraging. For indoor work of various descriptions the wood is well adapted.

S. sempervirens (Redwood).—Age unknown; cubic contents 52 feet; soil alluvial deposit; sheltered valley. Timber of excellent quality, of a pleasing brick-red colour, very finely and closely-grained, and susceptible of a high polish. It cleaves into long lengths, and is unusually free from knots and timber defects. Not used out-of-doors, but as furniture and room-pannelling the home-grown wood seems to be peculiarly suitable.

Taxodium distichum (Deciduous Cypress).—Age unknown; cubic contents 34 feet; soil black damp loam. Timber brown, very light, but fine-grained, and easily worked. I am much taken with the timber of the deciduous Cypress, but, unfortunately, my experiments are hardly worth detailing. Indoors it has stood well; outdoors fairly well for the period of time.

Thuia gigantea (Giant Arbor-vitæ).—Age 31 years; cubic contents 31 feet; soil rich and suitable. Timber of a pleasing yellow colour, fine-grained, light in proportion to its bulk, and very readily cut up and worked. My experiments with the wood for fencing are not very encouraging, but then it must be remembered that it was far from mature—in fact, could only be considered as in a juvenile state. Where used for indoor work, the results are favourable. I consider the tree one of the greatest value for the quick production of fairly good timber.

Tsuga canadensis (Hemlock Spruce).—Age 53 years; cubic contents 37 feet; soil rich loam; sheltered. Timber hard, heavy, rough-grained, and inclined to splinter. It works well, and takes on a good polish. The slower-grown timber seems to be hardest, and finest of grain, that of old rapidly-grown trees being crooked and rough.

T. Mertensiana (Western Hemlock).—Age 28 years; cubic contents 31 feet; soil good rich loam; sheltered situation. Timber yellowish-white, smooth, and fine of grain, and susceptible of a fine polish. I have used the wood for several out-of-door purposes, and with the best and most satisfactory results. As fencing-posts, it equals the Larch of similar age, while for furniture it seems to be well suited. I consider this a very valuable timber-producing tree for planting in this country. *A. D. Webster.*

(*To be continued.*)

THE "BOCCA D'OCA" GRAFTING OF THE ITALIANS.

This method is described in the last issue of the *Pomological Monthly*, by Fr. Lucas. The wild stock is cut in the usual manner. The scion has two to three buds; it is cut opposite to the first bud with somewhat of a curve and acutely, and the upper bark is removed with the bud; then it is so inserted into the wild stock between the bark and the wood that the bark of the wild stock and the cut face of the scion are together, and the wood of the wild stock and the inner bark of the scion, quite contrary to the general mode of grafting, the lowest end stands directly above the cut face of the wild stock. Graftings low down are only covered by somewhat moist loam; high graftings are still wrapped round with tin foil. Under this method, 90 to 95 per cent. of the graftings succeed. The union is so perfect, that hardly any scar is seen. By this method are grafted Apples, Pears, Plums, Apricots, Peaches, Cherries, Mespilus, Cydonia, Diospyros kaki, Morus, Robinia, Ulmus, Fagus, Platanus, Populus, Sophora, Thuya, and various other Conifers, especially species of Abies. The method of working is as follows:—One man cuts the wild stocks, a second one the scions, whilst a third inserts the scion on to the wild stock, and covers the graft with moist loam. In this way they graft 200 to 250 plants in one hour. The best time for this mode of grafting is the spring.

INDIA.

The Agri-Horticultural Society's annual flower show was as usual held in the Society's gardens at Alipur. No fewer than thirty-seven tents were pitched to hold exhibits, representing agriculture, floriculture, and horticulture. Many ladies and gentlemen were present, and Her Excellency Countess of Elgin with a large party from the Government House visited the show in the evening. Since Mr. P. Lancaster, F.R.H.S., has become the secretary, the Society has revived, and has regained its old vigour. One native gentleman, Babu Duly Chand, won 1, the Viceroy's Silver Medal for the well-arranged group of annuals and perennials; 2, the medal of the Society for the best-arranged group of well-grown plants; 3, Maharaja Sir Jotendra Mohan Tagore's prize for the best collection of cut flowers; 4, Babu Joy Govind Law's prize for the best collection of Ferns. Babu Duly Chand's various exhibitions were far the best at the show, and received the most attention, the Countess of Elgin and the government party taking a special interest in them. The country should be proud of Babu Duly Chand, and we hope more of his wealthy countrymen will follow his example.

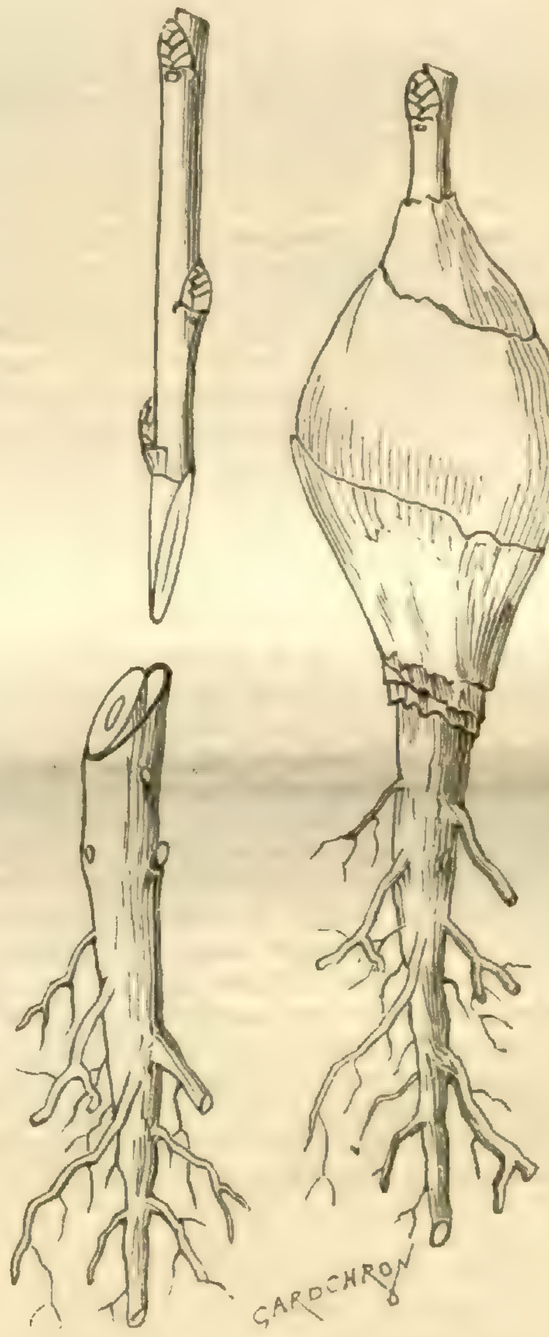

Fig. 66.—BOCCA D'OCA GRAFTING.

FORESTRY IN NATAL.

The *Kew Bulletin* quotes a paper of Sir Dietrich Brandis on this subject, from which it appears that the Government, after having made a fair start, has suddenly abandoned the enterprise.

"Natal lies between latitude 28° and 31° S. The climate of the coast is almost tropical, owing to a warm current from the equator. Mangrove trees grow along the coast, and Sugar-cane and tropical Indian fruit trees are cultivated there. The land ascends rapidly inland, and the capital, Pietermaritzburg—or Maritzburg, as it is usually called at 50 miles from the coast—is at 2275 feet above sea-level, and possesses an appreciably mild climate.

The colony is bordered on the west by the Kathlamba or Drakensberg, a mountain chain attaining altitudes which exceed 9600 feet, and separating Natal from the Transvaal, the Orange Free State, and Basuto-land. These mountains form the eastern boundary of the high South African plateau, which is drained by the Orange River and its tributaries.

Natal is scantily populated, containing 18,755 square miles, with 532,000 inhabitants, of whom 38,000 only are Europeans. Most of the latter are English, who came by sea and founded Port Durban, but a few are descended from the Dutch Boers who came from the west in 1838-42 and founded Maritzburg. Natal has been an English colony since 1843 when the territory only included 3000 native inhabitants, but their numbers rose rapidly to 100,000 in 1845, and to 400,000 in 1883. They are mostly Zulus in the north, and Kaffirs in the south of the colony. . . .

From the coast to altitudes of about 975 feet, with an average annual temperature of 67° to 71°, the forest consists of numerous species belonging to the tropical flora. The woods are not more than 30 to 60 feet high, but something might be made of them, as several species yield valuable timber. Unfortunately, nearly all the coast forests are now private property.

In a central zone ranging in altitude between 980 and 3450 feet, with an average annual temperature of 59° to 67° F., extensive tracts are covered with so-called Mimosa scrub, formed of several species of Acacia; these woods are very thinly stocked, and contain a tall grass undergrowth. The Acacias bear plenty of seed, and young growth exists, but is continually being destroyed by the annual grass fires. If only protection could be afforded to these forests against fire, as has been done for the last 30 years in British India, they could be worked profitably with short rotations—24 years, according to Mr. Fourcade; it is, however, probable that most of this area will be cleared for agriculture.

The present area of the coast and Acacia forests is estimated at 196,000 acres of State forest, and 1,645,000 acres in private hands.

In the higher zone, from 3450 feet up to 9600 feet, with a temperate climate, and an average annual temperature of 52° to 59°, the most valuable forests are situated, but they are scattered over a difficult mountainous region. Of these forests the State possesses 54,000 acres, and 27,000 acres are in a territory assigned to the indigenous inhabitants of the country. The Government has decided that in the mountains the action of the Forest Department will be restricted to the State forests. They contain many species; Podocarpus Thunbergii and P. elongata, both known as yellow-wood, are the commonest, and their wood resembles that of the European Spruce. At present the great cost of transport prevents the profitable working of yellow-wood. Amongst the remaining species, the two most valuable trees are Stink-wood (Ocotea bullata), so named on account of the bad odour of freshly-sawn wood, an evergreen lauraceous species, with a beautiful brown heart-wood, which is hard and tough; and Sneeze-wood, Pteroxylon utile, an ally of the Horse-chestnut. These woods are also highly esteemed in the Cape Colony, especially for cart and waggon-making, and can be worked at a profit even from these remote mountain forests. Unfortunately, these two species are only found here and there in the forests, and there is no large supply of them.

In the year 1891-92, the sale of wood by the Natal Forest Department yielded £725, while the expenditure was £1942, partly for establishment and partly for the survey of the forests. Owing to the small area of forests available, and the remote position of the State forests, Mr. Fourcade strongly recommended that plantations should be started near the towns and railways. Past experience with the Blue Gum (Eucalyptus globulus) is favourable for the success of this tree in Natal. At Arambi, near Ootacamund, in the Nilgiri hills, in India, this tree attains a height of 107 feet in 19 years, and yields 8696 cubic feet per acre. This enormous production of 457 cubic feet per acre annually was attained in latitude 11° N., at an altitude of 7466 feet above sea-level.

In the higher latitude of Natal, a similar climate to that of Arambi, is found at 2275 feet above sea-level, and, according to Mr. Fourcade, mixtures of Eucalyptus globulus, longifolia, and rostrata give an even higher yield near Maritzburg than at Arambi. Mr. Schöpflin doubts whether this will be the case; but, at any rate, the Gum-trees will give a large yield, and if the wood were only fit for fuel, a considerable pecuniary return would be obtained. Several of the Gum-trees, however, yield splendid timber, and especially E. rostrata, the Red Gum of Southern Australia.

Timber imports into Natal average in value £180,000 a year, so that, as the indigenous forests are small, much subdivided, and unfavourably situated, the State is clearly called upon to plant up a sufficient area of the State lands. Mr. Fourcade states that the land necessary for these plantations can now be purchased cheaply, and Mr. Schöpflin commenced planting operations. This useful measure is now abandoned, owing to want of funds, and the plants in the State nurseries will be sold.

Besides Eucalypti, several Australian Acacias succeed admirably in Natal, especially A. decurrens and mollissima; their bark is rich in tannin, and a plantation of 1200 to 1500 acres of these trees has been started by a private company. Near the neighbouring Transvaal goldfields, Australian trees are being planted on a large scale to supply mine-props.

The length of rails in Natal is about 625 miles, and the mountain forests will yield a portion of the necessary railway sleepers. Yellow-wood must be kyanised, as has been done in the Cape Colony, and kyanising works can easily be established in Natal, and wood from Gum-tree plantations ought to supply the balance of the sleepers required.

It is evident that Natal cannot possibly prosper without a Forest Department, and the Colony will have cause to regret having abandoned the attempt to form one, after such an excellent beginning has been made. The Government wished to retain Mr. Schöpflin's services up to March 31, 1894, but would not employ him after that date. Under there circumstances he was obliged to resign his appointment last September, in order to return to the Baden forest service.

Home Correspondence.

THE LOTUS.—"The Lotus is not a large tree, but it is rough and thorny, and has a green leaf, like the Rhamnus (Black or Whitethorn), a little longer and broader. The fruit is like white Myrtle-berries when they come to perfection; but as it grows it becomes purple in colour, and in size about equal to round Olives, and has a very small stone. Wine is made of it; it only keeps ten days. Vinegar also is made out of it." (*History of Polybius* (Greek historian, B.C. 200, circa), two vols., 1889; E. Shuckburgh, 2nd vol., p. 79) *H. M. E.* [This, Zizyphus Lotus, or perhaps, Nitraria tridentata, has nothing to do with the aquatic Lotus. Ed.]

BOTANY IN BOARD SCHOOLS.—It is, as you say (p. 428), gratifying to know that the teaching of botany is now recognised in some of our primary schools; but, though there may well be differences of opinion as to the details of the best method of teaching, if an altogether wrong-headed and repulsive method be adopted, it would be almost better to have no teaching at all. Surely there can be no difference of opinion as to the desirability of our teaching facts rather than words. I do not for a moment think that ten-year-old pupils are too young to learn botany; but in answer to your question as to how much of Edmond's *Elementary Botany* should be taught to them I should most emphatically say, "None at all." The book is, for its size, well adapted for its purpose, the elementary stage of the Science and Art Department Examination, though, as more "biological," I personally prefer Joseph Oliver's book; but there is a grave danger lest the real advancement of an interest in botany be sacrificed at the shrine of a South Kensington syllabus. Sir Joseph Hooker's *Primer*, or Prof. George Henslow's *Botany for Children*, are far better adapted for our primary schools than either of the books before mentioned, if any text-book at all be required. An edition of the latter work, cheapened by the omission of the illustrations, would, I think, be even more useful for the purpose. Diagrams or the black-board, are a more useful supplement to the actual examination of plants by a class of beginners than the small uncoloured illustrations in a text-book. *Nothing, however*—not even the large, valuable (and necessarily costly) papier-maché models made on the continent—can take the place of actual specimens; and, even in towns, a goodly variety of these can be obtained at all seasons of the year, at a cost probably less than that of a text-book, or at any rate, but trifling. Primroses, Violets, Wallflowers, Daffodils, Moon-daisies, wild Hyacinths, or Marsh-marigolds, can be readily obtained during a good many months of the year, a great variety of leaves, during a still longer period—young plants of Mustard-and-Cress can always be had; and what would be more interesting to children than some lessons on the structure of fruits, illustrated by a few pods of Peas, some Cherries, Gooseberries, Blackberries, Apples, Oranges, Strawberries, and Filberts? Herbarium specimens, especially where all the original colour has fled, should only be used as a last resource; but the school museum may be made a most useful auxiliary to the botanical teaching. Here Iceland-moss or other lichens, Irish-moss or other seaweeds, Fir-cones, a Cocoa-nut in the husk, some Cotton-pods, and various vegetable products of economic importance, may well find a place. These are readily obtainable, especially near our docks and wholesale warehouses, and, if encouraged, the children will take pleasure in co-operating in the collection. An extensive scheme is, I believe, shortly to be put forward for supplying educational sets illustrative of economic botany. Then, what with forced or imported plants or their fruits and seeds, aided by diagrams, how readily can much of the connection between botany and geography be interestingly imparted to children who have been taught to realise to some extent the meaning of a map of the world! If, however, the teaching is to be inspiring, the teacher must have enthusiasm and a knowledge which is not itself entirely of book origin. *G. S. Boulger*, 18, *Ladbroke Grove, W.*

TEA ROSE DEVONIENSIS.—Possibly it might interest "H. M." to know that it was in the first week of August, 1841, this fine old Rose was sent out by Messrs. Lucombe, Pince & Co., of Exeter. The following curtailed extract is from the first advertisement in the issue for June 12, of the first volume of the *Gardeners' Chronicle*: "Rosa Devoniensis, a very beautiful new Rose, of which they possess the entire stock. Six flowers of it were exhibited on Tuesday last, June 1, at the meeting of the London Horticultural Society in Regent Street, and were awarded the Silver Banksian Medal. Strong plants will be sent out in the first week of August next, and will be delivered (carriage paid in London, at 21*s.* each)." The above extract gives a very peculiar reading, the first number of the *Gardeners' Chronicle* being issued on January 2, 1841, but the copy I possess is the third reprint, dated June 18, 1841, which proves that the circulation had largely exceeded the provision made to supply the then public demand. *Scotland, E.* [The advertisement was repeated on June 18; and the demand is very much larger. Ed.]

THE CHISWICK VEGETABLE EXHIBITION.—It is indeed satisfactory to learn that we are to have after all a metropolitan vegetable show this year. Also that it will take place at Chiswick, where there is ample room, and not least that urgent representations have led to the shifting of the date from Oct. 15, a very unfortunate date for Chiswick, to Sept. 10, a time when the gardens will still be attractive, and the weather may be all that can be desired. The mere fact that the vegetable show will fall earlier than the Crystal Palace fruit show, will do the latter not the least harm, whilst it will give to vegetable growers, and they are legion, the same encouragement vouchsafed to their fruit-growing brethren. I am sure if the Royal Horticultural Society Council will only put energy into the business, they may, through prizes, seedsmen's collections, and in other ways make the Chiswick vegetable show exceedingly interesting and attractive. Now, an exhibition of this sort, not being made up, as is often the case, of seedsmen's classes, presents a favourable opportunity to secure the best representations in vegetables, first, of high culture; secondly, new and superior varieties; thirdly, special taste and excellence in staging; and fourth, though far from least, of greatly improved methods of marketing vegetables, as to which there is so much need for greater and superior styles. Perhaps the schedule is already drawn, if so, I hope it is not stereotyped. If it be not, perhaps some of the points here referred to may have consideration. A show of vegetables which teaches nothing, which encourages no new departures, or is other than a mere means for winning prizes, can exercise no special beneficial influence. Whatever may be the aims of other societies, it is not too much to ask of the Royal Horticultural Society, that all its special efforts in shows should have educational and progressive aims. I think there is no direction in which there is more need for improvement than in our marketing methods. I am tired of perpetually trotting out the foreign horse, but in any case the foreigner, simply because he has better tastes and cannot afford to send refuse of any sort on to the market, always shows us methods and devices which we are so slow to learn. Why should not we, prettily and neatly, box much of our vegetable-produce direct from the grower, and thus put it on to the market in quantities that would at once suit consumers of all sorts, rather than send it as usual in the rough repelling dirty baskets? Look, how, in the majority of cases, vegetables are roughly and unevenly gathered and used. See how they go to the market in wagons that but a few hours before were laden with manure. Follow these products into the market, and see how they are pitched and tossed about—how exposed to sun and wind—how finally, when displayed in the shop windows, or on barrows, the finishing touch is given by wetting, withering exposure, and a bruised appearance, destroying all flavour or attractiveness, whilst just in proportion as the products have become flaccid and stale, the price has gone up. What wonder is it that the British, and especially the vast millions in our towns, do not eat one-fourth of the vegetable-produce they otherwise would do, could it be placed before them fresh, cheap, and attractive. What can the proposed exhibition do towards helping to correct this distressing state of things, and to give to vegetable consumption nationally the impetus that is so desirable? It is beside the question to say that just now we have little to market. That is an accident of the season, a very distressing one, but an accident all the same, and may not be without its lessons none the less. But very soon we shall be getting our early summer crops, and then comes the question how to make the very best of them; certainly not in the old style. On every hand I hear complaints as to the poor returns obtainable for all forms of coarse or common vegetables. I am not aware that such complaints are made with respect to the higher class products, such as Seakale, Asparagus, early Cauliflowers, choice salads, &c., most of which go to market in a very neat attractive fashion. Now, September is a good time of the year for Cabbages, autumn Cauliflowers, Potatos, Runner Beans, Onions, Carrots, Turnips, Early Celery, Marrows, and other extensive and easily-grown, therefore common products, and the Chiswick show would afford a capital opportunity for competitions in the desired direction if instituted. It is simply asked in regard to vegetables that something should be done to improve their market status, just as is so earnestly sought to be done in relation to fruit. All that such able market salesmen as Messrs. Webber and Monro have been so long preaching with regard to fruit marketing is equally applicable to vegetable packing and marketing. Our home-growers must not ignore the fact that the British public have had their market tastes greatly educated by what is constantly seen of foreign methods. How suicidal, therefore, not to be prepared to follow in the same track! It is really a question of maintaining the superiority of home products of which there can be no doubt as against superior market methods. If we will combine the two, we need not fear but that our home products will once more maintain the highest position in the estimation of the British consumer. *A. D.*

STEVENS' NEW STRAWBERRY.—As a reader of the *Gardeners' Chronicle*, and interested in the forcing of Strawberries, I see this fine variety has been favourably noticed in your journal, and I believe received a First-class Certificate at the Royal Horticultural Society's meeting recently. Mr. Stevens a few years ago showed me one, the only plant of this variety, and as he then anticipated, it has turned out to be a really good one, and likely to be a great acquisition, especially for early forcing. I visited the Hassocks establishment on the second week of February last, and there saw such a display not easily to be forgotten. Fruit in thousands, plenty of them weighing 1 oz., and some 1½ oz., and considering the severity of the weather in February, it would be almost impossible to find a better example of Strawberry forcing. Like others, I was struck by the small size and quantity of the foliage of this variety, and scarcely any growth seemed to have taken place other than that of the fruit. Mr. Vincent, the manager to Mr. Stevens, told me that the plant makes ample growth when planted in the open. It is a very free setter, and no artificial aid was employed to set the fruit. The glass structures in which the plants are forced are span-roof houses, 160 feet in length, and number eight. The plants stand on shelves, one on each side of a central path and quite close to the glass. In the pathway Mushroom-beds are placed in the winter, while Tomatos are planted out in the side beds, and these last will shortly occupy the whole of the space. The question is often asked what to grow for profit in such houses, the above-mentioned quartette are the principal things grown here, and with great success and profit. *J. Spottiswood.*

THE EDUCATION OF GARDENERS.—Once more this subject is brought before the numerous readers of the *Gardeners' Chronicle*, and in my opinion it is a subject which cannot be discussed too often. All young gardeners who devote their leisure time to acquiring knowledge, and who are anxious to improve their minds and social position, are indebted to Mr. Elliott for the excellent advice afforded on p. 369 of the *Gardeners' Chronicle*. He has always taken a deep interest in the educational improvement of gardeners, and if more of our leading men would take up the subject, much good, I think, would result. Many persons look upon gardeners as men good enough in their own way as regards the growing of flowers, fruit, and vegetables, but if better education is mentioned as being within a gardener's achievement, it is considered as being inconsistent with the profession of a gardener—but for this we are ourselves to blame. Unity in the first place among gardeners, and a recognition of educated men by employers, would soon revolutionise the gardening world, and separate the best men from the so-called gardeners. *P. J. G.*

—— I daresay many a gardener is wishing most heartily that he could promote with the better education of gardeners an increase in their wages. I beg to differ respecting Mr. Boulger's statement that children ought to have mastered the three R's at the age of nine. In isolated

cases this may be so; but let him examine our boys of the working-classes, who leave school at the age of 12 to 14, and he will find that the majority have mastered the three R's, but know very little beyond. Can Mr. Boulger assure parents that if they keep their sons at school until the age of 14, that they will ultimately secure important, well-paid posts? It is possible, and highly probable, that the lad who commences with crocking pots at the age of 12 would outstrip them in the race. Take the educated and efficient gardener at the age of 30 or 35, with wife and four children; and the uneducated and equally efficient gardener at the same age, with a wife and no children, and send them to apply for a well-paid post with cottage, the latter, as it usually happens, not far from the mansion, and he would soon ascertain if it were educated or uneducated who gained the post. Referring to Mr. Boulger's self-denial clause, it will be found that a young man studiously inclined will "go in for it;" but if a young man have no inclination for study, he will never see the necessity of it, and yet will win in the Gardeners' Handicap, in which it is not always the best man who comes to the front, and not always the weakest who goes to the wall. It would do our young gardeners no harm to read the biographies of men like Lindley, Loudon, and Paxton; but if their time is limited, I should recommend them, in preference, to write out, to study, and compare with their daily routine the practical hints (up to date) given by the clever writers of the *Gardeners' Chronicle*, especially the usual weekly work reported on for the different departments. Mr. Boulger says he is glad of the action of the Education Department, but if we are to have efficient grounding in scientific principles, &c., we must supplement our already over-taxed schoolmasters. Would this supplementation mean an increase in the rates of our already over-taxed ratepayers? If so, they might possibly object, or investigate to ascertain if the important well-paid posts for gardeners are numerous enough, and their salaries high enough to justify the extra expenditure. Mr. Boulger, in conclusion, admits that education does not make a gardener more skilful, but yet in the completest sense of the term it makes him a better workman. I say this would depend entirely upon the class of place that he filled. If the man should be fortunate enough to occupy a position, with men under him, and scope allowed to display his abilities, and a good salary to boot, he would then feel that he had achieved something, and his education would be a consolation to him. On the other hand, if he be unfortunate, with wife and children to support, unable to obtain a good place, he will be obliged, through force of circumstances, to take a single-handed place, or perhaps be condemned to do jobbing gardening. In either capacity his daily routine would probably be digging, sweeping, rolling, mowing, &c. I say these men would constantly feel that they were fitted and intended for better things, and their education might prevent their indulging in the delightful and invigorating recreation of running a heavy roller round a drive, or doing a hard day's tramp behind the mowing-machine with such a hearty zest as these pastimes require, or with the alacrity that employers in this class of place demand. *W. G., Frythesden Gardens.*

FRICKE'S LILY OF THE VALLEY.—The note in the issue of the *Gardeners' Chronicle*, March 30, from your Berlin correspondent, respecting Mr. Fricke's new variety of the Lily of the Valley, will cause many readers to rub their eyes. The statement that one of its advantages is that the biennial rootstocks produce flowers of such extraordinary size certainly requires attention. I am inclined to think that a mistake has been made. The physiology of the Lily of the Valley is an exceedingly interesting one, and the performance of its functions, so to speak, have been so regular, that not even the soft persuasions of the most skilful cultivator have hitherto been able to interfere with the regular routine of its career. The "buds" thrown out by the underground stems or roots for the first and second year are invariably leaf-buds, the flowering buds being perfected during the third season. Anyone examining buds of one, two, or three years' growths will be convinced of this. The buds are actually perfected during the autumn, so that the embryo flower may be seen in miniature for months before it is developed fully. If Herr Fricke has succeeded in crowding three years' growth into two, and obtained a superior strain of the Lily of the Valley to boot, "a small silver medal" does not seem to me to be at all a sufficient recognition of his labours. Perhaps he himself will explain to incredulous English readers how the little affair is managed, if it be not a "trade secret." *W. Roberts.*

BISEXUAL HAZEL.

The illustration (fig. 67) is taken from catkins obligingly sent by the Rev. — Newdigate, S.J., from near St. Asaph. It will be seen that the flowers at the base of the catkin at (A) are pistillate, those nearer the centre (B) are structurally hermaphrodite, and those at the top male only (C). A similar condition is common in some Willows; but till our attention was drawn to it by Mr. Newdigate, we had not ourselves met with it in the Hazel.

SOCIETIES.

ROYAL HORTICULTURAL.

April 9.—The usual fortnightly meeting was held in the Drill Hall, James Street, Westminster, on Tuesday last, when a most interesting exhibition was staged of Orchids, and choice plants and flowers generally, some of which were noteworthy as illustrating very successful cultivation, apart from the intrinsic value of the species themselves. An exhibit of Tea and Noisette Roses from Colchester,

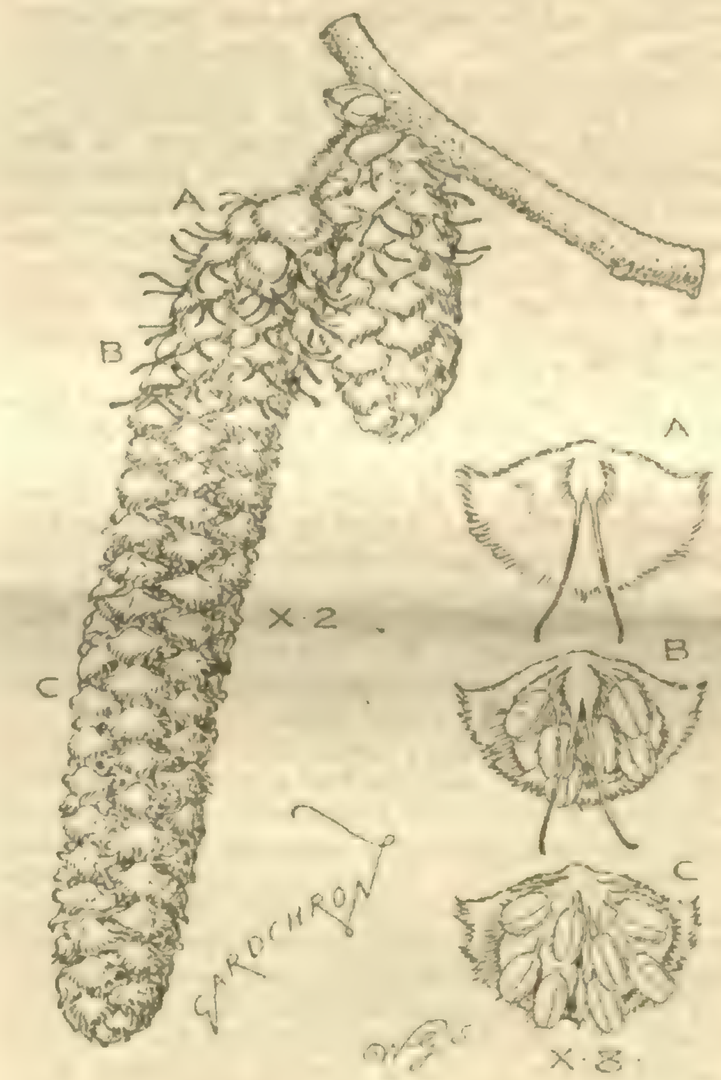

Fig. 67.—Hazel-catkin, with male and female flowers.

and another from Canterbury, were the subjects of much remark from the excellent quality of the blooms. The Fruit Committee, however, had work only of the lightest description.

Floral Committee.

Present: John Fraser, Esq., Chairman; and Messrs. J. Laing, S. A de Graaf, C. T. Druery, H. Herbst, R. Dean, R. Owen, G. Stevens, R. B. Lowe, J. Jennings, W. Bain, J. D. Pawle, J. H. Barr, C. E. Pearson, E. Beckett, C. Noble, J. T. Bennett-Poë, J. Walker, C. E. Shea, E. Mawley, G. Paul, and C. J. Salter.

Messrs. John Laing & Sons, Forest Hill, London, S.E., staged a very pretty group of miscellaneous foliage and flowering plants. Several new Cliveias, including one named the Right Hon. Joseph Chamberlain, of much merit; and a few Caladiums, including that very fine variety, Mrs. Harry Veitch, besides Comtesse de Maille and Mons. Léon Say, helped to enlighten the group greatly. Winter-flowering Begonias, Epiphyllum Makoyanum, the pretty little Saintpaulia ionantha, and Calla Little Gem were also noticed (Silver Flora Medal).

A magnificent group of Streptosolen Jamesoni plants in flower were from the gardens of J. T. Bennett-Poë, Esq., Holmewood, Cheshunt. The plants were about 3 feet high or more, very bushy, and profusely covered with their orange-scarlet flowers. Two varieties of Richardia, one called R. aurata, the other R. hastata, were also shown. The first-named has large leaves, spotted white, and flowers not unlike those of R. hastata, which is well known (Silver Flora Medal).

Earl Cowper, Panshanger, Herts (gr., Mr. Fitt), again exhibited sprays of Beaumontia grandiflora superba; also sprays of Cestrum (Habrothamnus) scabra, and of Psychotria × jasminiflora, with white Honeysuckle-like flowers. A large inflorescence of Cordyline (Dracæna) australis, with tiny white flowers, was also shown.

Messrs. Jno. Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., exhibited a group of decorative Dracænas of small and useful size. There were about twenty good varieties, including D. Sanderiana (Silver Banksian Medal).

Tea and Noisette Roses were exhibited at these meetings for the first time this season. Mr. Frank Cant had three boxes, containing about four dozen blooms of surprising merit, notwithstanding the small amount of sunshine yet experienced. Souvenir d'Elise Vardon, and Niphetos, were exceptionally large, and a bloom of Madame de Watteville was well nigh perfection in colour and in form (Silver-gilt Flora Medal).

Another collection of Roses was shown by Mr. Geo. Mount, Exotic and Rose Nurseries, Canterbury, comprising about thirty-six blooms, also of very good merit; Catherine Mermet, Maréchal Niel, Madame de Watteville, and others were noticeable (Silver Flora Medal).

A collection of Cannas and Hippeastrums was shown by Messrs. Paul & Son, the Old Nurseries, Cheshunt. Several of the hybrid Cannas shown were raised at Cheshunt, and are very pretty. Comet, a yellow one, spotted and flaked with scarlet; Mrs. Tasker, with broad petals, and pretty in colour; also Cheshunt Yellow, yellow and crimson; and Amphion, were good. Of the Hippeastrums, the best were Venosa and Sunlight, but in either there was more green in the base than desirable. Also half-a-dozen plants in flower of the white form of Daphne Mezereum, labelled Paul's Snow-white variety, and some plants of Pinus sylvestris aurea, a valuable variety among the golden-foliaged Conifers. Messrs. Paul & Son likewise had a small collection of alpine and hardy flowering plants, amongst which we noticed a showy lot of Megasea Stracheyi, a pan of Saxifraga Boydi alba (Award of Merit), several varieties of Hepatica triloba, a group of Pulmonaria saccharata, Anemone Pulsatilla, and the much better variety A. p. patens, &c. (Silver Banksian Medal).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, staged a first-rate collection of Cliveias and Hippeastrums. The Cliveias were similar to an exhibit from the same firm at the last meeting; and among the Hippeastrums, the varieties Lord Salisbury, Emperor William, Lady Wimborne, and others were very noteworthy (Silver Banksian Medal).

An excellent and interesting exhibit was made by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (gr., Mr. Bain), including about twenty plants of hybrid varieties of Anthurium, all of them very beautiful and varied. An Award of Merit was given to A. compacta, a variety with an almost circular spathe, having a white ground, but very thickly covered with spot-blotches of coral-red. The many hybrids differ in the size and shape of spathe to some extent, but in greater degree in the amount and style of colouring, from a self scarlet to pure white, and the degrees of spotting or veining are infinite. A. Scherzerianum parisiense has a spathe of flushed flesh throughout. Cut spathes of A. Burfordiense, A. Lawrenceanum, and A. Archduke Joseph, was also exhibited. A First-class Certificate was awarded to a wonderfully well-grown plant of the tolerably well known and curious Tacca integrifolia [Ataccia cristata], having about two dozen spikes of flowers. Some plants of Primula Forbesii and of Scutellaria Mocciniana completed Sir T. Lawrence's excellent exhibit (Silver Flora Medal).

Half-a-dozen choice varieties of Hippeastrums, from Messrs. Jas. Veitch & Sons, King's Road, Chelsea, included two that were selected by the Committee for Awards of Merit. One of these was Doris, a dark crimson self, and the other Chinese, a light coloured variety of splendid form and substance. Fresca was another good crimson flower.

Messrs. F. Sander & Co., St. Albans, showed four plants of Hippeastrum splendens, each bulb having produced three spikes. The spikes are from three to five-flowered, and are bright red, with yellowish-green centre.

Messrs. Jas. Veitch & Sons, staged plants in flower of Loropetalum chinense, some profusely-flowered

plants of Rhododendron ponticum var. Early Gem from the open ground, and some sprays of Stachyurus præcox with blooms, light buff in colour and of the form and size of those of Lily of the Valley, coming before the leaves. It was from the open ground.

Daffodils were shown most by Messrs. Barr & Son, King Street, Covent Garden, in whose collection they appeared with blooms of Anemones, Scillas, and other hardy flowers. N. rugilobus, Henry Irving, Scoticus, Golden Spur, Thomas Moore, princeps, obvallaris, Horsfieldii, Telamonius plenus, Empress, and Emperor, were shown in considerable numbers. N. tortuosus, minor plenus, and a pot of the very pretty N. Leedsii, Minnie Hulme, with fine open lemon-coloured perianth, were also noticed. Erythronium dens-canis roseum majus and Fritillaria armena rubra were also included (Silver Banksian Medal).

Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, staged a capital collection of Alpine and hardy plants in flower, amongst which the Primulas, such as P. denticulata and P. d. alba, P. cashmeriana and P. rosea, were very showy; Saxifraga apiculata, Iberis saxatilis, Anemone vernalis, Orchis militaris, Bulbocodiums, Saxifraga oppositifolia splendens, and the pure white Trillium grandiflorum were all exhibited with others in capital condition (Silver Flora Medal).

Some interesting seedling Daffodils were contributed by the Rev. G. H. Engleheart, Appleshaw, Andover, a hybrid from N. cyclamineus ♀ and N. Horsfieldi ♂, bore a flower which in size was unaffected by Horsefieldi, but the perianth was considerably paler than N. cyclamineus, and the petals nearly white. Greatmen is the name of an enlarged seedling from self-fertilised N. minor, being a much better flower in every way. A seedling from Golden Spur ♀ and cernuus ♂ has a perianth larger than either of the parents, and only slightly more coloured than the pale Cernuus. A seedling from the Tenby Daffodil was also shown, and described as of much better constitution. Mrs. St. Brigid Salvino, Killiney, Dublin, also showed flowers of seedling Daffodils.

Two large baskets of Neapolitan Violet roots were shown by Mrs. Crawford, Gatton, Reigate (gr., Mr. Wm. Slowgrove). The varieties were Marie Louise and Swanley White, the latter a large double bloom, and fragrant. The roots were very well flowered.

Blooms of Richardia æthiopica, of an uncommonly large size, were contributed by F. C. Carr, Esq., Farnham Chase, Slough (gr., Mr. A. J. Reid), who showed a dozen spathes; and also by A. H. Smee, Esq., The Grange, Wallington (Vote of Thanks).

A plant of Araucaria imbricata platifolia, a form with unusually broad leaves, was exhibited by Messrs. Paul & Son, Cheshunt.

Orchid Committee.

Present: Harry J. Veitch, Esq. in the chair; and Messrs. Jas. O'Brien (Secretary), De B. Crawshay, E. Hill, H. M. Pollett, H. Ballantine, W. H. White, H. J. Chapman, J. Jaques, S. Courtauld, J. Douglas, W. Cobb, T. W. Bond, W. B. Latham, A. H. Smee, Fred. Hardy, and Dr. M. T. Masters.

None could wish to view a more beautiful example of a specimen Orchid than the superb plant of Cattleya Lawrenceana, shown by Sir Trevor Lawrence, Bart., the President of the Royal Horticultural Society (grower, Mr. W. H. White), at this meeting. The specimen, which was about 3 feet across, and of a very brightly-coloured variety, bore fifty-eight flowers, the number of flowers on the largest spike being eleven, which is the highest number we remember having been recorded. The specimen was awarded a Silver Flora Medal. Sir Trevor Lawrence also showed the fine new Miltonia × Bleui nobilior (vexillaria × Roezlii), which is a magnificent variety; Odontoglossum aspersum violaceum, with buff-tinted sepals and petals, spotted with red-brown, and purplish lip; Masdevallia leontoglossa, Epidendrum × Endresio-Wallisii, and Eulophiella Elisabethæ.

Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), showed a very handsome plant of Dendrobium × Cybele (Findlayanum ♀, nobile ♂), which resembles in some respects D. × Owenianum, and is a very showy hybrid; a very extraordinary hybrid Odontoglossum of the O. Ruckerianum class, with very beautifully spotted petals; and three fine varieties of Cattleya Lawrenceana, viz., the crimson-tinted, which is not uncommon; the pretty C. L. concolor, with flowers wholly of a soft rose; and C. L. Vinckei, which has lavender-coloured sepals and petals, and dull purple, or slate-blue lip. The two last-named are unique.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, Chelsea, showed a fine group of rare Orchids, which received a Silver Banksian Medal. Their best plants were the orange-coloured Lælia × Latona (L. purpurata ♂, cinnabarina ♀). Cypripedium × Winnianum (Drurii ♂, villosum ♀), C. × obscurum; C. caudatum Luxembourg var., a very strong grower, and with light yellow tips to the sepals; the pretty Dendrobium × Alcippe (Wardianum ♂, lituiflorum ♀), Cypripedium × Macrochilum, Odontoglossum Wilckeanum, and other fine Odontoglossums; Miltonia Roezlii alba, Dendrobium Farmerii, &c.

The Right Hon. Lord Rothschild, Tring Park, Tring (gr., Mr. E. Hill), showed the beautiful Lælia flava var. aurantiaca, which had a fine spike of flowers differing from the type (which has chromo-yellow flowers) in being of a glowing pure orange colour (Award of Merit). Lord Rothschild also showed the singular Dendrobium tetragonum, with numerous insect-like flowers; a fine form of Cattleya guttata Prinzii, and the pretty little Catasetum scurra (illustrated in the *Gardeners' Chronicle*, n.s., vii., 304), with dense racemes of whitish flowers with green lines—a singular and very fragrant species.

Messrs. F. Sander & Co., St. Albans, received a Silver Banksian Medal for a very fine group of Orchids. At one end were tall plants of Phaius assamicus, and the singular green and purple Cyrtopodium Woodfordii. On the stage, the principal plants were their new pure white Bollea Schroderiana, the very rare and singular white Dendrobium amboinense, D. veratrifolium, D. dixanthum, D. Brymerianum, Spathoglottis aurea and S. plicata, some pretty Dendrobium Phalænopsis Schroderianum, fine varieties of Odontoglossum crispum and other Odontoglossums, Eulophiella Elisabethæ, Cattleya Schroderæ, Oncidium varicosum Rogersii, the pretty Lycaste Skinneri leucoglossa, and a very richly-coloured dark form of the same species.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), again showed his very fine Odontoglossum triumphans Lionel Crawshay, which is one of the finest forms of O. triumphans known. It had previously received an Award of Merit, and on this occasion a First-class Certificate was given. The broad, heavily-marked sepals and petals, and the broad shield-shaped lip have wide differences from the ordinary form. Mr. Crawshay also showed Odontoglossum gloriosum, Rosefield var., cream-white with brownish-purple spots.

Geo. C. Raphael, Esq., Castle Hill, Englefield Green (gr., Mr. Adams), sent the best spike of Eulophiella Elizabetha which has yet been shown; a dense raceme with three irregular rows of large wax-like pure white flowers. Some forty flowers and buds were on the spike, and several had already gone off. The plant is said to last a very long time in flower, which still further enhances its value (Cultural Commendation.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the beautiful Lælio-Cattleya × Pallas superba (L. crispa × C. Dowiana). The original received a First-class Certificate to the raisers, Messrs. J. Veitch & Sons, in 1889, and time has still more improved its beauty. Mr. Statter also sent Cattleya Mendeli Alexandræ, Cattleya Schroderæ splendens, Cypripedium × annamense (Ashburtoniæ expansum × Numa), and C. selligerum atrorubens.

Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed the beautifully-spotted Odontoglossum crispum Catherine (Award of Merit), and the fine O. polyxanthum, Hardy's var.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, showed a neat group of Orchids, which secured a Silver Banksian Medal. It was composed of Cattleya Mendeli, C. Mossiæ, Odontoglossum crispum varieties, O. Andersonianum album, O. cordatum, O. lævis, O. luteo-purpureum, O. Oerstedii, Trichopilia suavis superba, and the singular Cirrhopelatum picturatum, and Bulbophyllum nigripetalum, the latter having small blackish flowers of curious structure.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Aldous), was awarded a Silver Banksian Medal for a very pretty group of showy Orchids. The rarest among them perhaps was a beautiful rose-coloured form of Odontoglossum Cervantesii, which was very handsome. In the back of his group, Mr. Pitt had some good plants of Vanda suavis, Cattleya Trianæi, &c.; and arranged with them were some well-flowered specimens of Angræcum sesquipedale, Lælia harpophylla, a very fine lot of the various forms of Miltonia Roezlii, Odontoglossum nebulosum candidulum, and other fine Odontoglossums, Cattleya Schroderæ, Angræcum Sanderianum, &c. Messrs. W. & G. Drover, Farnham, showed two forms of Cattleya Trianæi.

A. H. Smee, Esq., Carshalton (gr., Mr. G. W. Cummins), showed a fine plant of the rare Cymbidium Lowianum concolor (viride), with clear yellow lip.

General E. S. Berkeley, Spetchley, Bitterne Park, Southampton, showed Dendrobium Rolfæ roseum. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent spikes of Cymbidium Devonianum, Cœlogyne lactea, Cattleya Schroderæ, Phaius assamicus, and Masdevallia ludibunda (Botanical Certificate).

Fruit Committee.

Present: T. F. Rivers, Esq., Chairman, and Messrs. H. J. Pearson, G. Goldsmith, G. W. Cummins, T. J. Saltmarsh, J. Wright, A. Dean, W. Farr, F. Green, J. Hudson, H. Balderson, G. Norman, J. Smith, G. T. Miles, G. Reynolds, R. Fife, and G. Wythes.

Mr. Geo. Wythes, gr. to the Right Hon. Earl Percy, Syon House, Brentford, exhibited a very creditable collection of vegetables in twenty-four varieties, the green vegetables having withstood 36° of frost in February. Of these we noticed Ellam's Cabbage, Veitch's Victoria Round Spinach, Veitch's Tall Green-curled Kale, Veitch's Earliest of All Cabbages, Veitch's Asparagus-Kale, Veitch's late purple-sprouting Broccoli, Veitch's Late Curled Kale, Cattell's Eclipse Broccoli, and Veitch's Main Crop Broccoli. Dwarf Beans, Syon House and Ne Plus Ultra, were shown; Early Milan and Golden Ball Turnips, Connover's Colossal Asparagus, Musselburgh Leeks, Cucumbers Syon House and Veitch's Improved Telegraph, Sharpe's Victor Potato, and Veitch's Purple Seakale, Mushrooms, &c. (Silver Knightian Medal). Mr. Wythes also exhibited a box of Strawberry La Grosse Sucrée, of very fine quality (Cultural Commendation), and some fruits of Strawberry Royal Sovereign, &c.

Mr. Goldsmith, Leonardslee Gardens, Horsham, sent a dish of an Apple called Burfield, a medium-sized, highly-coloured fruit, described as a good cooking Apple, and useful for dessert. The fruits had kept remarkably well.

Lecture on Campanulas.

In the afternoon the Assistant-Secretary read a paper on "Campanulas," by Mr. J. Wood, of Kirkstall. The writer, who it was evident has an enthusiastic admiration for the "Bell-worts," suggested that a garden might as profitably be devoted to their exclusive culture as to that of Roses, Lilies, or other plants. Having stated that to some extent the idea had been carried out by himself with the most pleasing result, Mr. Wood proceeded to describe an ideal garden of Campanulas, laying particular stress at the outset upon the desirability when selecting a site for the culture of a special class of plants, of choosing one where the conditions of soil and the whole environment would be conducive alike to the best cultural effects, and to the best appreciation of the plants themselves. The inmates of the imaginary garden were then noticed and described, and the best positions for each indicated. At the close of a very practical lecture, Mr. Selfe Leonard, Chairman, offered a few appreciative remarks; and these were followed by an appeal from Dr. Masters to cultivators of Campanulas generally, to aid a little in the attempt to properly classify and name the forms of Campanulas now known by such unsatisfactory names as many of them are, by sending a part of their superabundance of stock to Chiswick Gardens, where the Royal Horticultural Society is attempting to form a complete collection, for the purpose above stated.

ROYAL CALEDONIAN HORTICULTURAL.

April 3.—The above Society opened its spring show in the Waverley Market on the above date. The weather, which in the morning had been all that could be desired, was cold and sleet fell the whole of the afternoon. The show, when compared with previous years, as regards the number of exhibits, was thin, and the immense building, which requires large plants to give it a furnished appearance, looked scantily filled. The lateness of the season and lack of sunshine during the past few weeks rendered it a difficult matter to have the flowers expanded, this being especially visible in some exhibits of Azaleas, &c., and was the probable cause of the falling-off alluded to. The large plants usually exhibited by the local nurserymen were this season conspicuous

by their absence; but some very pretty tables were arranged by Messrs. T. Methven & Son, Edinburgh, the plants consisting of Clematis, Liliums, and Ericas. Messrs. R. B. Laird & Son showed some fine varieties of Japanese Maples, Imantophyllums, also Conifers growing in tubs. Narcissus and other spring-flowering bulbs, herbaceous plants, &c., came from Messrs. Barr & Son, of Covent Garden. Mr. P. Aitken had a table filled with herbaceous perennial plants.

PLANTS.

In the class for tables of plants arranged for effect there were but two competitors. Mr. M. Macintyre, gr. to Sir Charles Tennant, The Glen, Innerleithen, was 1st for a table put up in a graceful light manner. Amongst plants of which this table consisted were Dendrobiums, Odontoglossums, Hippeastrums, Primulas, &c., with Ferns as a setting; Mr. G. Wood, gr., Oswald House, Edinburgh, 2nd, with a good table, filled with plants somewhat similar.

For ten forced plants in flower, Mr. Macintyre was 1st with Rhododendrons, Deutzias, Genistas, and others; Mr. W. Bennett, gr., Stanley Lodge, Gogar, 2nd, a fine plant of Choisya ternata being noted amongst his set. Mr. Macintyre took the 1st prize also for six forced plants, a perfectly trained and flowered specimen of Rhododendron Lady Alice Fitzwilliam being his best. Mr. W. Bennett was 2nd. The same exhibitor was 1st in the class for six stove and greenhouse plants, in flower, among the six being in fine form, plants of Anthurium Scherzerianum, variety Wardii, and Cœlogyne cristata.

ORCHIDS were to a certainty more numerously represented than on previous occasions, and the specimen plants were in some cases well grown and flowered. The class for four Orchids was keenly contested, Mr. G. Curror, gr. to Mr. G. Douglas, Eskbank, taking first honours. His best plant was a superb Vanda suavis with twenty large spikes; a plant of Cattleya Lawrenceana was likewise well-flowered. 2nd, Mr. M. Macintyre with very creditable plants; a plant of Cypripedium Boxallii having about fifty flowers, and a well-flowered Cœlogyne cristata Lemoniana. Eight entries were made for the specimen Orchid; and a well-flowered example of D. Wardianum from Mr. G. Mitchell, Bantaskin, Falkirk, was 1st; Mr. R. Cairns, Balruddery, Dundee, 2nd.

AZALEA INDICA, as might be expected, were numerous, Mr. G. Wood staging the best three, which made quite a blaze of colour; Mr. J. Bald, gardener, Canaan House, Edinburgh, was 2nd. For a single specimen Azalea, Mr. W. Murray, Restalrig, was 1st with a large plant, but which was not in full bloom

FERNS, which are usually shown well at Edinburgh shows, brought the usual exhibitors. For the three exotic species, Mr. J. Napier, gr. to P. N. Fraser, Esq., Rockville, Murrayfield, was 1st, with splendid plants of Polypodium subauriculatum, and Gymnogramma Laucheana; Mr. G. Wood was 2nd. Mr. A. Farquhar, gr., Craigcrook Castle, staged three very excellent specimens of Adiantum, and Mr. J. Napier was 2nd.

FOLIAGE PLANTS.—In this class the competition was keen, and in the class for three, Mr. A. Crichton, Liberton, came out as a good 1st, with a fine Dasylirion glaucum and Asparagus plumosus. In the six foliage plants, Mr. Macintyre was 1st, with smaller but still well-grown plants.

Miscellaneous Plants.—In this section the competition was weak. Mr. S. Abbott, gr., Prestonfield House, was 1st for six. Cyclamens, on the contrary, formed a feature of the show, and the number of those who competedin the class was great. Mr. T. Lunt, gr., Kerr House, Stirling, had large plants that were covered with bloom, the foliage strong and leathery, and he was successful in obtaining the 1st prize for twelve and six.

Pelargoniums, although small, were fairly well flowered, but entries were not many. Mr. D. Plenderleith, Spylaw Road, Edinburgh, was 1st in the solitary class set apart for these plants. Cinerarias occupied a large amount of space, the flowers and plants being generally of good quality. Those shown by Mr. R. T. Rae (1st), Sunlaws, Roxburgh, were large, with dense heads of enormous flowers; Mr. Macintyre was 2nd, with good but smaller plants. Plants of Deutzia gracilis occupied a great lot of space, huge specimens being staged. Mr. Macintyre was also 1st for twenty. Mignonette is always shown well at Edinburgh; and the standard plants shown by Mr. Alexander were very fine examples of good culture. Of Primula sinensis and P. obconica, good plants of both were exhibited, the latter being especially numerous. Hyacinths did not occupy the same amount of space they sometimes do, but some of the exhibits were of exceptional good quality. Mr. C. L. Carnegie (gr., Mr. Gartshore), Kirkintilloch, was 1st in the classes for twelve and six. Tulips and Narcissus were numerously shown.

Cut Flowers.—The principal class was undoubtedly the one for twelve trusses of stove and greenhouse flowers, and the 1st place was taken by Mr. Macintyre with a fine selection, among which were Cymbidium Lowianum, Lycaste Skinneri, Dendrobium thyrsiflorum, and Anthurium Scherzerianum var. Knightii; Mr. R. Cairns was 2nd with a very creditable stand. For twenty-four Roses, Mr. G. Manson (gr., Mr. Wallhouse), was a good 1st; and he also took the 1st prize for twelve blooms of Gloire de Dijon and twelve of Maréchal Niel, the latter being magnificent flowers cut in fine condition. For twelve Camellias, 1st, Mr. T. Bryson for large blooms of fine varieties. Buttonholes, sprays, and bouquets were numerous, many of the exhibitors showing very nice taste. For the best hand bouquet, Mr. J. Napier, Murrayfield, was 1st.

FRUIT.

Only seven classes were devoted to this department, and competitors were few. For one Pine-apple, Mr. Macintyre was 1st, as he also was for six pots of Strawberries and a dish of Strawberries. Mr. W. Smith, gr., Oxenford Castle, was the only exhibitor of two bunches each of black and white Grapes, and was awarded the 1st prize in each class. In the classes for Apples and Pears, Mr. D. Logan, gr., Coldstream, came 1st.

VEGETABLES.

As in the classes for fruit, a thinness prevailed, although in some classes the exhibits were excellent. This was the case in the collection of twelve distinct kinds by Mr. W. G. Pirie, Selkirk, 1st, and Mr. S. Johnston, Hawick, 2nd. The latter was 1st for the heaviest stalks of Rhubarb. The classes for Leeks, Beetroot, and Turnips were those most keenly contested, while for Cucumbers, Tomatos, and Asparagus, few entries were made.

In the NURSERYMEN'S competitions, Messrs. R. B. Laird & Sons were the most successful exhibitors. It was here in the large plants usually brought for competition in these classes that they were most missed, the forcing of hardy Rhododendrons, &c., after this hard season, presenting many difficulties. For twelve forced plants, not fewer than six varieties, Messrs. R. B. Laird & Sons were 1st; and James Bryson, Helensburgh, 2nd. The first-named firm were also 1st for twelve distinct varieties of Conifers, Messrs. Dickson & Sons 2nd.

AURICULAS were well staged by Mr. J. Forbes, Hawick, the prizes for the classes of Alpine and stage varieties going to this grower.

Obituary.

MRS. MARY ISABELLA WATSON.—We regret to record the death of Mrs. M. I. Watson, the wife of the well-known Assistant-Curator, Royal Gardens, Kew, and sister of the Curator, Mr. Nicholson, which took place, April 6, at the age of thirty-six years. The most earnest sympathy on the part of his friends and associates will be extended to Mr. Watson on the distressing calamity that has befallen him.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 6.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1895.	Rainfall. Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 —	5	32	— 56	+ 309	6 +	65	11·2	18	26
1	2 —	12	31	— 104	+ 437	1 —	53	6·9	21	26
2	2 —	13	28	— 65	+ 302	2 —	61	7·7	29	26
3	3 —	13	28	— 70	+ 314	0 aver	56	6·0	20	28
4	3 —	16	31	— 96	+ 402	2 —	46	5·7	19	25
5	3 —	15	33	— 113	+ 356	2 —	43	5·1	20	27
6	2 —	15	27	— 87	+ 385	1 —	54	7·5	26	25
7	4 —	11	24	— 88	+ 330	0 aver	52	7·3	19	24
8	3 —	23	15	— 121	+ 353	3 —	48	8·5	35	34
9	2 —	18	24	— 122	+ 297	1 —	61	8·2	26	26
10	3 —	27	14	— 159	+ 220	4 —	52	9·3	21	28
*	3 —	24	7	— 148	+ 251	2 —	57	7·7	35	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending April 6, is furnished from the Meteorological Office:—

"The *weather* continued somewhat changeable and unsettled, but was finer in the north-east, south, and south-west than elsewhere. Falls of rain, hail, or sleet were very frequent in the north and north-west, and of rain in most other parts of the Kingdom, but the amounts were generally slight.

"The *temperature* was below the mean, the deficit ranging from 2° in some of the western and northern districts to 3° over the greater part of England, and to 4° in 'England, N.W.' The highest of the maxima were recorded on rather irregular dates, and ranged from 58° in 'England, E.,' and 57° in 'Scotland, W.,' to 52° in 'England, S.,' and 'Scotland, N., and to 50° in 'England, N.W. The lowest of the minima were registered either on April 1 or 5 over England, and about the middle of the period at most of the Irish and Scotch stations; they ranged from 22° to 25° in Scotland, from 24° to 30° in Ireland, and from 27° to 28° over England; in the Channel Islands the lowest reading was 33°.

"The *rainfall* exceeded the mean in 'Scotland, N.,' and just equalled it in 'England, E., and N.W.,' but was rather less than the normal elsewhere.

"The *bright sunshine* showed a deficit in all districts, excepting 'England, N.E.' The percentage of the possible duration ranged from 35 in 'England, S.W.,' and the 'Channel Islands,' and 29 in 'England, N.E.,' to 19 in 'England, N.W.,' and to 18 in the 'Midland Counties,' and 'Scotland, N.'"

MARKETS.

COVENT GARDEN, *April* 10.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	5 0	- 6 0
Azaleas, per dozen sprays	0 6	- 1 0
Bouvardias, p. bun.	0 6	- 1 0
Carnations, 12 blms.	1 6	- 3 0
Daffodils, double, dozen bunches	3 0	- 4 0
— single, doz. bun.	4 0	- 6 0
Eucharis, per dozen	4 0	- 6 0
Gardenias, per doz.	3 0	- 4 0
Hyacinths (Roman), doz. sprays	0 10	- 1 0
Lapageria, 12 blms.	1 0	- 2 0
Lilac (French), per bunch	5 0	- 6 0
Lilies of the Valley, doz. sprays	1 0	2 0
Lilium Harrisii, per dozen	4 0	- 8 0
Maidenhair Fern, per 12 bunches	6 0	- 9 0
Marguerites, 12 bun.	1 0	- 3 0
Mignonette, 12 bun.	2 0	- 4 0
Mimosa (French), per bunch	0 9	- 1 0
Pelargoniums, scarlet, per 12 bunches	8 0	- 12 0
— 12 sprays	0 8	- 1 0
Narcissus, Pheasant-eyed, 12 bun.	5 0	- 6 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	- 12 0
Odontoglossum crispum, 12 blm.	3 0	- 6 0
Pyrethrums, 12 bun.	2 0	- 4 0
Roses, Tea, per doz.	1 0	- 2 0
— coloured, p. dz.	2 0	- 4 0
— yellow (Maréchals), per dozen	6 0	- 9 0
— red, per dozen	6 0	- 8 0
— (French), red, per dozen	1 6	- 2 6
— (French), yellow, per dozen	1 0	- 2 0
Snowdrops, 12 bun.	1 0	- 1 6
Stephanotis, dozen sprays	4 0	- 6 0
Tuberoses, 12 blms.	0 4	- 0 6
Violets, Parma (French), p. bch.	2 6	- 3 6
— Czar (French), per bunch	1 9	- 2 0
— doz. bunches	2 6	- 3 0
— (English), per dozen bunches	1 6	- 2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	- 18 0
Aspidistra, per doz.	12 0	- 30 0
— specimen, each	5 0	- 15 0
Azaleas, per doz.	42 0	- 48 0
Cinerarias, per doz.	9 0	- 18 0
Cyperus, per dozen	4 0	- 10 0
Dracæna, each	1 0	- 7 6
Erica hyemalis, dz.	12 0	- 18 0
— various, doz.	9 0	- 12 0
Evergreen Shrubs, in variety, per dozen	6 0	- 24 0
Ferns, small, doz.	4 0	- 12 0
— various, doz.	5 0	- 12 0
Ficus elastica, each	1 0	- 7 6
Foliage plants, doz.	9 0	- 24 0
Genistas, per doz.	10 0	- 18 0
Hyacinths, per doz.	9 0	- 12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	- 6 0
Palms, various, ea.	2 0	- 10 0
— specimens, ea.	10 6	- 84 0
Primulas, per dozen	4 0	- 6 0
Spiræas, per doz.	10 0	- 12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cobs, per 100 lb.	20 0	- 25 0
Grapes, 1st quality, black, English, per lb.	3 6	- 5 0
Pine-apples, St. Michael, each	2 0	- 6 0
Strawberries, morning gathered, lb.	5 0	- 6 0
,, ,, 2nds., lb.	2 0	- 3 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	6 0	- 8 0
Beans, per lb.	1 6	- ...
Cauliflowers, p. doz.	2 0	- 3 0
Cucumbers, per doz.	3 0	- 4 0
Mint, per doz. bun.	6 0	- 9 0
Mushrooms, per lb.	0 8	- 0 10
Onions, per bushel	2 0	- 2 6
Potatos, Channel Islands, per lb.	0 6	- 0 7
Rhubarb, per dozen bundles	1 3	- 1 9
Seakale, p. punnet	1 6	- 1 9
Tomatos, Canary Islands, per lb.	0 3	- 0 6
— Home-grown, lb.	1 6	- 1 9

OLD POTATOS.

Markets weak, with heavy Continental arrivals.

NEW POTATOS.

Market firm for best samples. Bulk of arrivals inferior, which do not go freely. *J. B. Thomas.*

FRUITS AND VEGETABLES.

BOROUGH: *April* 9.—Quotations:—Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.*; Parsnips 2*s.* 6*d.* to 3*s.*; Turnip-tops, 1*s.* 9*d.* to 2*s.* 3*d*; Broccoli, 2*s.* to 3*s.* per bag; Rhubarb, 1*s.* 6*d* to 1*s.* 9*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle. Onions, English, 4*s.* 6*d.* to 5*s.* 6*d.* per cwt., Valerian, do., 7*s.* to 9*s.* per case; Apples, English, 4*s.* to 8*s.* per bushel; do., Canadian, 12*s.* to 18*s.* per barrel.

FARRINGDON: *April* 10.—Quotations: Cauliflowers, 3*s.* to 4*s.* per dozen; Greens, 2*s.* per bushel; Mint, 1*s.* to 1*s.* 3*d.* per bunch; Leeks, 1*s.* 3*d.* per dozen; Spinach, 3*s.* per bushel; Carrots, 1*s.* 6*d.* per cwt.; Turnips, 3*s.* per bag; Turnip-tops, 3*s.* 6*d.* per bag; Rhubarb, outdoor, 3*s.* per dozen bundles; Cucumbers, 3*s.* 6*d.* to 4*s.* 6*d.* per dozen.

POTATOS.

BOROUGH: *April* 9.—Quotations ranged from 90*s.* to 130*s.* per ton. New: Teneriffe, 12*s.* to 16*s.* per cwt.

FARRINGDON: *April* 10.—Quotations:—Dunbars, 130*s.* to 140*s.*; Main Crop Kidneys, 100*s.* to 110*s.*; Bruces, 90*s.* to 100*s.*; Imperators, 100*s.* to 110*s.*; Scotch Magnums, 80*s.* to 90*s.*; do. Imperators, 90*s.* to 100*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending April 6, and for the corresponding period last year:—1895: Wheat, 20*s.* 4*d.*; Barley, 20*s.* 11*d.*; Oats, 14*s.* 5*d.*; 1894: Wheat, 24*s.* 6*d.*; Barley, 26*s.* 7*d.*; Oats, 18*s.* 9*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90*s.* to 110*s.*; do., inferior, 60*s.* to 75*s.*; hay, best, 60*s.* to 90*s.*; do., inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 32*s.* per load.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.*

ARTIFICIAL MANURES MENTIONED ON PAGE 433 OF *Gardeners' Chronicle* LAST WEEK: *Walter Price.* These manures should be applied just before rain, in the dry state, strewing them evenly over the soil. If rain should not fall they may be watered in.

BOTANICAL SPECIMENS, &C.: *F. S.* I. We do not know of any specialist, you could get what you want at some of the "Natural History" dealers. II. Of no commercial value, happily. III. Thin glue is better than gum arabic.

CHRYSANTHEMUMS FOR MARKET: *Foreman.* We think you cannot do better than obtain the National Chrysanthemum Society's Catalogue and make your selection. The 1894 catalogue can be obtained of Mr. R. Dean, Ranelagh Road, Ealing, price 6*d.*

EUCHARIS MITE: *F. T. W.* Yes. Better destroy the bulbs, and get a healthy stock.

HARDY ANNUALS AMONGST CROCUSES: *Walter Price.* It will be best to sow the seeds, not dibble-in the plants raised elsewhere, but it will be advisable in view of the poverty of the soil where Crocuses have grown for several years to employ a fairly rich soil taking away the old to the depth of a couple of inches. Sow thinly, and thin out to six or eight inches apart according to size and height.

INSECTS: *F. A. W.* Weevils, exceedingly destructive. Trap them with slices of Carrot or Potato, and go round at night and destroy them.

MARKET VARIETIES OF STRAWBERRIES: *T S.* Sir Joseph Paxton, Vicomtesse Héricart du Thury, Stevens' Wonder (new), Marguerite, President, British Queen, and La Grosse Sucrée. There are many others; but the above, with the exception of the third one, are well-tried varieties.

MODE OF ADDRESS: *F. E. S.* In gardens where six to eight hands are employed, and good comradeship exists, we cannot imagine a case in which the under-gardener should require those under him to address him as Sir. It is, we should say, an exceptional case where this kind of address is required.

NAMES OF PLANTS: *H. O. E.* We are unable to give any satisfactory opinion on your specimens of Cedar. The leaves had fallen before we received them.—*G. J., Anglesey.* 1, Phaius maculatus. It often has leaves spotted with yellow; but sometimes they are plain green; 2, Bifrenaria Harsoniæ. Often called Lycaste Harrisoniæ.—*Curious, Balham.* Psychotria (Gloneria) jasminiflora.—*R. K.* Corydalis solida.—*Z.* Lonicera sempervirens.—*W. W.* 1, Tussilago fragrans; 2, Phyllanthus (xylophylla) angustifolius; 3, Caladium Schmidtii; 4, Cedronella triphylla (Balm of Gilead), often called Dracocephalum canariense; 5, Eupatorium Weinmannianum; 6, Pteris serrulata.—*W. O, Blackpool.* 1, Bilbergia iridifolia; 2, Bletia verecunda; 3, Odontoglossum blandum; 4, Odontoglossum crispum; 5, a good Dendrobium nobile; 6, Dendrobium nobile intermedium.—*W. J. G.* Your Dendrobium is, we should say, certainly D. nobile nobilius. The D. Wardianum very fine. The abnormal flowers of D. Devonianum we will examine and report on if they display any extraordinary peculiarity. We have also noticed that some of the varieties of D. nobile are more fragrant than others.—*D. L.* Hedera colchica.

NAPTHA AND WEEDS ON WALKS: *C. B.* We have no experience of it as a weed-killer.

NEW ZEALAND SPINACH: *C. B.* This plant, Tetragonia expansa, is of annual duration, and the seed should be sown early in May, where it is to stand, on a slight hot-bed, or in a very warm situation, in the open ground. It does not transplant well; and the hot-bed may have the form of the outdoor Cucumber ridge.

PARIS GREEN: *J. H. B.* It is an arsenite, and may be obtained from the Acme Chemical Company, Tonbridge Road, Kent, and Bolton, Lancashire; F. C. Calvert & Co., Manchester. The ordinary oil and colourmen do not supply it. It is a dangerous poison.

TOMATO LEAVES: *F. R. B.* We fear it is the beginning of mischief. Watch the plants, and send us leaves when the fungus is further developed.

VINE ROOTS: *Constant Reader.* The roots are rotten, probably, from growing in a sodden ill-drained border.

VIOLETS: *E. M.* The less the plants are coddled the better they do. They like plenty of fresh, pure air, and given this, together with good loamy soil, kept uniformly moist, as a rooting medium, solid well-ripened crowns will be developed; and these in due time will produce an abundance of substantial flowers, which will be of greater substance and durability than would be otherwise obtained. The plants must be grown well during the summer and autumn months, that is, they must be attended to in the way of persistently pinching the runners, watering at the roots, and sufficiently overhead, to keep them free from the attacks of red-spider. *H. W. W.*

YZELIA CUANZENSES: *A. B. S.* Probably miswritten for Afzelia.

COMMUNICATIONS RECEIVED.—G. C., many thanks for your note.—J. K. B.—J. R. J.—J. R., slips in due time.—H. R. D.—G. N.—W. W.—Messrs. Low.—J. H. B., Utrecht.—W. H.—R. T. L.—J. R.—J. H.—F. G.—E. J. L.—Seedsman.—E. M.—J. O'B.—Visitor.—Haskin Wood Co.—J. S.—H. C. P.—W. A. C.—J. J. W.—E. C.—E. J.—W. R.—P. J. G.—W. L. Y.—F. C. S.—E. J. L.—T. W. S.

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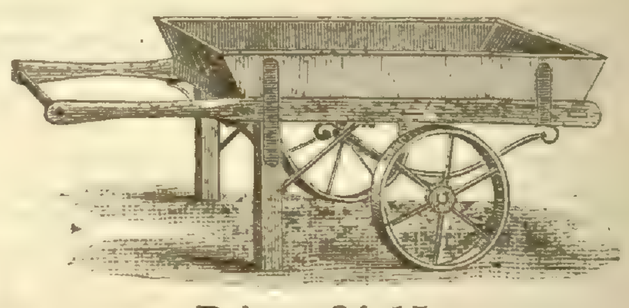

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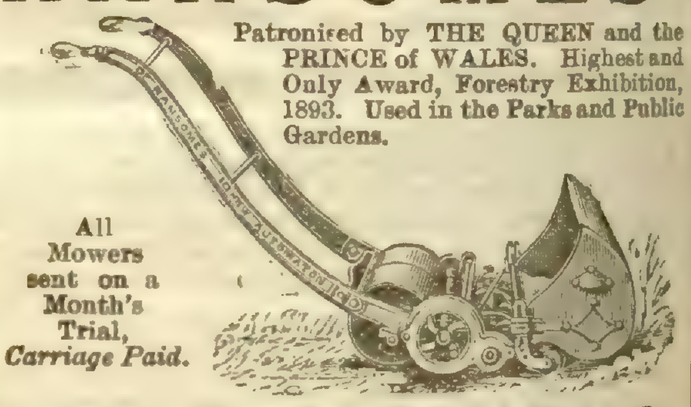

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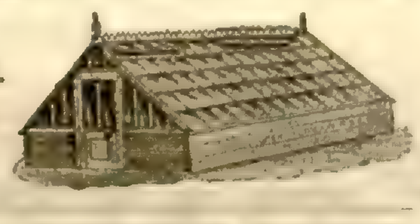

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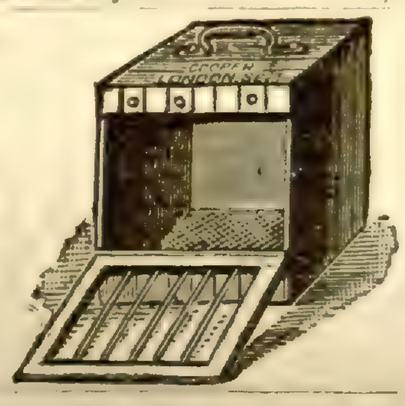

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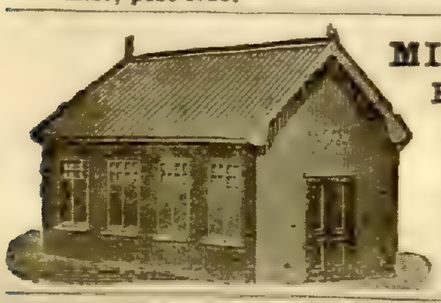

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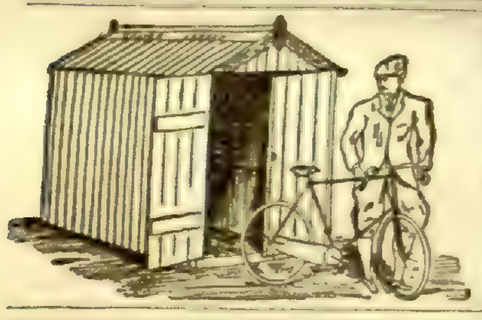

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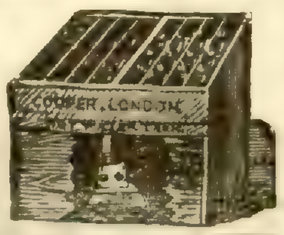

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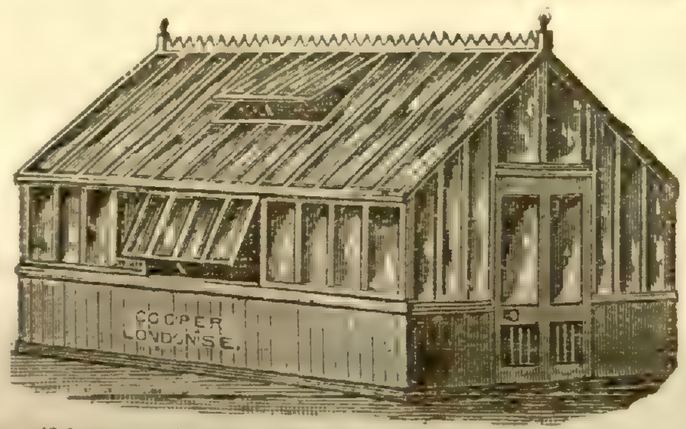

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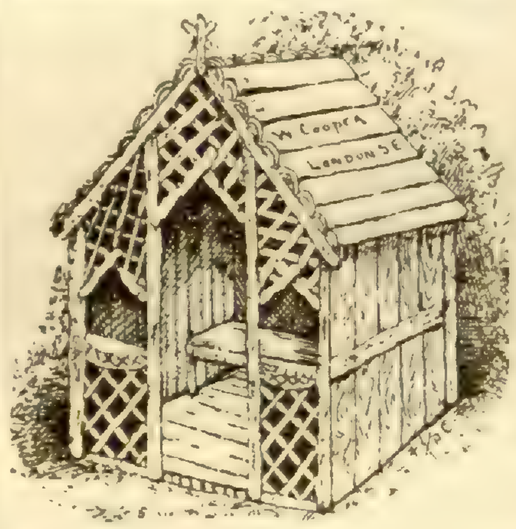

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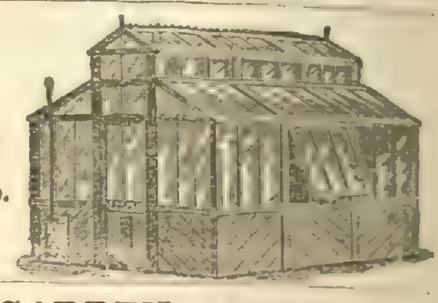

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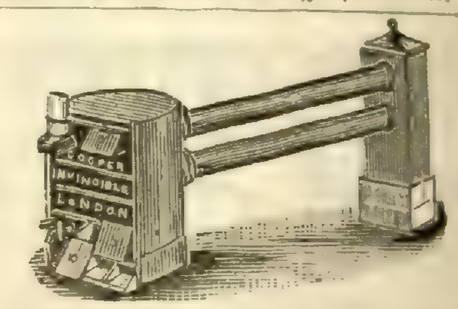

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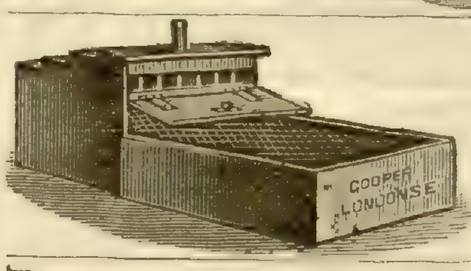

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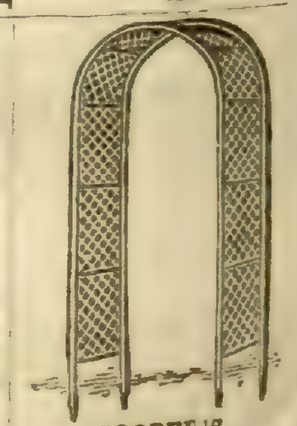

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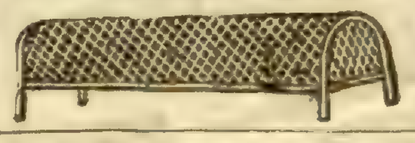

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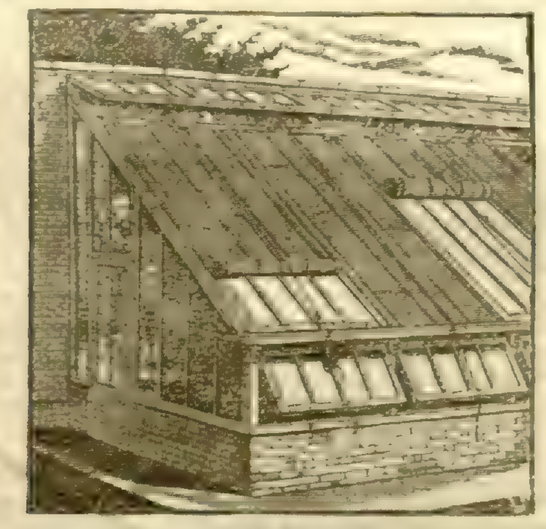

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9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

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All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

THE SOCIETY of APOTHECARIES of LONDON give notice that a Course of TWELVE LECTURES on BOTANY will be delivered by J. G. BAKER, F.R.S., F.L.S., at their Garden at Chelsea, on the SATURDAYS of MAY, JUNE, and JULY NEXT, at 3 P.M. The Lectures will be open to all Medical Students and other Gentlemen being desirous to attend. Tickets of admission to be obtained of the Bedell.

J. R. UPTON, Clerk to the Society.

Apothecaries Hall, E.C., 1895.

GARDEN NETTING—GARDEN NETTING Very superior, Oiled and Tanned, 7s. 9d. per piece of 100 square yards, 50×4, or otherwise. Satisfaction guaranteed. Numerous testimonials.—JOHN ROWE AND CO., The Netting Works, Frenchyard, Bristol. Name paper.

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AND

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WANTED, HEAD GARDENER, who has a thorough knowledge of Orchid Culture.—Apply to S. M., Mr. J. W. Cocks, Madeira Place, Torquay.

WANTED, GARDENER (HEAD WORKING).—Thoroughly practical all-round; experienced in Greenhouse Plants, Flower and Kitchen Garden. Age 30. Wages 28s. a week, no cottage.—The Heath, Wribbenhall, Bewdley.

WANTED, at ONCE, a GARDENER (SINGLE-HANDED), for Flower Garden and Greenhouses.—Must have good general experience, with special knowledge of Orchids and Chrysanthemums. Wages 24s. and cottage. State full particulars as to previous employment, and what family.—F. D. T., Elmdene, Pinner.

WANTED, a good SINGLE-HANDED GARDENER, thoroughly practical all-round, experienced in Greenhouse Plants, Flowers, and Kitchen Garden, Melons and Mushrooms. Age 40, married, no family; wife laundress and char in house when required. Good characters. Wages £1 a week and cottage on premises. Wife £14 a year, charing extra.—PARK, Esq., South Hayling, Hants.

WANTED, at ONCE, young MAN as FERN RAISER.—Must have thorough knowledge of his work.—State age, wages, and experience, to YOUNG AND SON, Town Road Nursery, Lower Edmonton, N.

WANTED, for a Yorkshire Garden, an active, industrious Man, as PLANTSMAN, under general supervision of Foreman.—Two Assistants. Must have experience with Orchids, House and Table Decoration. Promotion if deserving. Churchman. Fires and Sunday Duty every third week. Wages 17s. per week and bothy.—Apply, stating age, with copies only of testimonials, to HORTUS, Messrs. Backhouse & Son, Nurseries, York.

WANTED, a MAN, thoroughly up in Propagation of Stove Plants.—Must have excellent references. Good wages.—ROBERT GREEN, 28, Crawford Street, W.

WANTED, a FOREMAN, to take charge of an Outdoor Branch Nursery.—Must have a general knowledge, including Market Gardening, Roses, Shrubs, &c.—Apply to WALSHAW AND SON, The Nurseries, Scarborough.

WANTED, at ONCE, Outdoor Working FOREMAN, for a General Nursery. State wages and full particulars.—LAXTON BROTHERS, Bedford.

WANTED, a JOURNEYMAN, to take charge of Vineries and large Flowering House, under Foreman. Wages 15s. per week. Bothy, milk, and vegetables. Must be Protestant; an abstainer preferred. Three others in bothy are English.—Apply to LAPHAM, Beeborough, Cork.

WANTED, AT ONCE, a young MAN to Assist in Houses, and Attend Market Stall two days a week. Some knowledge of Seeds required.—C. WHITING, White Cross Nurseries, Hereford.

WANTED, AT ONCE, an energetic young MAN, not under 20, for the Houses, under the Foreman; accustomed to Fruit, and one not afraid of work. Wages 14s., with bothy.—State full particulars to A. G. NICHOLS, Nuneham Park, Abingdon.

WANTED, good JOBBING HAND, sober, industrious Man.—Apply to W. SEARLE, Villa Nursery, Rochester Square, Camden Town, N.W.

WANTED, a young MAN, well-up in Tying, Potting, &c. One used to Market-work. Wages, 18s. per week.—Apply, PERKINS AND SONS, Nurserymen, &c., Coventry.

WANTED, a good SPADE-HAND. One used to Training, Planting, and General Routine Work of Out-door Nursery. Wages, 18s. Situation permanent.—References to EDWIN HILLIER, The Nurseries, Winchester.

WANTED, for Peach-growing under Glass for Market, &c., an experienced steady MAN. Character as to ability indispensable. Wages 22s.—Apply to J. FANNING, Cranford Gardens, Bath Road, Hounslow.

WANTED, active young MAN, age about 20, for Houses and Flower Garden.—Apply, stating age, wages, and experience, to HEAD GARDENER, Portobello House, Kingsdown, Sevenoaks.

WANTED, a young MAN, as IMPROVER in Propagating Department.—One used to pricking out Small Ferns and Potting. Only those willing to work, and anxious to get on, need apply.—W. E. TIDY, Brockhampton Nurseries, Havant, Hants.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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GARDENER (HEAD); age 39.—A Gentleman would like to recommend a man as above, whose character and abilities as a Gardener are worthy the attention of any Lady or Gentleman requiring the same. Eight years in present situation.—Mr. H. APPLEBY, Dorking, Surrey.

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GARDENER (HEAD).—Mr. W. S. GILBERT desires to strongly recommend his Foreman Gardener (age 33, married when suited), who is anxious to obtain a situation as above. Thoroughly experienced in the Management of Hothouses and Outdoor Gardening in all its branches. Two years' excellent character. Nine years previous from good establishments.—Apply to J. DANCER, Head Gardener, Grim's Dyke, Harrow Weald, Middlesex.

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GARDENER (HEAD), where two or three are kept.—Age 27, married when suited.—Mr. PENDER, Manager, South Devon Fruit Farm, can highly recommend his Foreman. Thorough experience of both Inside and Outside work. Three years in present situation. Good references.—H. SNELL, Fruit Farm, Torquay.

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GARDENER (HEAD WORKING), where two or three are kept.—T. J. WOTTON, Gardener to Major Robertson, Widmerpool Hall, Notts, wishes to recommend his Foreman, T. Foster, age 29, who has been with him five-and-a-half years, to any Lady or Gentleman requiring the services of a good, practical, all round man. Good references.

GARDENER (HEAD WORKING), where two or three are kept.—Age 39, married, two children, ages 8 and 6 years; good all round. Can be well recommended, both by present and previous employers. Disengaged April 22.—W. CHAPMAN, Holbrook, Chislehurst.

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GARDENER (Single-handed, or Under).—Age 26; well up in Glass, Flower, Fruit, Forcing, Pruning, and Kitchen Garden. Good character.—F. J. PAMPHLION, Hertford Heath, Herts.

GARDENER, where two or three are kept.—Mr. J. Brown, Great Doods, Reigate, will have great pleasure in recommending Walter Coldman as above. Well up in Fruit, Roses, and general Gardening; age 27, married, one child; eight years good character.

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GARDENER, age 27, seeks situation. Used to Market Nursery. Abstainer. Good references.—A. GOACHER, Fern Cottage, Henfield, Sussex.

GARDENER (Second, or good Single-handed).—Married when suited; ten years and a half experience, Inside and Out. Eight years' good character, Recommended.—W. CANNON, Darton, Selborne, Alton, Hants.

GARDENER (Second), Inside, or Inside and Out.—Age 22; abstainer. Three years in present situation. Life experience. Can be highly recommended.—J. CHALLIS, High Leigh, Hoddesdon, Herts.

GARDENER (Second or Third).—Three years' good character. Seven years' experience.—E. S., Halliford Hoo, Shepperton, Middlesex.

GARDENER (Second); age 24.—H. Underwood, Head Gardener, Nithsdale House, Market Harborough, would be pleased to recommend F. Fellows to any Gardener requiring a trusty young man.

GARDENER (Second or Under), by a young married man; age 23.—A. PURVER, Westergate House, Arundel, Sussex.

GARDENER (Kitchen or Pleasure Grounds).—Age 26, married when suited. Used to machine or Scythe. Mr. F. Jordan, The Gardens, Tilgate, Crawley, recommends advertiser, G. Haylock as above. Good previous references.

GARDENER (Under).—A young Man seeks a situation in a Garden, where one or more are kept. One year and seven months in present situation. Good character.—G. TICKNER, Greenford Green, Harrow, Middlesex.

GARDENER (Under), Inside and Out; where several are kept.—Age 22, single; four years in present place.—COLLYER, The Gardens, Aldershot Park, Aldershot.

GARDENER (Under), Inside and Out.—Age 25; good character. State wages.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

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GARDENER (Under).—Age 27, single; twelve years' experience in good places.—W. FENTON, Lullington Hall Gardens, Burton-on-Trent.

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To the Trade.

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FOREMAN and GROWER.—Age 35; life experience. Well up in growing large quantities of Plants and Cut Flowers, such as Carnations, Cyclamen, Bouvardias, Hydrangeas, Palms, Ferns, Roses, Arums, Eucharis, Chrysanthemums, Pelargoniums, Tomatos, Cucumbers, Mushrooms, Strawberries, &c. Well up in Wreaths. Excellent references.—GROWER, 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER.—Age 34; well up in Cucumbers, Tomatos, Plants and Cut Flowers, Wreaths, Crosses, and Bouquets.—R. W. B., 2, Camden Road, George Lane, Wanstead, E.

FOREMAN, PROPAGATOR, and GROWER.—Twenty years' experience in Hard and Soft-wooded Plants, Cut Flowers, Wreaths, &c. Excellent references.—H. JONES, Cambridge Road, Godmanchester, Hunts.

FOREMAN, or SECOND.—Age 24; nine years' experience in Plants, Fruit Houses, &c. Abstainer. Excellent testimonials from present and previous employers.—STOKES, Antony Gardens, near Devonport.

FOREMAN, Inside, in a good Establishment.—Age 25; twelve years' experience in general Inside Work. Good references from past and present places.—H. ASHDOWN, Thoresby Garders, Ollerton, Notts.

FOREMAN, or SECOND; age 26.—W. Driver, Gardener, Longford's, Minchinhampton, Glos., highly recommends a good practical man. Twelve years' experience. Well up in all branches of Gardening.

FOREMAN (General), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN.—Age 25; twelve years' experience. Life abstainer. Mr. D. Williams, The Gardens, Duncombe Park, Yorks, recommends Advertiser.—H. H. GOODYEAR, 22, Broomfield Road, Marsh, Huddersfield.

TO NURSERYMEN.—Situation wanted, as WORKING FOREMAN. Well up in Roses, Fruit and Ornamental Trees. Late Rose Grower to Dr. Budd, Bath, winner of the Crystal Palace Trophy 1894, numerous Medals and Prizes. Age 34, married.—J. BRADBURY, Mrs. Lewes, East Street, Chard.

JOURNEYMAN (First), Inside.—Private place under Foreman. Age 22; over six years' experience. Abstainer. Highest testimonials from present and previous places.—A. FRANKLAND, Willowfield, Halifax.

JOURNEYMAN (First); age 23.—Mr. Dowding, The Gardens, Farnham Castle, Surrey, wishes to recommend A. Hobbs. Over two years in present situation as above.

JOURNEYMAN, Inside; age 19.—A. Gooden, Shopwyke House, Chichester, would be pleased to recommend a smart young man as above. Five years' experience.

JOURNEYMAN in the Houses; age 21.—Mr. J. Martin, The Gardens, Buchan Hill, Crawley, can very highly recommend a young man. Seven years' experience. Two and a half years in present situation.

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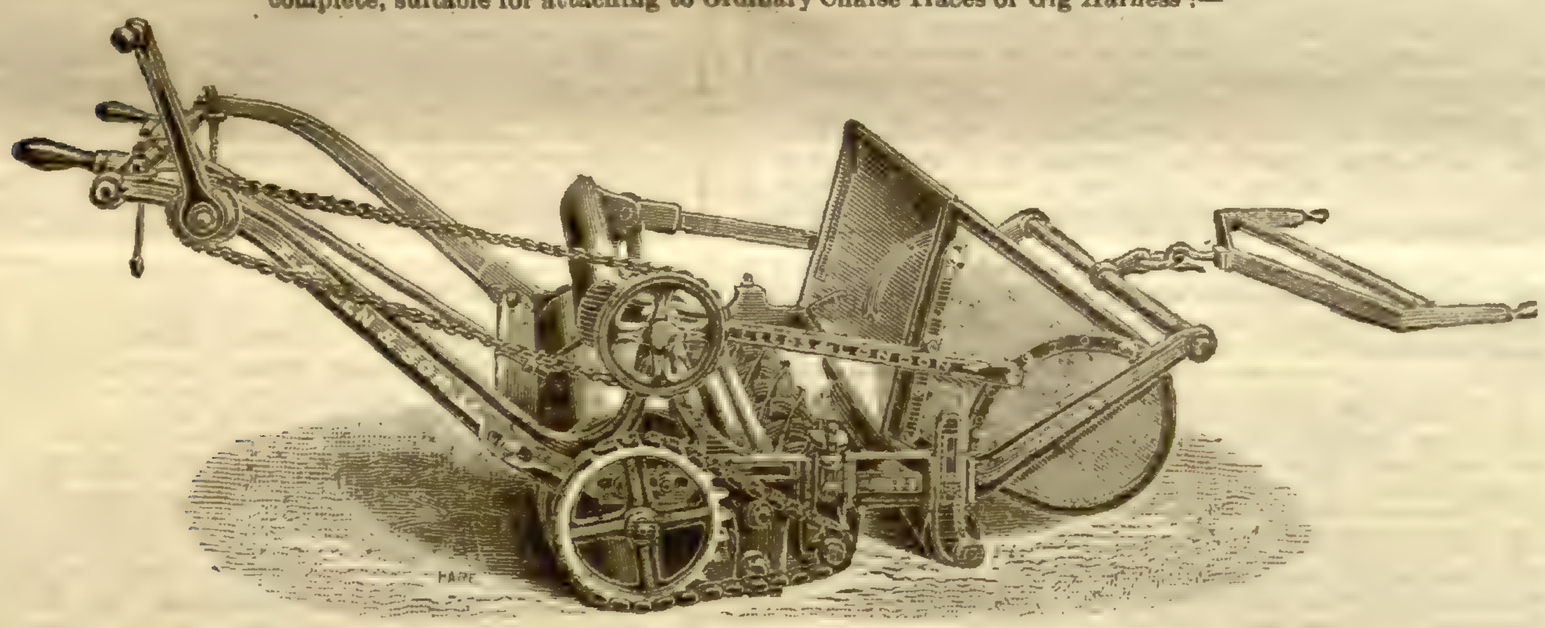

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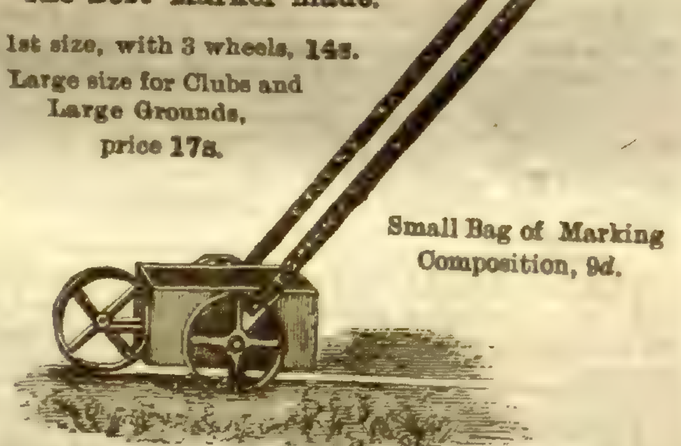

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Dendrobium Aspasia
,, atro-violaceum
,, Burfordense
,, Juno
,, Luna
,, nobile Amesiæ
,, ,, Ballianum
,, ,, Nobilius, fine plant and variety
,, ,, Oweniana
,, ,, Palleus
,, Phalænopsis Schroderæ
,, ,, Th. Pearl
Dendrob. Phalænop. Williamsii
,, Wardianum
,, ,, album
Epidendrums of sorts
Eulophiella Elisabethæ, showing bloom
Lælia anceps, G. D. Owen's variety, A.M.R.H.S.
,, ,, Amesiæ
,, ,, Ballantineanum
,, ,, Dawsoni
,, ,, Schroderæ
,, elegans Turnerii
,, grandis tenebrosa
,, Oweniæ
,, Oweniæ, A.M.R.H.S.
,, præstans alba, F.C.C.R.H.S., the only known plant
,, purpurata
,, ,, Backhouseiana
,, ,, Princess May
Lycaste Skinneri
,, ,, alba
Miltonia Lubbersiana
Odontoglossum album
,, Chestertoni
,, Fowlerianum
,, guttatum
,, Imperator
,, Leopardinum
,, Massarelianum
,, Owenianum, F.C.C.
,, picturatum
,, Rœblingeanum
,, Stevensii
,, Thompsonii
,, Wattianum, Hardy's variety
,, Willsianum
,, Wattsianum
,, Williamsii
,, Wilckeanum
Odontoglossum Pescatorei Lindeniæ
,, ,, Vervættii
Oncidium of sorts
Phaius Cooksoni
,, Oweniæ
,, Owenianus
Sobralia, white
,, xantholeuca

Also the GREENHOUSE and other PLANTS, AZALEAS, CAMELLIAS, a choice assortment of Double and Single BEGONIAS, BEDDING PLANTS, FLOWER-POTS, &c.

The Plants are in the best possible condition, none will be sold privately before the Sale, and the whole will be offered entirely without reserve.

Catalogues may be obtained of Mr. WATTS, the Head Gardener, on the Premises, of Messrs. PARKER, RHODES AND CO., Solicitors, Rotherham; Messrs. W. B. PEAT AND CO., 3, Lothbury, E.C.; and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

"Bown's" Collection of Established Orchids.

ATTRACTIVE SALE of this important COLLECTION of ORCHIDS, by order of W. Bown, Esq., who is giving up their cultivation in consequence of leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Holly Lawn, Beech Lane, Hagley Road, Birmingham, EARLY IN MAY, the above valuable Collection of ESTABLISHED ORCHIDS, comprising in all about 2000 plants, and including a large number of very fine specimens for Exhibition purposes; these having been shown successfully at the Birmingham Spring and Autumn Shows, and also at Wolverhampton, and gained many Prizes and Special Certificates.

The EXHIBITION SPECIMENS comprise:—

Cattleya Mossiæ specimen
,, Skinneri
,, gigas variety
,, labiata
,, Trianæi
,, Mendeli
Dendrobium Dalhousieanum
,, nobile
,, fimbriatum
Epidendrum prismatocarpum
Lælia purpurata alba
,, crispa
,, Perrini
,, anceps
,, ,, Barkerii
Odontoglossum grande
,, Alexandræ

Also

200 ODONTOGLOSSUM ALEXANDRÆ, extra fine plants
50 ,, GRANDE, very fine plants
100 CYPRIPEDIUMS, various

The plants may be viewed any day prior to the Sale.

Catalogues may be obtained of Mr. PALMER, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next.

150 Standard and 400 DWARF ROSES, home-grown and imported LILIES, 70 lots choice STOVE and GREENHOUSE FERNS, PALMS, POT ROSES, CARNATIONS, TIGRIDIAS, ANEMONES, IRIS KÆMPFERI, Double and Single BEGONIAS, Double American TUBEROSES, GLADIOLI, DAHLIAS, SPIRÆAS, CALCEOLARIAS, Extending Wooden Trellis, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, April 22, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Charlesworth & Co. to SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, April 23, at Half-past Twelve o'Clock, the following ORCHIDS:—

DENDROBIUM VELUTINUM (NEW).

This is a handsome Dendrobe, described in the *Kew Bulletin*, No. 98. The flowers are uniformly deep yellow, and the lip velutinous; they somewhat resemble those of D. cariniferum, except in wanting the long spur-like mentum which characterises the section Formosæ.

DENDROBIUM HILDEBRANDII,

An exceptionally fine, well-grown lot, which will flower shortly.

ONCIDIUM KRAMERII,
ODONTOGLOSSUM ROEZLII,
CATTLEYA AUREA,
ODONTOGLOSSUM RAMOSISSIMUM,
LÆLIA TENEBROSA (in Sheath),
MAXILLARIA SANDERIANA,
VANDA TERES ANDERSONII
(from the original plant).
CHOICE CYPRIPEDIUMS (in variety), &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

A CONSIGNMENT OF PALM SEEDS.

comprising—

195,400 KENTIA FOSTERIANA
19,950 ,, BELMOREANA
218,000 ARECA LUTESCENS
6,000 ,, RUBRA
14,000 COCOS WEDDELIANA
1,500 ,, FLEXUOSA
20,000 GRONOMA GRACILIS
2 Bushels ARAUCARIA BIDWILLI
10 lb. BANGLE NUTS
10 lb. SEAFORTHIA ELEGANS
10 lb. CARYOTA SOBOLIFERIA
10 lb. COCOS PLUMOSUS
3 lb. POINCIANA REGIA
2 lb. FICUS MACROPHYLLA
4 lb. ARECA MONOSTACHIA
2 lb. LAGERSTROMIA REGINA
} All this Season's Seeds.

Also

25,000 DWARF PEARL TUBEROSES (in barrels as received)
500 DOUBLE BEGONIAS,
AZALEAS, DRACÆNAS, and PALMS from Belgium,
2,000 SEAKALE,
850 DWARF, 150 HALF-STANDARD, and RED and WHITE MOSS ROSES,
60 Sweet Briars, Hardy Border and Bedding Plants, 60 Double Pyrethrums, 120 hardy scarlet Lobelias, a consignment of rare Lilies from Japan, Tigridias, Dahlias to name, 80 Lots of Gladioli Gandavensis, 200 Carnations, mixed varieties, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

THE NEW YELLOW ARUM LILY, "PENTLANDI."
IMPORTANT CONSIGNMENT of 500 BULBS of this New and Beautiful YELLOW CALLA.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received advices of the despatch of this Valuable Consignment, which they will SELL by AUCTION at their Rooms on WEDNESDAY NEXT, April 24, at 12 o'Clock. The sender writes that he came across them in their flowering season, and thus was able to select the very best and largest-flowered ones. Having collected them himself he states that buyers can put full confidence in what is offered. He calls attention to another painting of it in the *Garden* for November 24

On view morning of Sale, and Catalogues had.

Friday Next.—Choice Established Orchids.

Including

Cœlogyne cristata alba
Cattleya Sanderiana
,, Rex
Epidendrum Wallisii
Lælia anceps Stella
,, elegans Wolstenholmæ (true)
,, ,, alba
,, amanda
Oncidium ornithorhynchum album

Also

Odontoglossums, Dendrobiums, Cattleyas, Cypripediums, and Masdevallias in variety.
Green Tree Frogs, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 26, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MASDEVALLIA CASSIOPE.
HYBRID TRIANGULARIS HARRYANA.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, April 26, four Plants in Flower of the above new and beautiful Hybrid.

On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT SALE OF 6000 ROSES, SHRUBS and PLANTS, &c.

FROM FRANCE.

A Splendid Collection of choice named Dwarf ROSES, including many of the newest and best sorts, from a reliable grower.

FROM GERMANY.

A Grand Collection of over 1000 Standard, Half-Standard, Dwarf, and Climbing ROSES, from a celebrated and trustworthy Dresden Nurseryman, comprising a fine assortment of the newest and best sorts of Hybrids, Perpetuals, Teas, and Noisettes.

FROM HOLLAND.

A Fine Importation of over 4000 Dwarf Roses including about 50 of the leading sorts; CLIMBING and TEA ROSES; a Collection of small, beautifully-grown ORNAMENTAL SHRUBS, in table for Indoor or Outdoor cultivation; various FRUIT TREES, &c.

Also—

A Large and Varied Collection of Border Plants, including many rarities and novelties; an assortment of ORNAMENTAL PALMS, LILIUM AURATUM from Japan, POT ROSES, rare BULBS and ROOTS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 24, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

To Poultry Breeders and Farmers.—Hutton Poultry FARM, about 2 miles from Hutton & Shenfield Junction Railway Station on the Great Eastern Line.

MESSRS. THORNE AND SON have received instructions to SELL by AUCTION, on the Premises, Hutton Poultry Farm, on MONDAY NEXT, April 22, 1895, at 12 o'Clock, in consequence of the owner leaving the occupation, about 100 HEAD of LANGSHAN, ORPINGTON, PLYMOUTH ROCKS, MINORCAS, Brown and White LEGHORNS, HOUDANS, GOLDEN WYANDOTTES, &c.; FOWL-HOUSES, ERECTIONS of SHEDS, a large quantity of WIRE-NETTING, INCUBATORS, GARDEN TOOLS, and other Effects.

The Premises to be LET from May 9 to Michaelmas next.

May be viewed the morning of Sale, and Catalogues obtained on the Premises, the principal Inns in the neighbourhood; and of the Auctioneers, Brentwood and Grays, Essex.

WANTED to RENT, 500 or 600 feet run of GLASS, suitable for Cucumber and Tomato-growing, must be modern-built and near Station, with small or no stock.—Particulars to J. P., 5, Southwood Cottages, New Eltham, Kent.

COMPACT High-class General SEED and BULB BUSINESS for SALE. Retail doing in all Sundries. Shop in grand position, in large fashionable town.—Particulars of J. L., 41, Wellington Street Strand, W.C.

To Horticulturists.

1 mile from a station, L.C. & D.R. About 15 miles from London.

TO BE SOLD, a COMPACT BUSINESS, 3 acres, Freehold, small Residence, and 15 well-stocked Glass-houses, in full working order. Price, £2,400.

Apply to HODSOLL, Farningham, Kent.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

FREEHOLD PLOT of LAND for SALE, about 3 acres, situate between Wood Green and Tottenham, within seven or eight miles of Covent Garden and Spitalfields. Specially suitable for the erection of Glasshouses, being compact and well away from roads. Apply to—

OWNER, 208, Old Street, E.C.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

TO BE LET, or SOLD.—A most desirable FREEHOLD NURSERY, known as The Vineries, Catford, comprising Four Glasshouses, with a total length of 600 feet, with all necessary heating appliances, in thorough working order; with a good Residence; close to two railway stations.—J. CHAMBERS, 126, Catford Hill, S.E.

To Nurserymen and Florists.

TO BE LET, GARDEN GROUND, with Vinery and Greenhouses, in N.W. district.

Apply to Messrs. HIGGINS AND SON, Auctioneers and Estate Agents, 12, Finchley Road, N.W.

TO LET, 2 acres of well-stocked GA and ORCHARD, with about 2000 feet of Glass, a mile of Market Town, and ½-mile of Station. (12 rooms) or a Cottage (5 rooms) can be taken wi Good opportunity for Market Gardeners.

Apply, W. E. DOLBY, Accountant, Oundle.

TO BE LET, with Immediate Possess NEW GARDENS at GREAT TEW PARK 7 miles from Heyford Station, G.W.R., and 6 from Norton. Walled in. Excellent Stock of Trees; House, Vineries, &c.—Apply to Messrs. FRANKL Agents, Ascott, near Wallingford Berks.

NURSERY TO LET (with or without about 1 acre; large Glass-houses, 112 feet by repainted, &c.; soft-water supply. Rent low; no ALFRED RICHARDS, Estate Agent, Tottenha

THE SOCIETY of APOTHECARIES of LONDON give notice that a Course of TWELVE LECTURES on BOTANY will be delivered by J. G. BAKER, F.R.S., F.L.S., at their Garden at Chelsea, on the SATURDAYS of MAY, JUNE, and JULY NEXT, at 3 P.M. The Lectures will be open to all Medical Students and other Gentlemen being desirous to attend. Tickets of admission to be obtained of the Bedell.

J. R. UPTON, Clerk to the Society.

Apothecaries Hall, E.C., 1895.

MIDDLESEX.—TO LET, in best part of Market Garden District, 15 miles from London, 1½ mile main line station, 160 Acres (50 of which are old pasture), with 10-room well-built House, and commodious Buildings. Suitable for Market Garden and Dairy-farm combined.

For particulars, apply to MACKRELL AND WARD, 1, Walbrook, E.C.

SUMMER-HOUSE.—Superior, portable, the only one. Sell at less than any Store or Maker in London. Distance no matter.—E. M., care of Camplin, 150, Church Street, Stoke Newington.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

TOMATO PLANTS.—Webb's Regina, strong plants, 10*s.* per 100, cash with order.

QUERTIER, Ashford Vineries, Fordingbridge.

ORCHIDS.—Small Collection (73) for Disposal. For particulars, apply to—

BETA, Messrs. Charles Barker & Sons, 8, Birchin Lane, E.C.

ECHEVERIA SECUNDA GLAUCA.—Perfect condition. What offers per 100 or 1000?

Gardens, Sutton Court, near Hereford.

LOBELIAS, EMPEROR WILLIAM.—A quantity of very strong Plants or Cuttings for Sale, cheap; or EXCHANGE for Fuchsias, Chrysanthemums, &c.

M. AUSTEN, Market Heath, Brenchley, Kent.

CABBAGE PLANTS for Sale.—This year's plants, grown under glass, 1*s.* per 100; 8*s.* per 1000. Special prices for large quantities. 100, post free, 1*s.* 6*d.*

H. HAYWARD, The Gardens, Shirley, Southampton.

CHRYSANTHEMUMS.—Well-rooted Cuttings:—Source d'Or, Peter the Great, Princess Teck, Ethel, Félicité, Madame Lacroix, and Elaine, 3*s.* 6*d.* per 100. Cuttings of the above, 2*s.* per 100; all free for Cash.

BARNARD, Florist, Southgate, N.

DICKSONS EVERGREEN
LAWN GRASSES.

Delivered free by Rail or Parcel Post.

The Selections we offer are composed exclusively of the dwarfest-growing and finest-leaved Grasses, and form in a very short space of time a beautiful velvety turf of the finest texture and colour.

"The Bowling Green here, which was prepared last October, and sown with your *Lawn Seed* last April, was opened on Saturday, July 7th, and it gives me much pleasure to inform you that the turf and growth of seed far exceeded the expectations of the members of the Bowling Club. I have no hesitation in stating that sowing seed is far preferable to turfing new ground."—P. WILSON JONES, Esq., Newtown.

"I never saw any *Lawn Grass Seeds* do so well as the mixture I had from you without Rye-grass. The result from this was most satisfactory."—Mr. GEORGE DEAN, Idlerocks.

Extra Select Mixed Dwarf Evergreen Lawn Grass, *entirely omitting Rye-Grass.*

Per lb., 1s. 6d. Per cwt., 160s.

Extra Select Mixed Dwarf Evergreen Lawn Grass, *including a small proportion of Dwarf Perennial Rye-Grass.*

Per lb, 1s. 3d. Per cwt., 135s.

DICKSONS Seed Growers, Nurserymen, &c. **CHESTER.**

TEA ROSES in POTS.—Leading varieties, in 24's, 30*s.*; 16's, 42*s.*; 12's, 48*s.* per doz.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

PHŒNIX RUPICOLA.—10,000 of this graceful Palm for sale, in 60's, 9 to 12 inches, 20*s.* per 100; 170*s.* per 1000.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

IMANTOPHYLLUM MINIATUM.—Grand for Cut Bloom and Furnishing. Surplus Stock for sale, cheap, in 32's, 24's, and 16's.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

JAPANESE ORNAMENTAL-LEAVED ACERS.—Large consignment of these fine decorative Acers, just to hand, in good condition. Twenty varieties to select from, 3 to 4 feet, 18*s.* per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Strawberries and Raspberries.

H. CANNELL & SONS have all the best new and old sorts in great quantities, in the very finest condition, and at very low prices; orders solicited.

SWANLEY, KENT.

LARGE and SPECIMEN HOLLIES Gold, Queen, and others, uninjured by the frost. Now is the time to plant.

PAUL AND SONS, The Old Nurseries, Cheshunt; and at High Beech, Epping Forest.

GARDENIA INTERMEDIA.—Fine Plants, 2½ to 3 feet, loaded with buds, and free from mealy-bug. A fine Stock to offer. Grown hard.

EDWARD SAWYER, Hyde Nursery, Lower Edmonton.

NOW IS THE TIME to PLANT VIOLETS.—Any amount of Marie Louise, White Neapolitan, Stock plants, 10*s.* per 100. Put on Rail for Cash.

F. SIMMONDS, Mamhead Park, near Exeter.

CHRYSANTHEMUMS.—Madame Desgranges, good plants, 4*s.*; W. H. Lincoln, plants, 6*s.*, cuttings, 4*s.* All per 100. Cash with order.

JENKINS, Florist, Hampton Hill, Middlesex.

GRAPE VINES.—Leading kinds, in stout fruiting and strong planting Canes. List free.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

WINTER-FLOWERING CARNATIONS for Market Growers.—La Neige, pure white, remarkably free, 3*s.* per dozen, 10*s.* per 100, £4 10*s.* per 1000. William Scott, fine cerise-pink, very profitable and free-flowering, 5*s.* per dozen, 30*s.* per 100. Duke of York (May), largest crimson, grand for winter work, 6*s.* per dozen. Uriah Pike, fine deep crimson, 5*s.* per dozen, 32*s.* 6*d.* per 100. Miss Joliffe Improved, fine flesh-pink, 12*s.* per 100. All well-rooted stuff, fit for 3-inch pots. Cash with order.

CRANE AND CLARKE, The Nurseries, March, Cambs.

BOUVARDIAS.—Best Market varieties; Vreelandii, Mrs. R. Green, P. Cleveland, &c., our selection in eight or ten sorts, 2*s.* 6*d.* per doz., 12*s.* 6*d.* per 100. Well-rooted stuff fit for 60's. Cash with Order.

CRANE AND CLARKE, The Nurseries, March, Cambs.

5,000 CHRYSANTHEMUMS.—Cheap, to clear. Best Market Varieties, Princess Teck, Boule de Neige, Elaine, Mrs. Norman Davies, Fair Maid of Guernsey, Cullingfordii, Mrs. H. Cannell; well rooted, 6*s.* 6*d.* per 100.

3,000 TOMATO PLANTS.—Splendid stuff.—Challenger, Empress of India, 8*s.* per 100.

JAMES GREEN, Reliance Nurseries, March.

LILIUM AURATUM (Special Offer to Clear).—Immense Bulbs, in splendid condition, 5*s.* per doz.; usual price, 10*s.* Cash with Order.

BONNETT, Importer, Heathfield, Sussex.

FOR SALE.—ROSES, Standards, ½-Standards, and Bush; FRUIT TREES, best sorts; FOREST TREES, large stock; SHRUBS, various. All kinds of ROOTS, such as Violets, Daisies, Delphiniums, Phloxes, &c. RASPBERRY CANES, 10*s.* per 100; STRAWBERRIES, extra, 2*s.* 6*d.* Gardens Laid Out and Furnished Complete.—W. CORNWALL, Cambridge Nursery, Beulah Hill, Upper Norwood, S.E.

GERANIUM CUTTINGS, strong rooted. Raspail, 6*s.* per 100, or 55*s.* per 1000; Jacoby, 6*s.* 6*d.* per 100.

CHRYSANTHEMUM CUTTINGS, strong rooted, Elaine, Source d'Or, President Hyde, 6*s.* per 100, or 55*s.* per 1000.

TOMATO PLANTS, out of 60-pots, Trophy, and Old Red, 8*s.* per 100. Cash with order.

P. BOULTON, Beechenlea Nursery, Swanley.

To the Trade.

MANGEL-WURZEL and TURNIP SEEDS.

H. & F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of HOME-GROWN MANGEL-WURZEL and TURNIP SEEDS of 1894 growth, and raised from the finest-selected Stocks and transplanted Bulbs. Their prices will be found very advantageous to purchasers.

SEED-GROWING ESTABLISHMENT, WISBECH.

PALMS, FICUS, FERNS, &c., in any quantity.—Palms, mixed, 3*s.*, 6*s.*, 12*s.*, 15*s.*, and 18*s.* per doz.; Ficus elastica, 12*s.*, 15*s.*, 18*s*, and 24*s.* per doz.; Adiantum cuneatum, 2*s.*, 6*s.*, 9*s.*, and 12*s.* per doz.; Pteris, various, 2*s.*, 5*s.*, 6*s.*, and 9*s.* per doz.; Aralia Sieboldi, 2*s.*, 6*s.*, 9*s*, and 12*s.* per doz.; Aspidistras, 24*s.*, 30*s.*, and 36*s.* per doz.; Cyperus Grass, 2*s.*, 6*s.*, and 9*s.* per doz.; Auriculas, mixed, 2*s.* and 4*s.* per doz.; Heaths, Cyclamen, Genistas, Deutzias, Marguerites, Spiræas, &c., 12*s*, 15*s.*, and 18*s.* per doz. Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

BARR'S SEEDS.—UNEQUALLED. VEGETABLE SEEDS, the best sorts only. Much valuable information in our CATALOGUE, FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—General Descriptive Catalogue of the best Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. Also Descriptive Catalogue of special collections not detailed in our general catalogue. FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

EXHIBITIONS.

NEWCASTLE-ON-TYNE GREAT SPRING FLOWER SHOW, WEDNESDAY AND THURSDAY, April 24 and 25, 1895. Entries close April 19. For Schedules, apply to—

Cross House Chambers. J. J. GILLESPIE, JUNR.

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK, SPRING FLOWER SHOW.

The SECOND EXHIBITION of SPRING FLOWERS will take place on WEDNESDAY NEXT, April 24. Gates open at Two o'Clock. The Band of the Royal Horse Guards (by kind permission of Col. Brocklehurst), will play from 2.30 to 5.30.

Tickets to be obtained at the Gardens, or of the principal agents, 2*s.* 6*d.* each.

BEAUTIFUL IRISES FROM JAPAN.—CLEMATIS-FLOWERED IRISES, flowers large, and of great beauty, per dozen, 7*s.* 6*d.* Sent, carriage paid, on recept of remittance.

BARR AND SON, 12, King Street, Covent Garden, W.C.

JACK FROST

Has caused many losses that can be made good in an easy and cheap manner by purchasing the following Bulbs and Plants, which I can strongly recommend as being first-class:—

BEGONIAS (Single).—20,000 grand bulbs, mixed colours, finest ever offered at the price, 3*s.* per dozen.

PELARGONIUMS (Show and Decorative).—Fine plants, in best kinds, 6*s.*, 9*s.*, and 12*s.* per dozen.

ZONAL PELARGONIUMS.—Best kind only, 6 for 2*s.* 6*d.*, 12 for 4*s.*

IVY-LEAF PELARGONIUMS.—A very choice lot, 6 for 2*s.* 6*d.*, 12 for 4*s.*

DOUBLE PETUNIAS.—Extra fine new kinds, 6 for 3*s.* 6*d.*, 12 for 6*s.* *Send for CATALOGUE, free.*

H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S.,

FERN NURSERIES, SALE, near MANCHESTER.

THE GREATEST FLORAL TRIUMPH
OF THE AGE.

ECKFORD'S SWEET PEAS.

"BLANCHE PURPEE," the New Giant White, is indisputably the QUEEN OF WHITE SWEET PEAS.

Sealed Packets 1/-, post-free.

Send for Descriptive Catalogue and Cultural Notes, free from—

HENRY ECKFORD, WEM, SHROPSHIRE.

STRAWBERRIES.

All the leading varieties, new or old, in small pots for fruiting first year. Open-air plants, very cheap. Special low quotations for quantities for Market Growing.

FRUIT TREES
OF ALL SORTS. SEND FOR LISTS.

JOHN WATKINS,
POMONA FARM NURSERIES, WITHINGTON, HEREFORD

FERNS!—FERNS!!

Well-grown Stuff, at Moderate Prices.

40,000 Small Ferns—Pteris cristata, cretica, and tremula, in 2½-inch pots, at 9*s.* per 100, 87*s.* 6*d.* per 1000.

A large quantity in 48's—Pteris cristata, cretica, and nobilis at 4*s.* 6*d.* per dozen, 34*s.* per 100.

The above prices are for Cash with Order only. All Orders carefully and promptly executed.

B. PRIMROSE,
NURSERIES, ST. JOHN'S PARK, BLACKHEATH, S.E.

RHODODENDRONS.

Best SCARLET and WHITE KINDS to name. Large bushes, 24*s*., 30*s*., and 36*s*. per dozen.
PONTICA, 30*s*., 40*s*., and 50*s*. per 100.
F. STREET, Heatherside Nurseries, Camberley, Surrey.

CHEALS' Celebrated DAHLIAS

WORLD-WIDE RENOWN · STRIKING NOVELTIES
NEW CATALOGUE POST FREE
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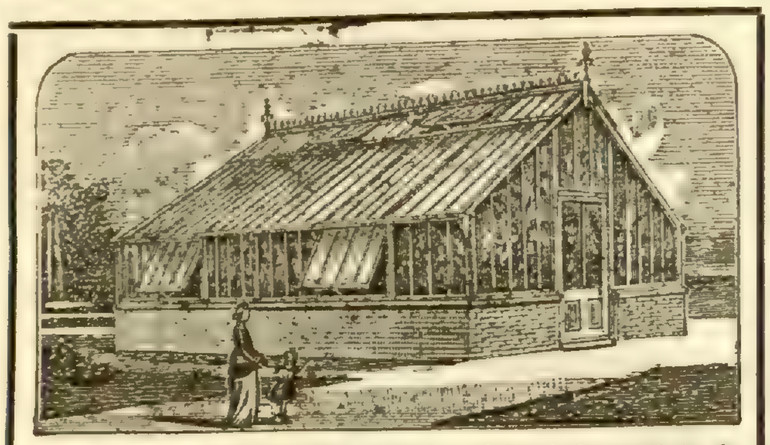

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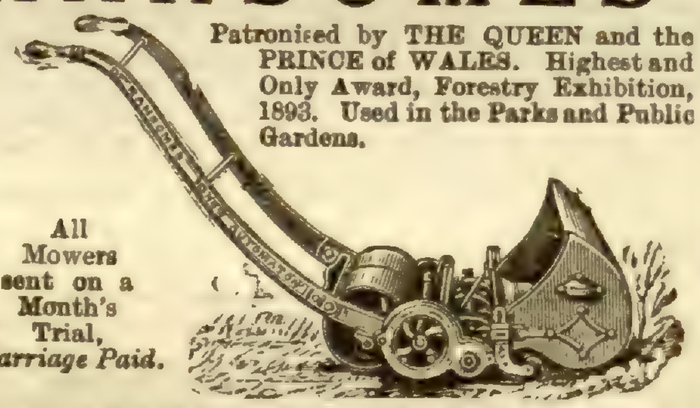

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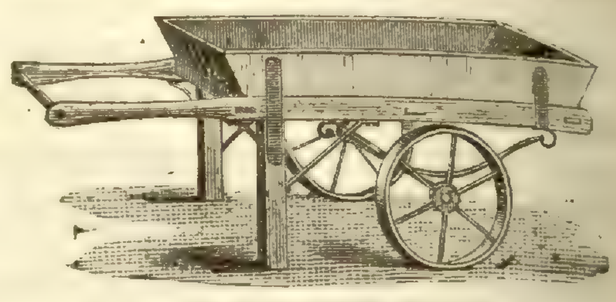

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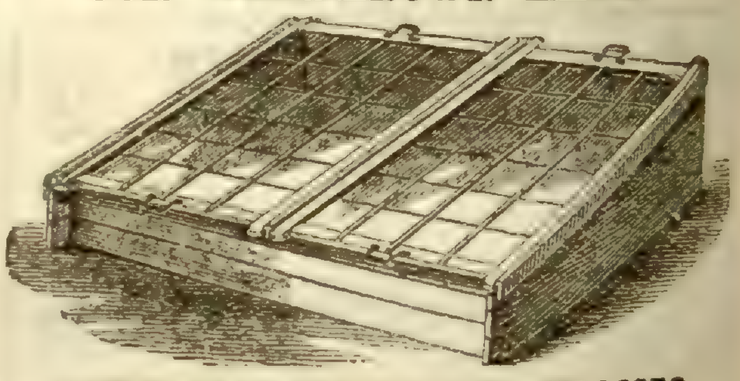

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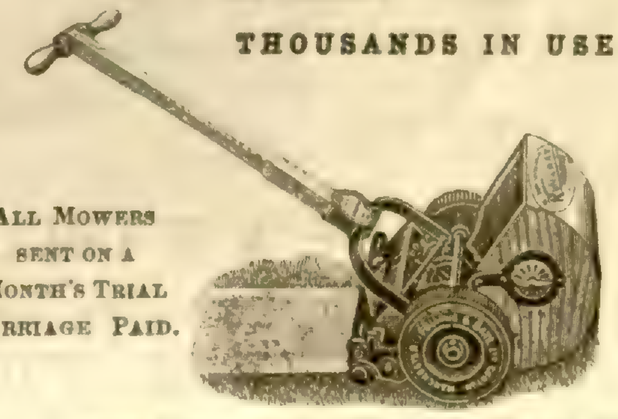

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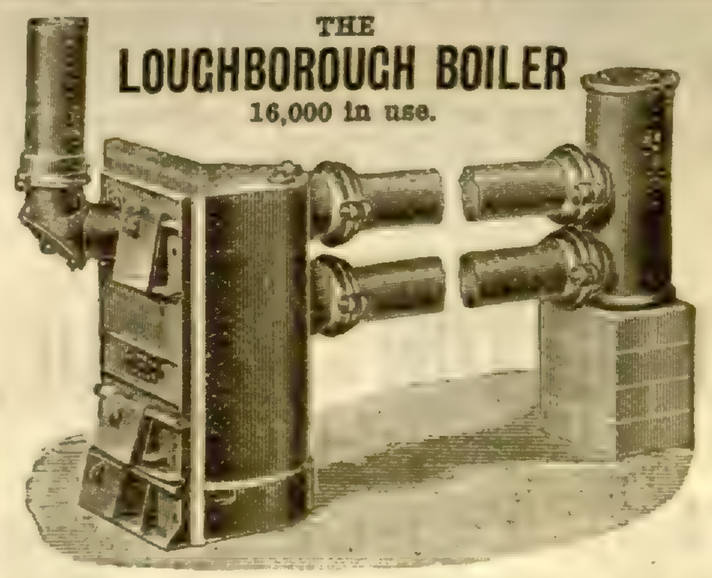

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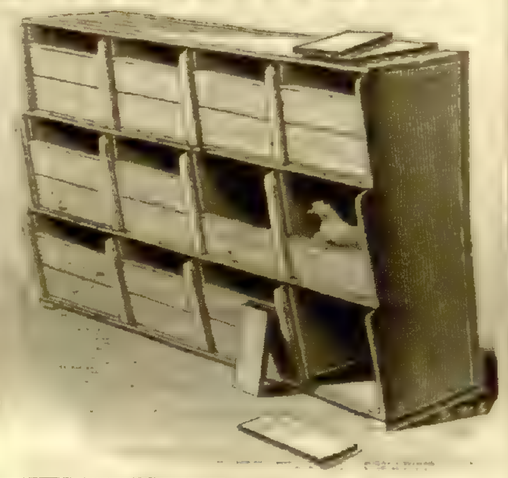

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THE

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SATURDAY, APRIL 20, 1895.

MARKET GARDENS.

IN 1875 there were, according to the *Journal of the Board of Agriculture*, from which we take the following details, 38,957 acres of market gardens in Great Britain, whilst in 1894 there were no fewer than 88,210 acres, exclusive of vegetable crops on farms. In 1893 market gardeners suffered from drought, in 1894 from spring frosts and rain, so that on the whole it is stated to have been the worst season that market gardeners have experienced for many years. The farmers have of late years competed keenly with market gardeners in the cultivation of Greens and Cabbages, with which they can feed their stock in case of a glut in the market.

Foreign competition has made itself felt in respect of early vegetables and salads, which are imported some weeks before those grown in England are ready for market. "Early Turnips, Carrots, Peas, and French Beans from France, the Canary Islands, Madeira, and Algeria, arrive long before English market-gardeners can supply these vegetables, and when their own expensive crops are ready, the fancy prices have passed into foreigners' pockets, and as market-gardeners say, 'the edge of the appetite for this early produce has been taken off.' The same applies to salads, notably to Lettuces, which are imported in large quantities from France and the Canary Islands as early as January, months before English market-gardeners can send them into market. This importation continues until June, when the demand for young crisp Lettuces has been satisfied. A few years ago, Cucumbers yielded considerable profits to home-growers; but now they are imported so early and so largely from Holland, and are usually so plentiful and cheap, that many market-gardeners in Great Britain have ceased to grow them. Radishes, another very profitable crop in past years, are sent in quantities from February to April from Paris, St. Malo, and the Channel Islands, completely forestalling English produce. Very large importations are made from Holland of Beetroot and Red Cabbage for pickling, which, until recently, were profitably cultivated in England.

But it is in the case of Onions that there has latterly been the most extraordinary increase in importation. Onions were regarded as an almost safe-paying crop if the weather were favourable, but in the last two years prices have been so forced down by foreign competition, that in many years, especially in 1894, the growers have lost heavily. In some instances, it was impossible to dispose of Onions in the last season.

In 1875, 169,456 bushels of Onions, valued at £321,316, were imported into Great Britain, mainly from Holland, Belgium, France, and Portugal—Holland being by far the largest exporting country. The amount of this importation in 1884 was 3,474,746 bushels, valued at £481,427, from Germany, Holland (which sent 1,481,543 bushels), Belgium, France, Portugal, Spain, Italy, and Egypt. In 1894, no less

than 5,288,512 bushels of Onions, of the value of £765,049, came from abroad.

It is noteworthy that the imports of Onions from Holland have considerably decreased since 1885, but those from Germany, France, and Spain have much increased. The receipts of Onions from Egypt have more than quadrupled in the past decade.

Potatos, again, were formerly important sources of profit to British market-gardeners. Early and quick-growing varieties were put in and dug early to supply the demand for new Potatos, and other crops were got in and taken off during the autumn. Importations of very early Potatos from Algeria, France, Lisbon, Malta, Teneriffe, and Holland interfere much with English growers of Potatos, and threaten to interfere with Potato-growers in the Channel Islands, whose Potatos are not ready in any quantity until the first week in May. The arrivals of new Potatos commence about Christmas time, and continue in increasing quantities until the Channel Islands season begins. The average importation of Potatos for the first six months of the last three years from France, Lisbon, Canary Islands, Malta, the Channel Islands, and other countries was 1,764,258 *cwts.*, of an average value of £710,586.

The importation of Potatos from the Channel Islands begins in May and continues until August. The average quantity of Potatos imported from this source for the four months—May, June, July, August—of the last three years was 1,171,216 cwts., of an average value of £521,141 for each of the three periods.

The average annual importation of Potatos of the last three years from all parts of the world to this country amounted to 2,846,754 cwts., of an average value of £962,458.

The volume of imported Potatos has, however, decreased considerably during the past quarter of a century, and the character of the trade has changed in a great and significant degree. For the three years ending 1875, the average annual importation of Potatos was 5,363,136 cwts. For the three years ending 1885, the annual average importation was 3,297,867 cwts. Since 1880, some of the large importing countries which formerly sent Potatos in the late summer and autumn have greatly diminished their supplies, as they could not compete with the English main crop produce. But from the Canary Islands, the Azores, Malta, Spain, and the south of France, and other sources, steady supplies of new Potatos have been sent.

Besides the new Potatos and Onions imported, large quantities of raw, unenumerated vegetables, such as Peas, French Beans, Lettuce, and other "salads," Cauliflowers, Spinach, Beetroot, Radishes, Turnips, and Cucumbers are sent from Denmark, Germany, Holland, France, Portugal, Madeira, Spain, Canary Isles, Italy, Austrian Territories, Roumania, United States, and other countries. The average annual value of these imported vegetables during the past three years was £1,027,411. In 1885, the value of these raw vegetables was £467,287, while in 1875, it was only £132 124, divided mainly between Holland, France, and Germany.

This importation of raw vegetables is spread fairly evenly over each month in the year, though it is somewhat larger in June, July, and August. It interferes materially with the prices of *primeurs* in the early spring months, and it is from *primeurs* and delicate vegetables and salads that market-gardeners have hitherto made their chief gains. Some profit is still made from young "bunching" Onions in May and June, as Onions are not imported in this form. These are now, however, produced by farmers who, as a market-gardener remarked lately, 'are driven into it, and look over the hedge and try to imitate their neighbours.' Until a few years ago, Celery was a very paying crop, realising gross returns of £40 to £70 per acre, when it was grown by comparatively few *bonâ fide* market-gardeners. Now it is grown by farmers, and upon sewage farms, so that prices have fallen, and in some seasons the markets are over-supplied. Large quantities of Celery are now grown in Yorkshire and Lincolnshire. In some districts, Asparagus was formerly produced with considerable profit to the growers, especially for the first fortnight or so of the season, but the importation of Asparagus from Toulouse, Dijon, Paris, and parts of Spain, which begins in January and continues until about the time when English Asparagus is ready, has in recent years rendered this crop less profitable.

The high rents of market-garden land near London, in Middlesex, Essex, Kent, and Surrey, as well as the dearness and scarcity of labour, also handicap the industry. This applies to all market-gardens near large centres of population where the labourers can get good wages in various other employments. Near London and other cities, women, whose labour is most useful in some of the processes of cultivation and after-management of vegetables, are becoming more and more disinclined to work on the land. In the production of such crops as Onions, Carrots, Celery, and Lettuce, a great deal of labour is absolutely essential, not only for their cultivation, but also for preparing them for market, and in this respect farmers in many localities would have a considerable advantage. Market gardeners in the vicinity of London and other populous places are able to cart their vegetables to market in their own conveyances. Farmers who live near railways communicating directly with markets, are able to consign large quantities of vegetables at fairly reasonable rates, though they and market gardeners complain of the rates charged for small consignments of their produce.

Technical knowledge is necessary in the production of vegetables. Some market gardeners are particularly clever, energetic, and hardworking, always on the look-out for some new 'idea,' and many of them, from their connection with salesmen and their propinquity to towns, are in close touch with the vegetable markets, and are well and regularly posted up as to supply and demand. In these respects, they have a certain advantage over farmers, who do not, as a rule, care about small details, and would not have such opportunities of getting information as to immediate and prospective market wants. But where technical knowledge may be easily obtained, as well as reliable and continuous information concerning the state of markets, and it will pay to grow vegetables, farmers will no doubt adapt themselves to circumstances rendered necessary by the exigencies of the times.

There appears to be some opening for the further cultivation of Tomatos under glass. It would seem to be generally admitted that the climate of this country is too uncertain to permit of their successful cultivation in the open. A large and increasing business is carried on in the Channel Islands in growing Tomatos, in cheaply-built glasshouses, for the English markets. The cultivation of this vegetable is simple and profitable, and in view of the increasing demand, it may be worthy of the attention of British farmers.

Market-gardeners have done best who grow fruit and vegetables together, in localities distant from London, and near railways communicating readily with Manchester and Birmingham, as well as the metropolis. Flowers and Tomatos are also grown occasionally, as well as herbs and salads, so that there is almost always something to send to market. In some of these favoured districts, as Pershore and Evesham, for example, there has been a large increase in the acreage of market-garden land, and the demand for, and the price of suitable land have increased. But even here, there has been a marked falling-off in the profits in the past two years, and the cultivators are somewhat discouraged, and are re-arranging their rotations to suit the altered conditions.

For early-forced fruit and vegetables, we may add, cultivation in heated glasshouses puts us more on an equality with the foreigner, whilst no doubt the use of the electric light will in the future render essential help. It is already in profitable use in America, but we in the old country are always very slow in our methods.

New or Noteworthy Plants.

Amorphophallus glabra, *Bailey*.*

This Aroid is now flowering at Kew for the first time in Europe, having been received in 1893 from Mr. Bailey of Brisbane. There is nothing remarkable in its appearance, as it bears some resemblance to A. variabilis, except that the spadix is shorter than the spathe; but it possesses one quality that distinguishes it from all the other species of the genus so far as known to me, and that is, its pleasant fragrance—for if there is one thing more than another that we are accustomed to associate with the species of Amorphophallus, it is their vile odour! A. glabra, however, is very pleasantly scented, something like that of a Pine-apple, or, to my sense of smell, the odour is very similar to that of the pink sweets sold under the name of "pear-drops."

The peduncle is over a foot in height, moderately stout, and with the usual snake-like mottlings. The spathe is about 6 inches long, and about 1½ inch in diameter, being rather closely rolled around the spadix in the tubular part, which is about half as long as the erect lanceolate limb; the outside is mottled with brown spots on a light olive-green ground; the inside is whitish. The spadix is much shorter than the spathe, and has a cylindric appendage of a sulphur-yellow colour, covered with minute blackish dots. The leaf has not yet appeared. It is a native of Queensland and North Australia. *N. E. Brown.*

Dendrobium amboinense, *Hook.*, *Bot. Mag.* t. 4937.

Equally interesting as though it were a new species, is this remarkable re-introduced plant. The Orchid world is indebted to Messrs. F. Sander & Co., St. Albans, for the feat; and in their nurseries a plant of it is flowering at the present time. It was found by a collector in the employ of the firm on an island in the Banda Sea, and was sent to this country, where it arrived in a living condition. Its habit of growth is like that of D. Johnsoniæ, but the pseudobulbs are slender at the base. The flowers are borne in pairs, and have white sepals and petals, which are 3 inches long, and curve downward. The lip is of remarkable form, with rounded side lobes, and the middle one subulate; in colour of a dark yellow tint, with a few reddish markings. The plant was first discovered by Henshall nearly forty years ago, and living plants came to this country, but the flue-heated Orchid-houses of that day soon killed them. There is every reason to believe that, with our present accommodation, the plant will prove a free grower and flowerer, and a great favourite. *J. O'B.*

Orchid Notes and Gleanings.

The Vagaries of Cross-bred Cypripediums.

It is very difficult to say what freaks may not be observed in the flowers even of the same plants of a cross-bred Cypripedium. This fact is being frequently brought before us. One of the most singular freaks is exhibited by two flowers of Selenipedium × pulchellum (× grande × Sedeni candidulum) sent by Mr. Wm. Hutchinson, gardener to W. H. Lumsden, Esq., of Balmedie, Aberdeen. The one is of the ordinary form, which in the shape and rose-tinted hue of the flowers approaches S. × leucorrhodum very closely; the other is altogether different in form, and has a strong likeness to S. × macrochilum, and with a similarly curved-forward pouch; but the colour of the flower is cream-white, with the exception of the tips of the petals, which are tinted with pale lilac. In the ordinary flower there is strong evidence of S. × Sedeni, and small trace of S. caudatum, which would come through

* *Amorphophallus glabra*, Bailey, in *Bulletin No. 20* (*Botany Bulletin No. 7*), of the Queensland Department of Agriculture, 1893, p. 68; Brachyspatha variabilis, Bentham, *Flora Australiensis*, v. 7, p. 154, not of Schott.

one of the parents—S. × grande. In the white abnormal flower taken from the same plant, S. caudatum appears in a marked degree, and the S. × Sedeni is in every detail of the flower almost entirely suppressed.

Dendrobium nobile Varieties.

It is often asserted that the true D. nobile nobilius will never be surpassed, and beautiful enough it is in all conscience, but "never is a long day," and some of the recent importations have produced some surprising things, which, when well established with us, will be dangerous rivals to it. A flower of a very beautiful variety, sent by Messrs. Hurst & Son, Burbage Nurseries, near Hinckley, is even more richly coloured than D. nobile nobilius, a violet shade suffusing the rose-purple of its sepals and petals and the tip of the labellum. The flower has broad petals, and is even better, from a florist's point of view, than is D. n. nobilius; but Messrs. Hursts' flower is not so large, a circumstance which may be accounted for by the fact that it comes from "a very weakly pseudobulb." A flower of another beautiful variety, with white sepals and petals, having a decided yellow tint over them, and tipped with rose, the base of the labellum being maroon, comes from the same firm. Both are very beautiful, but so dissimilar that they might be mistaken for distinct species.

ALOCASIA THIBAUTIANA,

(*Masters*).

Originally described in the *Gardeners' Chronicle*, April 27, 1878, from a plant received from Borneo by Messrs. James Veitch & Sons of Chelsea; this fine Alocasia has been in cultivation for a considerable time, and yet it is not at the present day to be found in many gardens. The beauty of its bright green leaves of various shades, with their delicate silver veining, constitutes it the handsomest of its section, and one of the most ornamental of stove plants. But as stove plants all this section of Alocasias must be treated, for, given plenty of heat and moisture during the time they are growing, and a brief rest, with a restricted amount of water, but still kept in a warm house after the foliage has matured, they are not difficult to manage. It is probably due to their being placed in too cool a house during the resting season that they so often perish, and are consequently always scarce. The illustration (fig. 68) is from a photograph by Miss Armstrong, of Dublin.

Fig 68.—Alocasia thibautiana (masters).

SOUTH LODGE, HORSHAM.

In but few gardens in the British Isles, and probably in none outside them, does there exist such a wide range of beautiful and interesting subjects as F. Du Cane Godman, Esq., by his love of plants, his taste in selecting the best, and his liberality in securing the rarest, has brought together at South Lodge. At the present time our notes treat of Orchids and a few other things observed in bloom at the time of a recent visit. But soon the beauties of the large and pretty rock-garden, in which flowers are getting abundant, will rival the inmates of the plant-houses in beauty; and the lofty winter garden, filled with giant specimens of Indian Rhododendrons and their hybrids, already exhibiting many hundreds of large trusses of

delightfully-fragrant flowers, would be considered by many to be of the greatest importance. There the great trees of Rhododendron Nuttalli, R. Gibsoni, R. fragrantissimum, R. Edgworthii, R. Dalhousiæ, R. Countess of Haddington, R. aureum and its variety glaucum, and others of that class, display their charming trusses, and D. arboreum and its hybrids give brilliant colour; while on the roof are intermingled the flower-sprays of Edwardsia grandiflora, Clianthus puniceus, Acacia Riceana, the scarlet and yellow Manettia bicolor, and other showy and interesting things of the same class, other parts of the house being rendered gay with masses of Indian Azaleas, A. mollis, Tree Pæonies, &c.

To a lover of plants, the South Lodge gardens are of the highest interest, by reason of the many rare things to be seen there in strong examples or in good quantity. Thus, in the Rose-house, and in which are some fine Anthuriums, we find brilliant plants of Scutellaria Mocciniana; in one of the lobbies a beautiful example of Cantua dependens. In a house in which are a splendidly fruited lot of pot Vines, Ochna multiflora, with its singular red and black trusses; in the pretty conservatory Bomarea Carderi and other species; in one of the cold frames a quantity of Tecophylæa cyanocrocus covered with their dazzling blue flowers; and in one of the quarters hundreds of plants of the highland Indian Primula rosea, thickly set with carmine flowers. Outside one of the warm houses, and close under the wall, so as to be benefited by the trifling amount of heat that reaches it from inside, is planted a remarkable lot of bulbous plants, such as are usually considered inmates of the greenhouse and stove, and yet they thrive, as managed here outdoors, flower well, and have been unharmed even by the late severe winter. Among them we noted a large clump of Hæmanthus natalensis, with very stout growths, some 6 inches high; Nerine sarniensis, Zephyranthes carinata, various species of Phædranassa, Eucomis, Hymenocallis, some strong bulbs of the fine old scarlet Amaryllis Ackermanni, Crinums, and other Amaryllids. Indeed, such a large number of tender species are growing in the open satisfactorily that there seems no reason why such a method of growing Andean, African, and highland bulbs should not be considerably extended.

Although the Orchid-houses at South Lodge are many in number, the Orchids are not entirely confined to them, many of the warm-house kinds being cultivated in the plant-stoves or fruit-houses, where such accommodation is thought to be of benefit to them. Mr. Moody, the clever gardener at South Lodge has a great charge, and it is very creditable to him that he succeeds in reaching to something near to perfection in every department. It is no doubt in a great measure due to his skill in utilising to the best advantage the resources of the place, and accommodating each class of plants or fruits in the best way, without unduly encroaching upon the convenience provided for other things, that the desired end is accomplished.

In the first Orchid-house were observed a number of fine plants of Vanda, Dendrobium, &c., the Vanda in bloom being V. suavis, and the Dendrobiums, D. lituiflorum, D. Brymerianum, D. Pierardii, D. densiflorum, D. Findlayanum, &c. On a shelf fixed near the top of the back wall some splendidly-grown D. Wardianum, with their long stout pseudo-bulbs covered with fine flowers drooping over, were remarked.

In the next house were fine specimens in flower of Dendrobium Dalhousieanum, D. thyrsiflorum, D. chrysotoxum, and other Burmese Dendrobes. In the next block of houses, in which there is a propagating-house at one end, the first contained among a varied collection of varieties of Dendrobium nobile, some well-flowered D. fimbriatum oculatum, and D. superbum. In a warm and moist house in bloom are a few fine examples of Miltonia Roezlii, Eulophiella Elisabethæ, Angræcums articulatum and sesquipedale, and a few plants of Phalænopsis.

The Cattleya-house contained a very fine lot of plants, of which a fair quantity was in flower, and a promising show of sheaths was noted on plants of C. Mendeli, C. Mossiæ, &c. Lælio-Cattleya × Schilleriana had a spike of five flowers, and there were several elegant sprays on the plants of Bletia gracilis. In the next intermediate-house, Miltonia vexillaria and Odontoglossum citrosmum were about to flower well, the latter evidently being exactly suited by being suspended from the roof. Cœlogyne cristata in variety, Trichopilia suavis, Lycaste cruenta, L. Skinneri, and other species were in bloom; and in the cool-houses a very fine lot of Odontoglossums, &c., was observed, of which in bloom were several good O. crispum, O. Pescatorei, O. Hallii, O. cirrhosum, O. gloriosum, O. Cervantesii, O. triumphans, O. grande, Masdevallia Chimæra, M. Houtteana, and others; Oncidium cucullatum, Epidendrum vitellinum, and Cattleya citrina. These last-named thrive remarkably here, flowering year after year, which is a feat few succeed in accomplishing.

OUR POULTRY.

By Harrison Weir.

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(Continued from p. 400.)

Now, of the Dorking fowl: the very name is a household word, and carries with it a world-wide reputation as one of the very best for table purposes ever known, and yet how few have troubled or endeavoured to learn its history, or to find for themselves what the real and true Dorking was or is. Also, it is a curious fact that most, if not all, of the writers on the subject have simply followed what has too often been erroneously stated by the previous one as to what constitutes the Dorking fowl. Generally, the well-worn hackneyed phrase is used, "that this breed is chiefly known by possessing five toes or claws on each foot," thus at once ignoring the fact that there are other varieties or breeds of fowls that possess the extra toe, the Houdan, a French kind; and there used to be some Dutch. The old Kent and Sussex, and a few of the Surrey breeds, not only possessed the fifth toe, but some of the English breeds, the hens as well as the cocks, had long spurs, and they have even been known to have a pair of spurs on each leg, besides having six toes on each foot; but such cases are very rare, and I have never seen half-a-dozen double-spurred cocks or hens throughout my long experience and observation of these fowls.

After much research and consideration, I have come to the conclusion that these large five-toed fowls, and what is now termed the old English game, were introduced by the Romans. We know that the latter was, by finding the leg bones among the *débris* of the old Roman stations, and our southern fowls some sixty years ago tallied very much with the description given by Columella, who especially mentions not only the fifth toe, but the spurs on the hens. An old author writing in the sixteenth century (1586), says the best kind (as Columella sayth), are such as have five clawes, so that they be free from spurres; for such as weare these cockish weapons are not good for broode, and disdayne the company of the cocke, and lay but seldome, and when they sitte, with theyr unruly spurres they breake theyr egges." This shows that not only were there spurred hens of this large breed in the time of Columella, but that the breed existed here in the sixteenth century. Markham a century later says, "to have many and strong claws is good, but to want hinder claws is better, for they oft break their egs, and such hens sometimes prove unnatural." Again Columella says they should have "large and white ears." Our old southern barn-door breeds had large white deaf ears until they were crossed with the red-eared Asiatic fowls, Cochins, Shanghais, or so-called Bramahs; and even now, with all the mongrelising that is rife in the present day, again and again the old tendency to the white ear-lobe asserts itself, and if the modern fancier wishes to restore as much as possible the finer qualities of the true southern fowl, he will breed back again to the old traditionary "points," and the white ear-lobe is one of them, although some of the Kent, Sussex, and Surrey fowls did not have quite white ear-lobes, or all five toes, for the reasons I shall show hereafter. For my own part, I very much prefer to breed from those with the ear-lobe as white as I can get it, nor care for any of the so-called Dorkings with the entirely red-lobe, for it clearly denotes much "out-crossing," and so, for the purpose of re-gaining the old quality and form, worthless. But to the Dorking proper. The old, so-called Dorking, was a white fowl, with a rose-comb, white ear-lobe, white beak, legs and feet with five toes (I have before me a print of a pair, dated A.D. 1808). This was and is rather smaller than the five and four-toed Kent, Sussex, and Surrey fowls, and now and then had only four toes, though such cases were rare. It is curious to remark, that although the breed was white, yet the flesh and skin was more of an ivory-tint than the old coloured southern breeds, or even the Kent larger single-combed five-toed white varieties. It is asserted, and it is possible, that this White Dorking breed has its origin from those that the Romans brought, for there once existed a Roman road which passed through Dorking, and doubtless, in my belief, the presence of the Romans and their long roads throughout Kent somewhat tend to the possibility that they were the originators of the fine large five and four-toed variety for which the county was so long and so justly celebrated. Surely nothing is more absurd than the oft-repeated assertion that these fowls are a cross from and emanated from the little town of Dorking, when also it is well known and is on record that Dorking was more of a fattening centre, such as Heathfield is now, and derived most of its poultry for the purpose from Horsham, in Sussex. While there is none of the Dorking fowls beyond the last century, yet those of Kent are noticed by Lambarde, A.D. 1576; by Stow, A.D. 1598; and good old Isaak Walton at a later date; and other records tell of the fine and valued "capons of Kent."

There is no doubt but that in bygone times there was a prejudice against white fowls for many reasons, one being that they were generally considered to be of a weaker or more tender constitution, and another belief was that they were easily seen by birds of prey, foxes, or thieves, and thus it was seldom, by comparison, that they were found at any of the old-fashioned homesteads; while the red, grey, brown, tawny, nearly black, and the beautiful and bright speckled were as abundant as they are now scarce—a fact chiefly, if not entirely, owing to the unwise schedules of the poultry shows, and equally unwise judges preferring the greys or nearly black. There is, however, the silver colour, which is a modern invention, it having originated with a cross between the old five-toed Kent fowl and Lord Hill's white-legged pure "silver Duckwing" old English game fowl; and it must be admitted there is in this breed much quality, much beauty, and much to be admired, and it may well be allowed to be one of the very, very few cases in which the modern fancier has improved the colour without lessening the actual utility and quality of an ancient and in every way a valuable breed of our poultry.

(To be continued.)

THE ROSARY.

RUGOSA, JAPANESE OR "RAMANAS" ROSES.

If there is one class of Rose more hardy than another, I believe it to be R. rugosa. The past severe weather has left these absolutely untouched. They maintain a good shape without any pruning, and may be cut back freely if space be an object. The handsome foliage, which is not liable to any diseases or insect pests, would make this one of the best deciduous shrubs, even without the showy blossoms and hips. In Sussex the plants bloom very early, and continue to bloom till the frost comes. If the blooms individually are single and short-lived, a constant succession of them is produced, which keeps the plants gay. A pure white and a mauve were the originals, but now there are several forms and crosses.

Both English and foreign raisers are giving attention to the improvement of the species, and a beautiful semi-double white is to be found in Madame Georges Bruant. Monsieur Bruant is sending out two entirely new forms, which will probably become popular. Other crosses are being proved. I have proved R. rugosa to be an exceptionally good plant for a town garden, and if they can be crossed with other sections of the Rose and still retain their vigour and freedom from diseases, there would seem to be a great future for them. The two types of R. rugosa are old inhabitants of our gardens, and it is a matter of surprise they are not more generally grown. Now that the best of our single and semi-double Roses, so suitable for certain sorts of decorative work, are coming to the fore, these should also do so.

Planting Dwarf Rose Stocks.

For many past seasons it has been my practice to plant these early in the spring, thus avoiding injury by frost. Imagine the condition of Manettis lifted from cutting beds, planted out in the autumn after the ordeal of the past winter. I consider this stock to be less hardy than the Briar, but I would prefer to keep both in the cutting-bed till the month of March. When the stocks are lifted, examine them very closely, and trim away any buds that may be forming below the two or three top branches; special attention being given to the base of the plant for the appearance of suckers. Give due consideration to the habit of growth your intended Rose possesses, and place the stocks at a suitable distance apart. Short and robust growers may be put at 9 inches apart in the row, and the rows at 18 inches apart. Medium growers need the rows at 2 feet apart, and strong habited varieties require 1 foot space in the row, and not less than 1 yard between these. Kinds of extra vigour, such as Maréchal Niel, Climbing Perle des Jardins, Margaret Dickson, and Mrs. Paul need to be set at 18 inches apart in the row, and 3½ to 4 feet row from row. To plant all stocks at one distance apart, and then place Roses of different degrees of vigour and of habit upon them is a waste of time. Moreover, strong varieties are crowded, and the dwarfer kinds have often twice the space that they require. Stout stocks are best for strong-growing Roses for two reasons. They will have too much sap and be too large for weak varieties, and will be the very thing for the large buds of extra vigorous varieties. With seedling Briars it is the same. Here I would point out that any Briar thicker than an ordinary Cedar-wood pencil is too stout for planting. Those of the size of an ordinary knitting-needle are best for general purposes. Few stocks swell more rapidly than the seedling Briar after it has reached this stage, and by August they are quite large enough for the majority of Tea-scented and hybrid perpetual buds. They continue to swell rapidly during late summer and early autumn, and if too strong at first, will often smother or grow over the Rose-bud, *A. P.*

FORESTRY.

SOME AMERICAN CONIFERS AT HOME.

Under the heading "Sketches of Forest Scenery from America," Forest Assessor Renleaux describes, in the *Zeitschrift für Forst und Jagdwesen*, a visit paid to certain forest districts in the United States which still deserve the title of primeval forest. As the writer treats his subject from a forestry point of view rather than that of the tourist, a few of his observations may not be uninteresting to foresters and owners of woods in this country, as showing the conditions under which some of our introduced Conifers exist in their native habitats.

The forest growth of the Yellowstone Park is first reviewed, in which the principal species is Pinus Murrayana. The soil of this district is composed of a mixture of xyholite lava and chalk, forming a dry and hot soil, on which humus layers only form in damp hollows. The above-named Pine rarely reaches a greater age in this soil than from sixty to eighty years; although in damp places, and when mixed with Abies Engelmanni, it may reach one hundred years or more. The thickness and growth of the crop varies with the situation. On fresh north and east slopes, where it is frequently mixed as mentioned, the trees stand remarkably close together, so that single stems scarcely possess a handful of needles at the close of the struggle; while a plentiful crop of seedlings occupy every available space below. Forest of this kind is almost impassable, on account of the fallen stems, and the whole scene conveys the idea of constant alternations of growth and decay. On southern slopes the trees are patchy, fallen stems often predominating, and their average height is not more than 55 feet, reaching 60 feet in damp situations. The growth of shoots and annual wood-rings is uniform, and the seed production early and plentiful. They suffer greatly from storms, and on exposed sites whole acres may be seen carrying nothing but leaning and crooked stems.

A settlement on the South Pacific Railway in the 43° of latitude, which had lost its original forest growth by fire, showed a few 300 to 400 years'-old Douglas Fir and Thuia gigantea as survivors, the young or second growth consisting of Tsuga canadensis, Abies grandis, &c. Besides the two mentioned above, Tsuga canadensis formed the undergrowth, or "second story," the older trees towering far above the rest. T. gigantea appeared to prefer the damper situations, and although the Douglas Fir succeeded best in the valleys and ravines, it showed a clean and satisfactory growth on the slopes and hill-tops. Amongst the undergrowth were Yews, Capressus Lawsoniana, Hazel, species of Spiræa, Alder, Ash, &c.

A piece of primeval forest land was visited between the 46° and 47° of latitude, in the neighbourhood of a tributary of the Columbia River. Here the writer found a lumber-camp, almost totally deserted on account of the prevailing trade depression, and was unable to obtain a guide to accompany him into the neighbouring forest. Taking the precaution to strew his path with paper, in order to safeguard the return journey, an exploration of the forest was made. Here, on damp loamy soil, with a thick humus layer, was an undergrowth of Hemlock Spruce interspersed with blown and decaying stems with diameters of 9 to 10 feet at the butt end. The surface was carpeted with Oxalis, with leaves the size of a man's hand, and moss hillocks a foot in height, fallen stems, and a tangle of broken branches, only allowed the traveller to advance slowly. The chief timber trees were Tsuga Mertensiana, Thuia gigantea, A. nobilis, and Douglas Fir. The Hemlock Spruce largely predominated by reason of its power of withstanding the darkest shade, and occurred in all stages of growth, reaching a maximum height of about 170 feet. The other species were distributed according to their light, requirements, and age-classes. Douglas Fir and Thuia gigantea appearing to require most light, and young plants of these were only seen in holes from which an old tree had been blown, allowing the sun's rays to penetrate the leaf canopy.

The lumberman's efforts had been mainly directed towards the felling of the large and most resinous stems, the smaller being left, but these generally die in a short time from exposure. The result of this is, that large areas become occupied by Hemlock Spruce alone, beneath which seedlings of the other species are unable to exist.

The writer goes into considerable detail regarding the growth and requirements of the Douglas Fir, in view of its possible extension as a forest-tree in Europe. Its inability to withstand severe gales after sudden exposure, and its preference for a damp but not wet soil, are the chief points, and which have already been confirmed in this country. The opinion expressed to the effect that free thinning is necessary and desirable, however, is open to question. No doubt, with free thinning, the growth of individual trees would be favoured, but from what we know of its habit of growth, we should consider its great development of side-branches as likely to depreciate its value as a timber-tree, which can only be counteracted by close order of the crop. In trees 300 to 400 years of age, 150 to 300 feet in height, and with basal diameters of 6 to 9 feet, a sufficient quantity of clear timber is usually present to satisfy the lumberman; but in European forestry, the growth of rough, and consequently low-priced, timber in plantations artificially formed, is a luxury which few but British landowners can afford, and 300 years is rather too long a period to wait for the clearing of the stems.

A visit was paid by Herr Renleaux to the home of the Menzies or Sitka Spruce in Alaska. The neighbourhood of Sitka has an abundant rainfall, with but slight extremes of temperature. In this district also, the Hemlock Spruce predominates, mixed with Sitka Spruce, and to a slight degree with Thuya gigantea and Chamæcyparis (Cupressus), var. Nutkaensis. Pinus contorta, Tsuga Pattoniana and Abies subalpina also occur in places, while among broad-leaved trees, Acer glabrum, Sorbus sambusifolia, Pyrus rivularis, &c., may be mentioned. A disagreeable constituent of the undergrowth is Fatsia horrida (the Devil's Walking-stick), the shoots and leaves of which bear innumerable small prickles, which adhere to the skin with the slighest touch, causing nasty sores. On account of the damp climate lichens develop abundantly upon the stems and branches of the trees. The Hemlock Spruce here has an average height of 70 to 80 feet, and approaches the extreme limits of tree growth to a height of 2500 feet. Above that elevation the Tsuga Pattoniana and A. subalpina still ascend. The timber of the Hemlock is said to be but slightly valued, and both it and the Sitka Spruce are used for firewood. The latter only occurs pure or unmixed in wet places and in the neighbourhood of the coast, and attains a height of 150 feet, with a diameter of about 6 feet, the finest specimens being found in wet but not stagnant places. On the edges of swamps, Pinus contorta at first prevails, then Sitka Spruce, and finally the Hemlock reaches the extreme limits to which tree-growth extends. The timber of the Sitka Spruce is highly valued in Alaska. It is used by both natives and whites in the building of huts and also in bridges and for barrel-staves. It suffers, however, from Teredo attacks, but is occasionally used by the Indians for their canoes when the better-preferred Thuia gigantea cannot be obtained. The method of making these native canoes is as follows. A sound, straight stem is selected, usually felled by hollowing out a cavity at the base, in which fire is placed, and which eats its way through the butt in a few days. After the exterior parts have been hewn with the axe, the uniform width of the walls is secured by boring holes of a certain depth into the sides, in which wooden pegs are driven. The stem is then hollowed out until these pegs are reached, which leaves the sides of the canoe of proper thickness. The desired shape is then given by filling the interior with water and throwing in hot stones until it approaches the boiling-point. This renders the wood soft and pliant, and cross-pieces are then driven in, which press out the sides to the desired extent.

We learn from this article that the forest reserves of the United States are now patrolled by cavalry, troops being stationed in their neighbourhood, in order to check fires and illegal felling, with both of which the staff of the Forest Bureau is powerless to cope. *A. C. Forbes.*

TREES AND SHRUBS.

POINCIANA GILLIESII.

This has, we learn from Mr. Eyebank, stood the severe winter at Ryde with impunity. It is quite uninjured, which is no small praise when so many fine things have succumbed. Now that its complete hardiness has been established, it should find its way into every garden in the South of England. By botanists this plant is now referred to Cæsalpinia. We gave an illustration of it in our volume for 1894, vol. xv., p. 73; and see p. 144 of same volume.

THE SEED TRADE.

(Continued from p. 361.)

The Severe Frost and Seed Crops.—It is yet too early to form any definite opinion of the amount of injury inflicted upon growing crops out for seed, but it will no doubt be found all have suffered severely, especially in those localities where a sufficient depth of snow did not fall, or where the covering was carried away by the wind, which has been of a sharp, piercing character from the east almost constantly since the commencement.

The tribe which includes the Cabbage, Broccoli, Kale, Savoy, &c, particularly the later kinds, that have endured the full force of the weather, will be considerably thinned down; the long wet time immediately preceding has made matters worse, because it induced a tender growth, which was full of sap when overtaken by the sharp frost, whilst the condition of the soil was of such a sodden nature that in many places it became as hard as iron, quite 18 inches down. It even penetrated through Potato clamps to such an extent, that some large holders anticipate their loss at 25 to 50 per cent. in the pits. It used to be the practice to obtain seeds of Mangels, Turnips, and Swedes, from shapely full-grown bulbs, selected from crops of the previous season's growth, these special "bulbs" being clamped for the winter, and put out in the fields the following spring. Owing, however, to an enormously increased demand, such a system would almost appear an impossibility beyond its application for the production of stock-seed, to keep pace with the times, the grower resorts to methods that occupy his land for shorter periods, and we find him transplanting young plants that were sown in early autumn, and if these survive the winter, as they generally do, he is safe in anticipating a fair crop of seed from the growth that ensues, for the transplanted seedling bolts up to flower directly it feels the influence of spring, and the Turnip-Swede much quicker than the Mangel. Another system followed by some growers is to simply drill the seed in the autumn, and then the plants when ready; this method is, however, considered by many as unsatisfactory, for it tends to throw the breed back to its wild state.

The cultivator who uses picked "bulbs" for his seeding purposes, stands on the safest ground this season, if his roots are not killed in the pits; the other systems are somewhat against the ordinary dictates of Nature, and it will be instructive to note later on what has really happened, and the chances are that disastrous results will have to be chronicled from the majority of districts. *Seedsman.*

(To be continued.)

PHLOXES AND VIOLAS.

As the spring-planting of everything has been so much delayed through stress of weather, the moment is still opportune for calling attention to the best varieties of such attractive occupants of the hardy flower border as Phloxes and Violas.

The Royal Horticultural Society recently made a most extensive trial of Phloxes at Chiswick, growing no fewer than 569 varieties, furnished for the purpose by Messrs. James Veitch & Sons, Victor Lemoine, Paul and Son, Jno. Forbes, Dicksons (Chester), and Dobbie & Co. To 45 of the varieties the committee of the society awarded x x x, i.e., highly commended them, and to about twenty varieties they awarded x x, i.e., commended. In both lists appear a number of old, well-known varieties which have been before the public for five-and-twenty years at least. A complete list would take up too much space, and therefore I give the names of only a dozen sorts, which I know from experience to be well worthy the "honourable mention" they obtained from the Royal Horticultural Society:—

Le Soleil—Rose, eye darker, mottled: dwarf.

Mrs. Kinghorn—Pale salmon, shaded with lilac, crimson eye: tall.

Flambeau—Fiery red scarlet, crimson eye, flowers large: medium height.

Molière—Rosy salmon-pink, shaded, darker eye: medium height.

Delicata—white, pink eye, large spike: medium height.

Avalanche—Pure white, lemon eye: dwarf.

Jno. Forbes—Bright rosy-pink, crimson eye, flowers large: medium height.

Alexander Shearer—Deep orange scarlet, good flower: medium height.

Boule de Feu—Deep salmon-red: medium height.

Eugène Danzanvilliers—Shaded lilac, fine white eye, flowers very large: dwarf habit.

James McKay—White, good flower: medium height.

Panthéon—Bright salmon-rose, lighter centre, flowers large: medium height.

A few of these varieties are dwarf, growing only about 2 feet in height. This dwarfness is an admirable quality. In late Phloxes, hitherto many of our best varieties have grown quite 4 feet high, which, I think, is not desirable. Three feet as a maximum is tall enough. Few plants are more easily grown than Phloxes; they want good rich soil, and as summer advances a good mulching of old manure. They may be correctly described as surface-rooting plants, and when good specimens are wanted they should never be allowed to become dry, therefore summer mulching is a great help to them, and prevents the plants losing their bottom leaves. Phloxes are very easily propagated by cuttings taken in spring, and inserted in a shaded frame. A few should be propagated annually, as plants older than three or four years do not give anything like so satisfactory results as younger ones. Those who are members of the Royal Horticultural Society can this year obtain from Chiswick a certain number of plants of these certificated Phloxes, and I would urge those interested in hardy flowers to take advantage of the privilege, and so come into possession of a few Phloxes whose merits have been tested alongside so many others and found superior.

Violas.

From amongst the bewildering lists of varieties of Phloxes, Violas, or anything else, it is extremely difficult to make a selection of varieties which will give all-round satisfaction. Such work as the Royal Horticultural Society has done for Phloxes, the Viola Conference at Birmingham did for Violas last August, and a reminder of their decisions, now that many are on the eve of planting, must be appropriate. For the purposes of bedding, for which Violas are now so generally used, the Conference unanimously adopted the following as the best sorts:—

Whites.
1. Countess of Hopetoun
2. Sylvia
3. Marchioness of Tweeddale

Deep Yellow.
1. Bullion
2. Lord Elcho

Pale Yellow.
1. Ardwell Gem
2. Lemon Queen

Dark Blue or Violet.
1. True Blue
2. Archie Grant

Pale Blue or Mauve.
1. Blue Gown
2. Bessie Clarke

Blush or Rose.
1. William Neil
2. Blush Queen

Edged or Bordered Varieties.
1. Duchess of Fife
2. Blue Cloud

Fancy Varieties.
1. Countess of Kintore
2. The Mearns
3. Princess Beatrice

Purple.
1. Acme
2. Crimson King

Nearly all the foregoing varieties can be used effectively for exhibition purposes, but those who grow specially for that purpose will require to add to their collection a number of recently-introduced varieties, such as H. W. Stuart, Dawn of Day, York and Lancaster, Mary Gilbert, White Duchess, Columbine, Iona, Charm, and Mrs. H. Bellamy. Such varieties as these are also charmingly suited for table decorations. Three or four blooms of one variety, with a piece of Adiantum, are exceedingly effective.

Viola planting must be done without delay. Autumn-planted Violas have suffered very much this past winter, and there must be many blanks to fill, and many beds to renew. If plants can be procured with a fair quantity of soil adhering to their roots, and if they are deeply and firmly planted, they will succeed even though the planting be done as late as April. To retain moisture and cause the plants to root out at the neck, the beds should be top-dressed sometime during the month of May with leaf-mould, or old manure which has been passed through a 1-inch riddle. Occasional watering with soot-water is a great help to the plants after they become established. Undoubtedly the best assistance Pansies and Violas can receive by way of helping them to tide successfully over warm weather is to remove old blooms and old wood at frequent intervals during the season. *Wm. Cuthbertson, Springfield, Rothesay.*

BERLIN.

TRYMALIUM SPATHULATUM, *Sweet.*

This is a very fine and handsome Rhamnaceous plant from South-western Australia. It forms a little shrub covered with evergreen upright, pilose, oval leaves, 1 inch long. During the spring months it is covered with numerous large loose panicles of small and pure white flowers, thus resembling Spiræa ariæfolia in habit. The plant is cultivated in a cool house. It is an old plant, but very remarkable in growth, as quite small plants flower profusely.

Hardenbergia monophylla, Bth.—Also a long-known Leguminous plant from Australia, which opens its fine violet-coloured flowers in little racemes of about 2 inches in length, very freely during March and April. The tuberous roots send up long thin twining branches, beset with thick evergreen, simple, ovate-lanceolate leaves. The plant climbs very freely if planted out in a cool temperate house, and densely-flowering racemes are produced in the axils of the upper leaves in great abundance. The very fine colour of the flowers, which are half-an-inch in length, makes the plant very remarkable.

Stypandra glauca, R. Br.—This Australian Liliaceous plant is interesting in more than one way. It forms dense bushes of about 1½ feet high, with slender erect simple stems, which are densely set with evergreen leaves about 4 inches in length and three-eights of an inch in breadth. The sessile leaves are distichous, and turned lengthwise so that the anterior half of each leaf is turned at an angle of 90° to 180°. This gives the whole plant a very characteristic appearance. In March and April there appear at the top of the young shoots, in the axils of the leaves, short racemes of long-stalked pale blue flowers, each about 1 inch in diameter. In the middle of each flower stand the six bright yellow stamens, the short densely pubescent filaments of which are remarkable, as they remain quite fresh and yellow when the anthers are dried up.

Fruit-markets at Frankfort-on-Maine.

There has been for several years past at Frankfort-on-Maine, a central fruit-market, established for the purpose of giving fruit-growers an opportunity of selling their fruits directly, and thus reducing the price to the consumers. There is a society for the purpose of enabling the fruit-growers to sell their products at the best price, and on the other hand to give consumers the opportunity of buying good fruit at moderate prices. But the society has still another use. Though great quantities of fruit-trees are grown in Germany, there are still immense quantities of fruit imported from Austria, Switzerland, Belgium, &c. Now, the society hopes that by helping to sell home-grown fruits, home fruit-culture will increase. Though this Society has been instituted only a few years, the quantity of fruit sold has increased enormously; a great quantity of the fruit is sold for England. The society works in a two-fold way. There is a central institute for regulating the price of the fruit. The fruit-grower gives information as to the kinds of fruit, and the qualities and quantities, and and at what price he will sell it. The consumers mention what quantities and qualities of the different kinds of fruit they will buy. To the latter class the society details the offers which it has received from the growers. Besides this method there are still the regular fruit-markets. The grower sends to the society samples of the fruit which he has to sell, with informa-

tion as to the quantity and price. The consumers come to the market the date of which is published in the Frankfort papers, look at the samples and give their orders to the Society which forwards them to the growers. Not only fruits but also fruit-wines are sold by the Society. From the report of last year, recently published, I hear that the total expenses were only about 2500 marks (1 mark = 1s.), which were met by the Government, the authorities of Frankfort, the Agricultural Society, and the Agricultural Club at Frankfort. *U. D.*

ARGON, NITROGEN, AND PLANTS.

The announcement that Lord Rayleigh and Professor Ramsay have succeeded in proving that there exists in the atmosphere a gas which had hitherto been unsuspected, is of great interest, not only to chemists and physicists, but also to botanists. Very soon after the discovery of argon, the question was raised, "Do plants assimilate argon?" and Professor Ramsay elaborated a series of experiments to find out if he could throw some light on a subject which is naturally interesting to botanical workers. The first thing, of course, was to find out whether there was any argon in a nitrogenous vegetable, so Professor Ramsay set to work to see if he could discover argon in nitrogenous vegetables and animal tissues. Peas and dead mice were desiccated, and then treated by Dumas' method for extracting nitrogen. This consists of mixing the powdered mice or Peas with copper oxide and lead chromate in a heated tube, whereby all the hydrogen, oxygen, carbon, sulphur, &c., are removed, and the nitrogen is collected. This, of course, was acting on the assumption that the process which liberates nitrogen also liberates argon, and this is by no means certain; in fact, Professor Ramsay, by Dumas' method, failed—so it is understood—to discover argon either in Peas or in mice.

It may be, of course, that the method employed is at fault, and that some new arrangement will have to be employed to induce this very inert gaseous constituent of the atmosphere to show its presence, or it may be that plants are quite unable to assimilate even a particle of the argon which is to be found floating in the atmosphere.

But it is to be hoped that further experiments on this subject will be made, for the relation of the atmosphere to plant life is a very important one. Since the classic experiments of Priestley and others towards the close of the last century, many researches of a laborious character have been made to find out the percentage in the air of the gases of which our atmosphere is composed. We do not know yet whether argon is an element, or a mixture of elements. If it is a single element, its atomic weight must be about 40, and in that case no place is ready for it in Mendeléeff's table of the elements. The simplest way out of the difficulty would be to suppose that argon is a mixture, but there is conflicting evidence as to this. Mr. Crookes, with his spectroscope, says one thing; M. Olszewski, with his low-temperature thermometer, says another.

Plants, we know, do not possess the power of absorbing, or, at least, of assimilating, the free oxygen and hydrogen gases; in all probability, argon does not enter into their composition. But experiments might be made in growing suitable plants in an atmosphere of pure argon; or argon mixed with pure oxygen, on a bed of pure sand. It will be remembered that it was with such experiments that Hellriegel and Wilfarth in Germany conclusively proved that free nitrogen was fixed by leguminous plants in symbiosis with microbes, as well as by mixtures of the lower organisms inhabiting soils, green algæ, and microbes.

The chemical history of the atmosphere, from its origin to the present day, has attracted the attention of many observers. Koene and Stas in Brussels, and Dr. T. L. Phipson in England, have all brought forward theories. Briefly stated, they amount to this. The primitive atmosphere was composed of nitrogen, the substance which has the least tendency to combine directly with others. Into this atmosphere volcanic action evolved large quantities of carbonic acid and water. There was no free oxygen in this primitive atmosphere, but it was in this primitive atmosphere of nitrogen, with more or less carbonic acid and vapour, that the first organised beings (i.e., plants) made their appearance; experiments have shown that many plants of our own day can vegetate in an atmosphere of this kind, in which animal life is quite impossible. In fact, according to these physicists, all the oxygen now existing in the earth's atmosphere is due to vegetation extending over immense periods of time. It is generally allowed that the function of nitrogen in the atmosphere is to dilute the oxygen, which would otherwise be too strong for human beings. How argon will combine with all these theories remains to be seen. *H. C. F.*

ODONTOGLOSSUM TRIUMPHANS "LIONEL CRAWSHAY."

On two occasions this fine variety has been exhibited by De B. Crawshay, Esq., of Rosefield, Sevenoaks, at the Royal Horticultural Society; and on the first occasion it received an Award of Merit, and on its later appearance before the Orchid Committee, on April 9, it was awarded a First-class Certificate. These facts are sufficiently pertinent, and render further remarks unnecessary. We are, however, pleased to give an illustration of this beautiful Odontoglossum, which is generally pronounced to be the finest variety of O. triumphans which has yet appeared. Its large, glossy, wax-like flowers are bright yellow, the markings being of a rich chestnut-red, and the base of the lip and column white.

Fig. 69.—ODONTOGLOSSUM TRIUMPHANS, VAR. LIONEL CRAWSHAY: COLOUR BRIGHT YELLOW AND CHESTNUT-RED.

COLONIAL NOTES.

CEYLON.

The report of the Director for 1894 notes the loss of two capable and energetic native officers of long service, Mr. J. A. Ferdinandus, late clerk and foreman at Pé ádeniya, and Amaris de Zoysa Muhandiram, the conductor of the branch garden at Henaratgoda. The flowering of the Camoensia has been already noted in these columns. At Hakgala, Doryanthes Palmeri flowered—a fine stately Aloe-like plant, with an erect spike 10 feet high, covered with large brick-red flowers.

It is rather startling to read in the report of a botanic garden that wild elephants are troublesome; a bull in a china shop could hardly be more destructive than a wild elephant in a flower bed!

The export of Tea remains stationary in amount, but it is curious to note that over a quarter of a million pounds of Ceylon Tea went last year to India, and over 155,000 lb. to China. The export of Coffee was no more than 32,205 cwt. Polygonum sachalinense is apparently not suited to the climate, as its growth is very poor. Lucerne, on the contrary, has yielded seven cuttings in the year!

Part 3 of the *Handbook to the Flora of Ceylon* may be expected to be out by the middle of the year. Dr. Trimen protests against the sale by the Royal Botanic Garden of ordinary garden plants, such as any nurseryman can furnish. We have often expressed our opinion—on the one hand, that the proper work of a botanic garden cannot be carried out if it is made a commercial establishment; and, on the other, that the commercial element must prove financially unsatisfactory.

Singapore.

The *Agricultural Bulletin of the Malay Peninsula* for January, which we have lately received, contains a valuable monograph on Sago Palms. The species, six in number, all belong to the genus Metroxylon, but of the six only two are of economic importance—M. Sagus, the smooth Sago, and M. Rumphii, the spiny Sago. A full description of these two is given, together with a history of the plants, from the time of Marco Polo, 1298, to the present era. The cultivation and methods of preparation are also detailed, and some statistics given as to the quantities exported. The injury done to the soil by the growth of Lalang grass (Imperata cylindrica), is also the subject of an interesting paper. The mischief seems to be due to the prevention by the grass of any foundation of humus. The trees have been removed, and the Lalang grass overspreads and crowds out all other vegetation, contributing but little itself to the fertility of the soil. Forest fires destroy the trees and the jungle, leaving only the Lalang. Earthworms, which are excellent humus producers, are comparatively rare in Singa-

pore. As to ants, the writer says that one of the most important works performed by them, is that of conveying soil from the ground to the Ferns, Orchids, and other epiphytic plants on the trees. There can be no doubt but that a large number of epiphytes are modified, so as to encourage the ants to bring them soil, and to retain it when brought. One of the best examples is that of Platycerium grande, the Elk's-horn Fern, which has in addition to its long, thin, much-branched, sterile fronds, and the shorter and thicker kidney-shaped ones, which bear the sporanges, a number of erect, stiff, broad ones, which serve to retain the soil, brought up by the ants for their nests. Similar fronds are also borne by Drynaria. The amount of soil deposited by the ants in the leaves of a large specimen is very great, and really consists of rich humus carefully collected by the ants. The *Malay Bulletin*, it will be seen, is an important contribution to botanical literature.

The Fruit Export from the Cape.

The *Norham Castle* took 35 tons of fruit on Wednesday, February 20, her cool chamber being filled, and some of the fruit being taken as an experiment in the hold. The cool chamber contained 606 boxes of Grapes, 139 boxes of Tomatos, 43 boxes of Pears, 27 boxes of Apples, and one box of Cherries. In the hold were 61 cases of Tomatos and 14 of Apples. Mr. Hawkins, of Claremont, sent 5 tons; Mr. Lock, of Stellenbosch, 3¾ tons; Mr. C. D. Rudd, 1¾ tons in cool chamber, and 1½ ton in the hold; Mr. Aspinall, of Houwhock, 2 tons; Messrs. Attwell & Co, 2 tons; Mr. A. Williams, 3 tons; Mr. Z. Goodman, over 6 tons; Mr. Van der Byl, 5 tons; Messrs. White & Co., 4½ tons, and Mr. J. B. Robinson, half a ton.

The U.R.M.S. *Norman*, which left for England February 27, took the following shipments of fruit:—Mr. Hawkins, 6 tons; Messrs. White & Co., 5 tons; Messrs. Combrinck, 5 tons; Orchard Company, 5 tons; Mr. W. Lock, for Stellenbosch Fruit Export Company, 4 tons; Mr. O. Walser, 3 tons; Mr. Aspinall, 2½ tons; Mr. A. Williams, 2½ tons; Mr. Breda, 2 tons; Australian Company, 2 tons; Mr. C. D. Rudd, 2 tons; Mr. J B Attwell, 2 tons; Mr. J. Williams, 1½ ton; Mr. Cheetham, half a ton.

By the *Goth*, Messrs. White & Co. send 10 tons; Mr. Pope, 10 tons; Mr. G. Williams, 3½ tons; and Mr. J. B. Robinson, 2 tons.

Floral Parade at Cape Town.

The fashion of holding floral parades has reached the Cape, and our old and valued correspondent, Mr. Charles Ayres, was in February last a successful exhibitor of a decorated car, of which some handsome Palms formed the central ornament, while the harness and wheels were made gay with many flowers.

Durian Planting in Dominica.

The Durian is a plant native of Malay, and the fruits in scent particularly offensive, like a "well-developed cheese plentifully flavoured with Onions," but, strangely enough, they are delicious to the taste. Specimens were sent from Kew, as we learn from the *Agricultural Journal of the Leeward Islands*, to St. Arnoment about ten years ago; and one of these, under the care of Dr. Nicholls, has now attained a height of 40 feet, and last year fruited. The fruit is believed to be the first Durian ripened out of Asia.

Belgium.

RESULTS OF THE GREAT FROST IN BELGIUM.

These results are only now being discovered. Roses, Rhododendrons, Aucubas, Cherry-Laurels, Holly, many Conifers (Cupressus Lawsonians, Biota orientalis, Thuia Lobbi, Thujopsis dolabrata, Abies canadensis, Taxus hibernica, Abies Nordmanniana) are much damaged in the eastern districts. It is the Aucubas, Cherry-Laurels, Rhododendron ponticum, and Euonymus which have suffered most all over the country. All the parts of the Conifers and Roses which were covered by the snow have naturally been well protected. Some curious effects were noted. At the nursery of Jacob Makoy et Cie. at Liège, are beds of Cherry-Laurel set side by side, divided by small paths; these beds were covered on the same day with matting, and now almost all the strongest plants are destroyed by the frost, while the plantations of tiny plants are quite uninjured. No standard Roses are left. Bignonias, Peaches, and Prunus Pissardi are much damaged; the buds of Azalea pontica, mollis, and rustica fl.-pl. were nearly all frozen; so are those of the Rhododendrons, those only having escaped that were well covered up; delicate varieties were utterly destroyed.

Some Noteworthy Orchids and Amaryllis.

M. Vuylsteke of Loochristy, Ghent, has now in bloom a splendid variety of Odontoglossum radiatum, a flower of which measures 12 cents. (nearly 5 inches) across; the sepals are all chestnut-coloured, save for the yellow tip; the petals, nearly all chestnut, have two small yellow teeth on the edges; the yellow tip and long markings form a rectangle of yellowish-white; the lip is white, the basal lobe straw-coloured; in the centre is a brown spot, which covers half the lip; the rest is spotted and dotted with reddish-brown.

A charming variety of O. Pescatorei is that with lilacy-rose divisions, with a very pronounced white border to the petals, which are spotted with clear purple; lip with two symmetrical spots of less clear purple at the tip of the small norens of the petal-claw. The collection of O. Pescatorei is, in fact, a very fine one. O. Andersonianum lobatum is distinctive, owing to the straw-coloured border of the divisions; it is a fine variety.

Seedling Odontoglossums.—We have mentioned M. Van Imschoot's seedling Odontoglossums, and have now seen those raised by M. Vuylsteke. The former, twenty in number, were from seed gained from O. Insleayi leopardinum × O. crispum; the foliage of these is that of crispum, that of the others of Insleayi. The second lot of seedlings, of which only one specimen has developed, is from O. crispum × O Harryanum. The seeds were sown in January and February, 1894, and germinated in two months; one of the young plants has already four good leaves. M. Vuylsteke has sown a few here and there in his houses, and in all possible ways, but with no effect; but one day, taking some of the seeds in a paper, he scattered them broadcast and carelessly, and the result was the twenty young plants here mentioned.

M. Ch. Vuylsteke has filled a house 50 feet long by 13 wide with Amaryllis, all hybrids raised by him, with the exception of some from Messrs. Veitch, which bloom later and require more heat. Among the many novelties, selection will be made of those suitable to be brought out. We think these plants so particularly fine as to be worth mentioning here. The smallest flower of the species here specially mentioned measured nearly 5 inches across. *Ch. D. B.*

The Week's Work.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

EUCALYPTUS.—Plants in pots should now be given a liberal shift, using good rich soil for the purpose, and afterwards placing them in a warm greenhouse or vinery. Eucalyptus are very useful for subtropical bedding, and for placing among other plants in the conservatory. E. citriodora, having sweet scented leaves, is valuable for decorative purposes. Of this variety and E. globulus, a few seeds should be sown each year, and the plants kept in rather small pots through the winter. The seeds germinate best if afforded a gentle warmth, and the seedlings also until re-established after the first potting.

FUCHSIAS.—If these have filled their pots with roots, and large plants are required, repot them at once, using good loam, leaf-soil, and rotten Mushroom-dung, with plenty of sharp sand or road grit. When the plants have rooted into the fresh soil, the shoots should be stopped at every second joint till the plants have got to the required size. Turn the plants regularly every few days, to ensure evenness of growth, and syringe them twice or thrice daily, and afford slight shade when the sun is bright. If thrips appear, fumigate forthwith, or the plants will soon be injured.

EUPHORBIA JACQUINIÆFLORA should now be cut back to 1 foot from the soil, where usually the wood is well ripened, and the roots thoroughly soaked with water. Place them in the stove in full light, and syringe two or three times a day. For increase: when the young shoots are 3 inches long, they may be taken off with a heel and put into small pots of sandy peat. Plunge them in a bottom heat of about 90° under bell-glasses if these are available, and keep them closely shaded till they are rooted; afterwards gradually afford more light and air. When the pots are full of roots, pot off into 48's, using a compost of turfy loam, peat, leaf-soil, with a good quantity of sand, also a little well-decayed cow-manure. The best method of growing and flowering these is to train them up the wires on the roof of the stove, and when in flower let them hang loosely from the roof.

SOLANUM CAPSICASTRUM.—Cut back these plants and keep rather dry till they begin to shoot, when they should have a quantity of the old soil removed and be repotted into larger pots, or they may be kept in the same pots and planted out towards the end of May. I prefer keeping them in pots, as they do not grow quite so strong, and they berry quite as well. A few cuttings should be put in, and if kept growing during the summer, they will make nice plants in the autumn.

HYDRANGEA HORTENSIS.—A good batch of cuttings should now be put in. Take two or three from each old plant, and be careful not to spoil its appearance in so doing. Insert the cuttings singly in small pots, and plunge them in a propagating frame or under bell-glasses on a hot-bed, and keep closely shaded. When rooted, pot on into 5-inch pots, and gradually harden them for putting outside during the summer. Afford plenty of manure-water when the pots are full of roots, but when the plants commence to lose their leaves in the autumn, water should be withheld entirely, and the plants kept in a cool greenhouse or frame during the winter. They should be started again towards the beginning of February, and afforded plenty of manure-water when the flowers begin to expand.

CANNAS.—A good number of the best varieties should be potted into 10-inch pots for conservatory and decorative purposes during the summer months. Use good loam and leaf-soil, with some rotten Mushroom-dung added, and give plenty of water at the roots at all times.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PROTECTING AND THINNING PEAR BLOSSOM.—Choice Pears on walls, especially in cold and exposed positions, should now be afforded some protection from possible sharp frosts and cutting winds. Copings are not commonly provided for these as for the more tender fruits, but rough ones made of boards cost little and are easily fixed in position. With blinds of cotton netting or "Frigi domo" along the front, this protection would be practically frost-proof. Where such is not available, the next best protection is made of two or three thicknesses of fish-nets, and stretched to poles put into the ground at about 2 feet from the bottom of the wall, and fastened at the top by staples or long nails. The netting may safely be left down continuously for a few days if cold winds prevail, but not longer than is absolutely necessary, as Pears greatly dislike anything in the shape of coddling. The nets may be gathered up and fastened at the top of the poles when not required, and are quickly let down when needed. Small pyramid trees may be protected in like manner by inserting the ends of five or six long stakes into the ground at equal distances round the tree, and fastening them together firmly at the top. This ought not to be left until the trees are in bloom, as in the event of severe frosts occurring, the buds also are liable to damage. If the bloom on these is very abundant, a quantity ought to be removed as soon as practicable, it sometimes happening that a tree is literally smothered in flower, and afterwards sets but few, its energies being exhausted by the profusion of blossom which a timely thinning would have averted.

STRAWBERRY BEDS, MULCHING, ETC.—Beds of Strawberries that may not have been mulched as advised earlier in the season, should now be hoed and mulched with long stable litter, or clean straw. If the beds are old, or becoming exhausted, a surface-dressing of some good artificial manure should be applied before the hoeing, or two or three liberal applications of liquid-manure would be of much benefit. Diluted house-sewage is excellent for this purpose.

GRAFTED TREES.—Trees recently grafted should be examined occasionally, and any cracks that may be opening in the clay at once filled, and made secure against the air. All growths pushing below the scion must be rubbed off as fast as they appear.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

PLATYCLINIS FILIFORMIS.—This elegant-flowering and compact-growing species will now be starting to grow in many collections, and should be given a few degrees more heat, and a more generous treatment. A moist shady corner of the East India-house will be best for it, and when growth has fully commenced, abundance of water at the root will be required; any approach to a dry condition of the soil or atmosphere, generally induces red spider—an occasional syringing of the foliage with tepid rain-water will help to keep it in check.

CATASETUM, MORMODES, CYCNOCHES.—Many of these deciduous plants which naturally have a long entire rest during the winter months are commencing to grow, and will require immediate attention. All the plants should be shaken out of their old compost, cutting away dead roots, and as mealy-bug and scale frequently bury themselves around the base of these plants while they are at rest, they must be thoroughly cleansed before they are repotted, otherwise they will give trouble all through the growing season. For repotting, use well-drained shallow hanging-pans, the wire of which being about 12 inches in length, will bring the plants well up to the roof-glass, for the maximum of light is essential to their future health. All long heavy bulbs should be securely tied to the wires to hold them firm. The compost should consist of chopped sphagnum moss, with a moderate quantity of small crocks mixed with it. For the next few weeks water must be given sparingly, and when the roots have obtained a firm hold of the new compost, give abundance. The following varieties are well worth including in a general collection of Orchids: Catasetum barbatum, C. b. spinosum, C. longifolium, C. scurra, C. tabulare, C. Bungerothi and its several beautifully distinct forms, including the varieties C. B. mirabile, C. B. Lindeni and C. B. Imperiale (figured in *Gardeners' Chronicle*, p. 329), Mormodes luxatum, M. l. eburneum, M. Rolfei, M. buccinator, and M. pardinum, Cycnoches versicolor, C. chlorochilon, C. Egertonianum, and C. peruvianum.

GENERAL WORK.—Immediately such species as Lissochilus, the deciduous Eulophias and Cyrtopodiums are seen pushing their young growths, they should be re-potted into a mixture of fibrous loam, leaf-mould, and coarse silver sand, adding a good sprinkling of broken crocks. Place the plants in a sunny position with the Mexican Lælias, the nearer they are to the roof-glass the better. Such plants as Angulos Clowesii, A. eburnea, A. uniflora, and A. Ruckeri must no longer be kept resting, they should be stood in a shady part of the intermediate or Cattleya-house, and as they produce their flower-spikes with the young breaks it is unwise to disturb them by re-potting until after the flowers fade. Water often enough to keep their roots moist. Cœlogyne cristata and its varieties, are Orchids of exceptional merit. This useful species has always been a general favourite, owing to its vigorous constitution and easy culture, thriving well in almost any house where an intermediate temperature is maintained. Now is the best time to re-pot any over-grown specimens, and to break up those that may have got into an unhealthy condition, making them up again into smaller plants as desired. Unless re-potting be absolutely necessary, do not disturb them in any way, but rather, if in good health, allow them to remain as they are. In re-potting those that require it, use good turfy loam, fibrous peat and moss in equal proportions, with plenty of drainage. When well rooted into the compost, these plants delight in almost unlimited supplies of water. Any excess of dryness during growth is injurious; but until they are thoroughly re-established water must be applied carefully. To prevent shrivelling of the pseudobulbs, it is preferable to give them an occasional syringing overhead, rather than to keep the soil wet. Until the roots have made considerable progress, the plants should be well shaded from strong sun.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SALADS.—A small bed of Radishes should be sown once a fortnight, and as the weather gets warmer, choose rich soil in a cool position for the beds. Mustard and Cress may soon be sown once a week out-of-doors, but for the present a frame is to be preferred. Lettuces in cold frames and under hand-lights, as well as those raised from sowings made in warmth and transplanted into boxes, should be making nice heads. Those that have stood through the winter are growing fast, and will shortly afford a supply. Lee's Immense Hardy Green is a variety of Cabbage Lettuce that stands the winter well, and hearts quickly in the spring.

CELERY should be cleared out of the trenches, and Peas, or some other crop demanding rich soil, planted where it stood. After trimming off all that is decayed, the roots, with the soil attached, should be laid in a cool border carefully for future use. Celery for early showing must not be allowed to get pot-bound, and should be grown in a brisk warmth, if sticks of large size be looked for; at the same time it should be fully exposed to the sun, and kept close to the roof-glass. Pots of 6 inches diameter are a handy size for transplanting. The trenches for the reception of the plants should soon be got in readiness. These should be made wider than usual; and if the soil is bad, remove it and fill in with better soil, adding loam, soot, a sprinkling of salt, and rich farm-yard manure, digging this over on several occasions, so that it be sweetened. When there is no longer fear of frost, and the plants have been properly hardened-off, they may be planted.

LEEKS.—These roots may be dug up and laid in under a north wall. Leeks and Onions for showing that are growing in pots on hotbeds will soon require hardening off, preparatory to planting them out in the open garden, which should be done towards the end of this month. On fine days the lights may be removed entirely, and the plants occasionally damped over during the day, and always when closing the frame.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

VINES.—Vines in pots started last November should now afford ripe fruit. Continue to supply clear tepid water to the roots as required, for should they become dry, the berries will lose their freshness. The house may be kept much cooler, but a little heat should be allowed at night to maintain a temperature of 55°. The ventilators at the top of the house should not be quite closed at night, and during the day as much air should be given as practicable. If the bunches are not protected by plenty of foliage, a slight shade from the sun at mid-day will be beneficial to such varieties as Black Hamburgh and Madresfield Court, as these quickly lose their colour when exposed to bright sunshine. The bunches in later houses will require daily attention in regard to thinning, the best time being early morning. Do not touch the bunches with the hand, or rub them in the least, but use a thin bit of stick with several notches cut in it towards the end, as the beauty of the berries is easily destroyed. Large bunches of such varieties as Trebbiano, Gros Guillaume, and others, should have the shoulders supported with neat strips of matting, to allow the air to penetrate the centre of the bunch. Make long loops in the matting, so that the ties may be removed easily when the fruit is ripe without injury to the bloom. Keep the scissors clean and sharp, or the foot-stalks may be bruised. Most varieties that set and stone freely may be thinned considerably at the first operation, but such varieties as Muscat of Alexandria, Alnwick Seedling, and Mrs. Pince, where there is danger of loss when stoning, will require to be thinned much less, merely cleaning the bunches in the first instance of decayed flowers, &c., the final thinning being delayed until it can be seen which berries have stoned perfectly. After the bunches are thinned the surface of the border should be loosened, mulched with manure, and well watered. Keep the atmosphere charged with moisture, and the general management of the different houses must be regulated with careful regard to the weather.

MIDSUMMER AND LATE VINES will require disbudding, and the shoots to be stopped and tied to the wires as growth increases. When stopping the shoots, three leaves at least should be left beyond the bunch, and a greater length may be allowed where there is sufficient space for the foliage to develop. Long strips of matting should be tied loosely above the bunch, and the shoot brought nearer the wires each day until it is in the right position. If this be done suddenly, the young growth may snap off, particularly those of Black Alicante. Encourage young pot Vines to grow quickly by affording them plenty of heat and moisture.

PEACHES AND NECTARINES.—Late houses must receive close attention as the trees advance in growth, and the roots should be afforded water freely at intervals of not less than ten days. As the trees pass out of flower, disbudding and syringing should begin at once, or the tender shoots will be crippled by green-fly. Syringing the trees thoroughly twice a day should keep them free from this pest, and it is often through such work not being done that fumigation becomes necessary, which to say the least, is often a wasteful expense, and is dangerous to fruit and foliage if done carelessly.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

HERBACEOUS BORDERS.—Careful attention should now be given to plants which have recently been divided and were replanted during dry weather; they will require a plentiful supply of water, and a dusting of mixed lime and soot may be applied to the ground round them to keep off slugs, which are very troublesome during mild weather to such plants as Iris germanica and other tender but strong-growing plants with sweet foliage. Look over the plants at night and in the morning, and pick off any slugs that are seen. Division and replanting of such plants as Pyrethrums, Papaver nudicaule and P. orientale, Helianthus, Phloxes, Asters, Anemone japonica, Delphiniums, Funkias, Rudbeckias, Spiræas, Chrysanthemum maximum, and C. leucanthemum should be completed as soon as possible. Campanula pyramidalis and the different varieties of Canterbury Bells, also Lobelia cardinalis and its varieties, which have been wintered under glass, should be planted out into good rich soil at once. A liberal mulching of short manure should be applied to all newly-planted subjects. Hyacinths, Tulips, Narcissus, and other heavy flowers, should be given short stakes. Delphiniums, Pæonies, Helianthus, Inula glandulosa, and the beautiful Antheri-cums, &c., should be made secure from rough winds by early staking and tying. Clumps of Lathyrus latifolia and other varieties may be taken up and replanted, and Dielytra spectabilis may be divided and increased. Some plants of Sweet Briar and Rubus roseiflora, rosea, and alba, also a few specimens of H.P. Roses, should be planted to give variety and sweetness; nor should the old Southernwood be forgotten, and for a rather shady nook the pretty Hepaticas should be planted. These last-named require copious waterings during dry weather, and some short rich manure should be placed about them. Hyacinths, Tulips, &c., from pots should be planted about in herbaceous or other borders wherever there is space for them. If they are turned out of the pots and planted without disturbing the roots and before the foliage is yellow, the bulbs will ripen and give some useful flowers next spring.

SWEET PEAS.—The early-planted batch should be well staked with neat spraying branches of Beech or Elm. These plants are more satisfactory, and can be better protected when grown in lines than when grown in clumps. Make another sowing, and dust lime and soot about the early batch to keep off slugs; also remove Spruce branches which have been put to keep off frosts.

MIGNONETTE PLANTS which have been grown in pots during the winter should be planted out on a sheltered border to find an early supply for cutting purposes, and some of the early spring-sown plants should be planted when they have been well hardened-off in a frame. It will stand several degrees of frost without injury, but take care to keep off slugs. A sowing of seeds of good varieties should be made in drills 1 foot apart, and covered with fine rich soil, and the plants should be well thinned out when a few inches high.

ANTIRRHINUMS AND PENTSTEMONS.—Autumn-sown plants and cuttings should be planted out as soon as possible on rich ground, to produce a good supply of bloom. Spring-sown seedlings should be pricked into boxes or frames to become strong before planting out.

BORDER CARNATIONS, ALSO PINKS AND PICOTEES, which were sown in January, should be planted out at once. Seeds may still be sown of these in boxes or pans of fine rich soil, and placed in a frame or pit. Shade from bright sunshine, and prick out into boxes as soon as they can be handled. The plants from this sowing should stand the winter well.

WINDOW-BOXES AND VASES should be filled with plants to make an early display outside as soon as the danger from frost has gone.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, April 23: Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster — Lectures on Primulas and Auriculas.

SHOWS.

WEDNESDAY, April 24: Royal Botanic Society's Second Spring Show; Birmingham Botanical Society's Spring Show (2 days); Chesterfield and District Chrysanthemum Society's Show of Spring Flowers at Tapton Grove; Durham, Northumberland, and Newcastle Botanical and Horticultural Society's Spring Show (2 days); Battle of Flowers at Eastbourne.

SALES.

MONDAY, April 22: [illegible], Ferns, Palms, Begonias, &c., at Protheroe & Morris' Rooms.

TUESDAY, April 23: Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, April 24: Tuberoses, Roses, Continental Plants, Lilies, and Palm Seeds, at Protheroe & Morris' Rooms. Unusually Important Sale of the Selwood Collection of Established Orchids, by order of the Executors of the late G. D. Owen, Esq., by Protheroe & Morris (three days).

FRIDAY, April 26: Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—49°.5.

Technical Education.

That the *Gardeners' Chronicle* should feel some amount of satisfaction at the symptoms of progress in cultural education and experiment in the various counties of Britain is natural enough. Many years before County Councils and their technical education schemes were heard of, we pressed upon our readers the urgent necessity for such measures, in view of ever-increasing foreign competition and other circumstances. We pointed out so often what was done in the United States, in Germany, Belgium, France, Denmark, and other countries, in the diffusion of cultural knowledge and in the promotion of research, that our patriotism was impugned, and we were charged with unduly exalting other countries at the expense of our own. We are not inclined to bandy recriminations, but we may at least say without offence that we had the interest of our country at heart at least as much as those who are now bemoaning the prevalence in our markets of objects "made in Germany." At the same time we showed how the necessities of the times demanded that, so far as circumstances allowed, horticultural methods should be followed by the farmer. Many have seen the necessity for this, as is shown by the vast increase in the area cultivated under glass within the last few years, alluded to on another page. Wheat-growing does not pay, but on the average the culture of Grapes, Tomatos, Cucumbers, flowers, fruit, and forced vegetables does pay, where the conditions are favourable, and where the proprietor knows his business. It is folly to suppose that any one can succeed in any profession if he has not been taught its principles and trained in its practice. The failures that one hears of are mostly traceable to the notion that a man can suddenly, and without previous training, manage a business profitably. This seems a bare platitude, and so it is; nevertheless, experience shows that people do not realise the force of the truth it enunciates.

The practice in the different County Councils varies a good deal, but the ultimate object is the same. In some counties the interests of the present generation are alone considered; practical instruction in cultural details is the main thing aimed at. Instruction is given by peripatetic teachers, who visit the country districts, and supply valuable information to the residents. When this is combined with actual demonstration, and, still better, with actual practice, as where gardens and allotments are visited at intervals by competent instructors, the result is likely to be excellent. Local exhibitions also serve to stimulate emulation, and supply profitable object-lessons.

Extremely valuable as is the kind of instruction just given, it clearly does not meet all the necessities of the case. So far as mere practice goes, our best cultivators are as good, or even better, than any others—at least, we are told so; but it is very easy to blind ourselves in this matter, and to assume a self-complacency, which is not always justified. But, assuming that the notion, that the average British cultivator is the best in the world is true,—what then? How much better is he than his forefathers? Put out of consideration the superior material advantages placed at his disposal by the progress of science, and the more general diffusion of wealth, how much better is the practical man of to-day than his predecessor of the last century? Not much, we fancy, if at all. Indeed, we hardly see how he can be. A man's practical skill is limited within a narrow range; his personal experience is equally bounded by the horizon of his opportunities. You cannot increase his skill beyond a certain point, neither can he transmit it to his successors. But when you come to knowledge, the case is far otherwise. Its range is always extending, and its possessor can transmit it to his successors, to be by them extended in their turn.

Some of the County Councils have recognised this, and framed their plans with reference to these considerations. They are not content to instil the best practical lessons available, but they are endeavouring to secure the diffusion of knowledge of cultural principles as the most fruitful source of future improvement in practice. To do this the teacher must himself be taught, and with this object the Essex County Council, for one, trains—note the word, trains—a number of instructors every year. These men and women (for the instruction is not confined to men) are thoroughly instructed in the principles of chemistry, zoology, and botany, as applicable to practical cultivation. They are not taught merely from books or lectures, but they are made to teach themselves by actual work in the laboratory. No university training is more complete of its kind than that given at Chelmsford, as is evidenced by the results shown in the competitive examination, and still more in the preparation of elaborate monographs, dealing in the most complete manner with the structure and natural history of particular plants. But it will be said these highly-trained teachers are not practical men—they have no experience in the field or garden. To this it may be replied that teaching is their business, not gardening nor agriculture. Their training has, nevertheless, all been with a practical end in view, to enable them to give to practical men just the kind of information they lack, to supply hints and suggestions that the unassisted practical man would never think of, and to enable him to meet new conditions, and profit by opportunities that would otherwise be neglected.

A third method pursued by many of the County Councils is that of practical experiment and research, such as is also carried out by the Agricultural Research Association of Scotland; the Agricultural Department of University College, Bangor, under the superintendence of Mr. Dutton; and others. This is the plan followed by the Wilts County Council at Warminster, whose report on experiments with Potatos and Onions, published by Eyre & Spottiswoode, is before us. We cannot go into details of the several experiments made in the cultivation, manuring, &c. These were very satisfactory on the whole, though nothing particularly novel was elicited, and but for the acknowledged necessity of "beating things into people's heads," we should have characterised the experiments in the same category as slaying the slain. Object-lessons, however, such as these at Warminster, are most valuable for the instruction of that very large class of the community who never read, or at least never act on what they read. From this point of view, we are glad to see that during the coming season it is hoped that practical and theoretical classes will be arranged in connection with this experimental work for those teachers of the county continuation schools who are teaching Agriculture and Horticulture. We may add, that the Appendix to the Warminster Report contains an excellent account of the preparation and application of the Bordeaux Mixture, which will be valuable for reference.

Whilst, then, we are still wofully behind our neighbours, there are at least some obvious signs of progress, which a quarter of a century ago were not perceptible.

Sophronitis grandiflora. — Our Supplementary Illustration represents an instance of noteworthy success in Orchid cultivation from the gardens of Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society, whose collection of these plants is so interesting and valuable, and withal managed with such unceasing care, that we have frequently to select specimens exhibited from this establishment for representation in our pages. The specimen of Sophronitis grandiflora is a magnificent plant, and when exhibited before the Royal Horticultural Society on March 12, when the species was awarded a First-class Certificate, it carried about sixty very fine blooms. The plant has been grown from a small piece by Sir Trevor Lawrence's grower (Mr. W. H. White), who has frequently given in our Orchid Calendar his method of cultivating this species. We are indebted to Sir Trevor for the photograph from which our illustration was taken.

Royal Horticultural Society.—The next meeting of this Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, April 23, when, in addition to the Society's ordinary show, the National Auricula and Primula Society will hold its annual show. At 2.30 P.M. a Conference on Primulas and Auriculas will be held in the Hall. Professor Michael Foster, F.R.S., has promised to preside, and the following papers will be read:—"New Primulas," by Mr. J. G Baker, F.R.S., &c.; "Culture, Classification, &c., of Primulas," by Mr. Selfe-Leonard; and "The Auricula," by Mr. J. Douglas. By way of illustrating the Conference, the Council would be glad of exhibits of as many different natural species of Primula as possible.

The Royal Horticultural Society and Hardy Fruit Culture.—The Council of the Royal Horticultural Society of Great Britain offers a prize of £10 for the best essay on "The Commercial

Sophronitis grandiflora, grown in the Garden of Sir Trevor Lawrence, Bart., Pres. R.H.S.

Colour of Flowers orange-scarlet; size much reduced.

Aspect of Hardy Fruit Growing in the United Kingdom." The essay is not to exceed 10,000 words, to be sent under seal to the Secretary of the Society, 117, Victoria Street, Westminster, on or before August 1, 1895; each essay to be signed with a motto, and the writer's real name and address enclosed in a sealed envelope bearing the same motto outside. The prize essay to become the sole property of the Council of the Society, to deal with in any way they may think fit. Unsuccessful essays will be returned after October 1, 1895, on application, enclosing the necessary postage, and the motto of the writer.

ROYAL BOTANIC SOCIETY.—At the meeting of the Royal Botanic Society on Saturday, 6th inst., the Secretary announced that forty-one Fellows had been elected since the beginning of the year, a large increase on the number elected during the similar period in the previous year. If that rate of increase continues, perhaps the gardens will soon be opened to the public on terms similar to those adopted by the Council of the Zoological Society.

LINNEAN SOCIETY.—April 4, Mr. C. B. CLARKE, F.R.S., President, in the chair. Graf zu Solms, Laubach, and Messrs. C. A. Barber, S. T. Dunn, J. D. Haviland, and A. P. Young, were admitted. The Rev. A. Thornley, J. W. Carr, and W. H. Wilson Elliott, were elected Fellows. On behalf of Mr. W. B. HEMSLEY, Dr. O. STAPF exhibited some new plants from the Solomon Islands, collected by the Rev. R. B. COMINS. Mr. S. W. SILVER exhibited a specimen of the New Zealand Frost-fish, Lepidopus caudatus (Gunther), and commented upon the causes which had been assigned for the mortality to which this fish was periodically subject. Prof. STEWART in reviewing, published opinions on the subject, suggested the possibility of these fish (which in winter were often thrown up on the beach in hundreds), being attracted by the silvery brightness of the frosted banks, in the same way that birds perished from contact with the lanterns in lighthouses, to which they were attracted during their migrations. Prof. HOWES thought from the published remarks of those who had written on the subject, that in some instances, at least, the fish supposed to be Frost-fish, belonged to another species, and some confusion has been thereby created. Mr. S. W. SILVER also exhibited a large specimen of polished Totara-wood (Podocarpus Totara), from New Zealand, as illustrating the ornamental nature of a remarkable native tree, which might be turned to good account, but which was being generally destroyed by burning, to clear the ground and save trouble, as was said, to agriculturists. Mr. GEORGE MURRAY exhibited some calcareous pebbles, formed by fresh-water Algæ, and with the aid of the oxy-hydrogen lantern showed the minute details of structure in specimens from different localities. Dr. J. D. HAVILAND exhibited a curious collection of Termites, including living specimens of the white ant of Borneo, and gave a brief account of their habits. His remarks were criticised by Mr. A. CONSTABLE, who offered some remarks upon Indian species of Termites. A paper was then read by Mr. H. N. RIDLEY, on the "Cyrtandraceæ of the Malay Peninsula," illustrated by selected specimens of some of the more remarkable species. Dr. O. STAPF called attention to the fact that a new species of Cyrtandra was included amongst the plants from the Solomon Islands, which have been forwarded for exhibition by Mr. HEMSLEY.

LES DROGUES SIMPLES D'ORIGINE VÉGÉTALE, PAR M. G. PLANCHON ET E. COLLIN.—This is a valuable treatise on the drugs of vegetable origin, published by OCTAVE DOIN, Paris. The chief value of the work to English students lies in the abundant illustrations, and more especially in the representations of microscopic structure, which are particularly valuable.

FLOWERS FROM SCILLY.—Nearly 5000 packages of flowers, weighing over 21 tons, *vide* the *Western Morning News* of April 10, 1895, were despatched from the Isles of Scilly for the London, Midland, and Northern markets. The steamer *Lyonnesse* was slightly detained by the fog, and the flowers were despatched by a special train from Penzance following the mail.

A PARASITE VALUABLE TO THE VINE.—The observations of FRANK and others have shown that Beeches, Birches, Pines, Limes, and many other plants grown in humus soil generally have their roots infested by a particular fungus (Mycorhiza) which, living symbiotically in co-operation with them, absorbs nutriment from the humus and communicates it to the roots of the plant, which finally benefits by it. M. ZAWODNY, of the *École d'Agriculture*, Znain, examining Vines from Bukowine (Austria), grown in soils rich in humus, and formerly planted with Oaks, Pines, and Elms, found the rootlets of these Vines covered with Mycorhiza, existing not only on the surface of the root but in the bark-cells (endotropous Mycorhiza). This fungus penetrates the intercellular substance of the epidermal cells, and almost entirely fills the cells of the bark which are not otherwise affected. The fungus develops with the root, and always maintains connection with the soil by filaments which pass from the infested bark to the outer surface of the root. The mycelium gradually dies in the old portions where absorption no longer continues, its purpose being fulfilled. From the experiments made with Isabelle Vines grown in soil rich in humus, Mr. ZAWODNY is convinced that these Mycorhiza are indispensable for the nutriment of the roots. *Zawodny, Revue Scientifique*, 1895, p. 411. See "Answers to Correspondents," p. 500.

TULIPA VIOLACEA.—Messrs. BARR & SON send us a specimen of this new species of Tulip, T. violacea, imported from Persia. It is the earliest of all Tulipa species to bloom. A fortnight ago it opened at the nursery, planted out-of-doors, when only Galanthus had just come in. It grows about 4 inches high.

DUNDEE HORTICULTURAL ASSOCIATION.—At the meeting of this Association held on Tuesday, April 2, Mr. THOMAS ROBERTSON, gardener, Rockfield, Dundee, read an interesting paper, treating of the historical, horticultural, and practical importance of the Pea. As a grower, he considered that the wrinkled varieties of that vegetable were preferable, being better flavoured, and yielding a good return. The lecturer deprecated heavy manuring, advising mulching, and frequent application of liquid manure during growth. The importance of staking was also commented upon.

LIVERPOOL HORTICULTURAL ASSOCIATION.—The spring flower show of the Liverpool Horticultural Association was held on April 4 in St. George's Hall, and proved a highly successful one. Messrs. R. P. KER & SON, of Liverpool, staged a magnificent group of Amaryllis, considered by the judges worthy of more distinction than the Certificate of Merit which was all they had power to award.

IPSWICH AND EAST OF ENGLAND HORTICULTURAL SOCIETY.—A public meeting was recently held at the Ipswich Town-hall, the Mayor, Dr. J. H. BARTLET, presiding, with a view to determining whether or not the Society's flower-shows should be continued. A doubt had been suggested as to whether, considering the unsatisfactory financial condition of the Society, that body were justified in arranging for a show entailing much expense for prize-money and bands. It was ultimately resolved to endeavour to obtain additional subscriptions and support, so as to justify the continuance of the flower-show, and re-establish the Society on a sounder financial foundation.

TORQUAY GARDENERS' ASSOCIATION.—On Friday, March 29, at a meeting of the Torquay and District Gardeners' Association, Mr. W. B. SMALE read a paper on the "Ghent Quinquennial Horticultural Exhibition." The lecturer gave an appreciative account of the great show, the fine exhibits, and general interest thereof.

DAFFODIL F. W. MOORE.—Mr. GUMBLETON tells us that he has just bloomed this variety for the first time. It is growing alongside of Glory of Leyden, than which it is a much finer thing. It must be fine, indeed!

BIRMINGHAM GARDENERS' ASSOCIATION.—On Wednesday, April 3, Professor HILLHOUSE lectured before the Birmingham Amateur Gardeners' Association on "The Story of an Alpine Flower." The lecturer treated his subject from a botanical, geographical, and geological point of view, speaking of the distribution of the Alpine flora of the world, and of the probable climatic changes thus indicated. "The Story" was pleasantly told, and proved interesting, as well as instructive and suggestive to the audience.

DEVON AND EXETER GARDENERS' ASSOCIATION.—The last winter meeting of the above association was held at the Guildhall, Exeter, on Wednesday, April 3. The papers read during the session were again considered, and a discussion followed, in the course of which the uses of Jadoo Fibre were favourably mentioned.

WHITE MIGNONETTE.—Messrs. Low write that this fine variety, lately shown at the Royal Horticultural Society, is now in fine condition at their Bush Hill Nurseries, Enfield.

HORTICULTURAL COLLEGE, SWANLEY.—We have received the third annual report of the Women's Branch of the Horticultural College, Swanley, Kent, and learn that the progress and present condition of the enterprise is satisfactory, the number of women students during 1894 being thirty-two.

PRESENTATION.—On Thursday, at the Town Hall, Tywardreath, Mr. RASHLEIGH, of Menabilly, on behalf of a committee, presented to Mr. THOS. RUNDLE, who for upwards of forty years has successfully conducted the old Tywardreath Cottage Garden Society, a marble timepiece and a purse of money.

WIDCOMBE HORTICULTURAL CLUB.—A meeting of this club was held on the 11th, at Widcombe Church Room, Mr. J. HINTON presiding. A useful discussion on Potato culture was held. Dealing with the important subject of the disease, he pointed out the advantages which could be obtained by the club having a spraying apparatus for the use of the members, and which also might be let out.

BIRMINGHAM AND DISTRICT AMATEUR GARDENERS' ASSOCIATION.—There was a good attendance at the last meeting of this Association, when Mr. W. H. PEAKE, of Handsworth, gave a paper on "Ferns." Mr. PEAKE gave cultural instructions for all the ordinary varieties. The principal points to be noticed were careful watering, shading, and the nature of the compost to be used.

TOOTING, BALHAM, AND MITCHAM HORTICULTURAL SOCIETY.—An interesting paper on the subject of grouping Chrysanthemums was read before the members of this Society on Thursday night, by Mr. NEWELL, of Fairlawn, Wimbledon Common. Mr. NEWELL treated on cultivation from the cutting to the full-grown flower, and detailed the methods which he used for grouping them in the best manner.

BRISTOL AMATEUR HORTICULTURAL SOCIETY.—This Society, which was formed about eighteen months ago for the laudable object of developing a love for and knowledge of horticulture amongst the amateurs of Bristol and neighbourhood, has arranged an interesting course of monthly lectures, the fourth of which, on "Chrysanthemums and their Culture," was given at Colston Hall on Wednesday last, by Mr. A. J. SMITH, of the same city. In the absence of the President, Mr. JOHN WILLS, F.R.H.S., the chair was taken by Mr. ED. MACHON, Hon. Treasurer, who presided over a large attendance. Mr. SMITH dealt with his subject in an able and

interesting manner. The Society evidently numbers many amateur cultivators of the Chrysanthemum amongst them, and numerous questions were put to the lecturer, who was awarded a hearty vote of thanks.

Anemone japonica, Silver Cup (Coupe d'Argent).—Messrs. V. Lemoine & Son, of Nancy, announce that they have succeeded in obtaining a new variety of Japanese Anemone, to which they have given this name. The original Japanese Anemone was introduced in 1845 by Fortune; the flowers are small, with narrow petals, of a more or less dark carmine red. Another form of the same species, with broader petals, of a soft lilacy rose, was brought out some time after under the name of Anemone japonica elegans, and M. Jobert, a banker of Verdun, succeeded in obtaining from it as a sport, about 1862, a form with perfectly white flowers, Anemone Honorine Jobert. Neither of these three varieties produced fertile seed until a few years ago, when by great good luck an Irish gardener gathered seed of A. Honorine Joubert, and raised from them three plants, of which one showed a decided improvement, and was brought out under the name of A. japonica Lady Ardilaun. Almost at the same time a variety called Whirlwind, with semi-double flowers, also due probably to a sport, appeared in the United States, while the artificial fecundation practised by us produced A. japonica alba semi-duplex, then Anemone Coupe d'Argent, of which the following is the description:—The leaves are as large as those of the variety Lady Ardilaun, rather firm, almost coriaceous, of a shining and lustrous green; the stems, as thick as a lead pencil, are upright, and bear many perfectly erect flowers on firm pedicels. The flowers, measuring about 4 inches in diameter, are formed of three or four whorls of more or less undulating and hooded petals, which give the appearance of small cups. From thirty-five to fifty have been counted; the colour is cream-white, shading into pure white. The flowers, which open from October 15, have a pale rosy flush. The plant grows to considerable height; the habit, quite erect, is entirely different from that of A. Honorine Joubert, and the heads of flowers are double the height of those of the variety Whirlwind.

Newcastle and District Horticultural Mutual Improvement Society.—The monthly meeting of this Society was held recently at their rooms, 25, Westgate Road. Mr. Bullock presided, and there was a good attendance. A large collection of Dendrobium blooms, both natural species and hybrids, exhibited by Mr. Murray, of Oakwood, evoked much interest, and were very much admired. Mr. Larke, of North Dene, Gateshead, read a very able paper on the Narcissus, embracing their cultivation, both indoors and in the open border, illustrating his remarks by specimens.

Self-help Emigration Society.—Among the matters of interest afforded by the report of this Society, we observe that care is taken to assist only those whom there is reason to believe will benefit themselves and the land they purpose making their home by emigration. The Society does not propose to pay the passage of any intending emigrant, but believes in helping people to help themselves, and bases all its operations on this principle. The Society's emigrants are sent out chiefly in large parties, and under the direct superintendence of some thoroughly well-known and trustworthy person. Three such parties proceeded to Canada last year under the supervision of as many ministers, and a fourth was in the charge of a well-known journalist. During the ten years of the Society's operations nearly 5000 persons have been assisted to the various British colonies at a cost of £25,945 for ocean passages, rail, &c., of which sum £19,266 (74 per cent.) has been contributed by the emigrants themselves, or those personally interested in them. Places can, it is alleged, be readily found for hundreds of good farm labourers and domestic servants, and a reasonable number of good mechanics, such as carpenters, bricklayers, stone-cutters, &c. Strong, healthy young men, who are willing to take rough work on farms, can be placed in situations without difficulty, and often succeed surprisingly well. The Committee of the Society has the Governor-General of Canada, Lord Aberdeen, at its head as President; Mr. Ed. E. Barclay, of Messrs. Barclay, Bevan & Co., as its Treasurer; and Mr. E. Wilson Gates, of the Memorial Hall, as its Secretary.

Sibthorpe's "Flora Græca."—A superb picked copy of the original issue of this magnificent work, of which only twenty-five copies were completed, came under the hammer at Messrs. Sotheby's, in the course of the dispersal of the library of his excellency, M. John Gennadius, late Greek Minister to this country. The copy just sold belonged to Mr. Thomas Platt, who was officially connected with the publication of the work, which spread over a period of thirty-four years—1806 to 1840. The subscription price was £239 8s., and the cost of binding 30 guineas. At Mr. Platt's sale in 1883 this copy only realised £100, but we are glad to note that it has now advanced in value to £168. The same lot included the account-book, subscribers' names, correspondence, report of the trial, Trustees of the British Museum *v.* Payne & Foss, in the matter of the work, and interesting memoranda relating to its publication. The ten volumes are bound in green morocco, by C. Lewis. The 900 plates are beautifully coloured, and it is not every day that such a noble botanical book comes into the market.

The Lotus of the Egyptians.—"But for cheapness of provisions, they have this other invention too. When the river becomes full, and the flat lands are changed into sea, there spring in the water many Lilies, which the Egyptians call Lotus. These, when they have plucked, they dry towards the sun, and then that which comes from the middle of the Lotus being similar to the Poppy, having husked they make from it loaves roast with fire. There is also the root of this Lotus eatable, and it has a fairly sweet taste, being globular in size according to an Apple. There are also other Lilies similar to Roses springing in the river also these, from which the fruit in another sheath growing beside [the flower (?)] comes from the root, in outline very like a wasp's comb. In this there are produced frequent things eatable raw, of the size of the stone of an Olive. And these are eaten raw, both tender and dried." "The above," writes R. D. B., "is a slavishly literal rendering of the passage about the Lotus. Herod. ii., 92. And I submit that instead of describing any rosy Lotus, he says nothing about the colour of the Lilies secondly described, but simply compares their form to that of the Rose as he had compared the centre of the Lotus (using the same adjective to express resemblance) to the Poppy-head. And the tendency of the passage is rather to distinguish this latter Lily from the Lotus. Neither does he speak of any other stalk proceeding from the root, but of a separate calyx only. No honeycomb is mentioned, but evidently the case containing wasp-grub. Into questions of identity I will not pretend to enter, deeply interesting as they are, but possibly an accurate version of the text may be welcome to those who discuss the point without their Herodotus handy. In my early days the 'Egyptian Bean' was believed to be the Colocasia. Perhaps that is now exploded." See also p. 495.

M. Ed. André.—We are pleased to learn that our distinguished colleague, the Editor of the *Revue Horticole*, has been promoted to the grade of Officer of the Crown of Italy, in recognition of his work as a landscape-gardener in remodelling the public gardens of Rome.

Sale of Orchids at Selwood.—The executors of the late G. D. Owen, Esq., have instructed Messrs. Protheroe & Morris to sell by auction the valuable collection of Orchids at Selwood, Rotherham, Yorks, on April 24 and two following days.

The Wild Primrose.—If it be true that the wild Primrose is becoming a scarce plant, owing to the "fad" of wearing the blooms on the anniversary of Lord Beaconfield's death, in southern woods and the breezy downs of Sussex, Kent, Surrey, and Hampshire, why does not private enterprise step in to meet, at least, some part of the demand for the blossoms, and cultivate the plant by the million? It should at least pay as well as Wallflowers and Musk. In dedicating the Primrose to the dead, we are but imitating the Greeks of antiquity, who are said to have made use of the flowers of the Polyanthus, among other species of plants, in decorating the graves of the departed. Doubtless some species of Primula is meant, and not the flower known to us as Polyanthus, which is a garden hybrid of Primula veris and P. officinalis.

The Gardeners' Royal Benevolent Institution and Wolverhampton and Staffordshire Auxiliary.—It has been decided, writes Mr. G. A. Bishop, to hold a floral fair and promenade concert in the Drill Hall, Wolverhampton, on April 30 and May 1, and grand displays of cut flowers, plants, and floral devices are promised from various parts of the county, from Sheffield, Birmingham, and London. The proceeds will be divided between the Duke of Fife's dinner and the Auxiliary. The promoter, Mr. G. A. Bishop, is desirous that gardeners and others resident in Staffordshire, and their friends elsewhere, should render all the assistance they can, either by offering their services on the days of the fair, or by sending flowers, button-holes, sprays, bouquets, or other exhibits, which will be considered as gifts made to the Institution. Gardeners in all parts of the county would afford the floral fair assistance by sending boxes of cut flowers for sale. The lines upon which the auxiliary is to be worked are as follows. The principal gardeners in the county will be asked to act as stewards of the auxiliary, a position which will constitute them a committee, and necessitate their meeting once in a year. It is considered that the following gardeners—Messrs. P. Blair, T. Bannerman, E. T. Gilman, W. Chapman, W. Bennett, J. Wilks, W. Kipps, J. Hamilton, G. Ambrose, and some others should form the actual committee; but it being almost impossible for them to meet sufficiently often to properly carry on the management of the branch, a working committee has been appointed. The chairman has collected nearly £10, and he hopes to obtain a much larger amount from the well-wishers of the institution. Those persons who may be desirous of taking part in the management are requested to write to G. A. Bishop, Netherton Farm, Wightwick, Wolverhampton, or to send flowers and other matters to the Drill Hall, Wolverhampton, not later than April 30.

New Publications.—*L'Horticulture dans les Cinq parties du Monde*, par Charles Baltet. Paris: 84, Rue de Grenelle. A most important work, which will demand future notice.—*The Clerk of the Weather*. 1*d*., monthly. (429, Brixton Road, London.)—*The Wild Flowers Collecting Book*, by F. G. Hulme. (Cassell & Co.)—*Annual Report of the Secretary for Agriculture, Nova Scotia.*—*Bulletin of Iowa Agricultural College Experiment Station.*

PLANT PORTRAITS.

Asparagus camoensis, *Illustration Horticole*, February 28, p. 61.

Aster spectabilis, Aiton, *Meehans' Monthly*, March.—Hardy perennial, flowers lilac, involucral scales leathery, green-tipped.

Azalea indica, Deutsche Perle, *Revue de l'Horticulture Belge*, April 1.

Bougainvillea spectabilis, *Illustration Horticole*, March 30, t. 30.

Catalpa speciosa, *Revue Horticole*, March 16.—Flowers twice the size of the ordinary species.

Costus speciosus, *Garden*, March 9.

Encephalartos horridus ♀ cone, *Moniteur d'Horticulture*, March 10.

Habenaria carnea, *Garden*, March 16.

Hemaria discolor var. Denisoniana, *Revue de l'Horticulture Belge*, March.

Macodes petola, *Revue de l'Horticulture Belge*, March.

Magnolia grandiflora, *Dictionnaire Pratique d'Horticulture*, liv. 35.

Manettia bicolor, *Revue de l'Horticulture Belge*, March 1.

Methonica superba (= gloriosa), *Illustration Horticole*, February 28.

Oncidium Gravesianum, Rolfe, *Revue de l'Horticulture Belge*, April 1.

Pear Marie Louise d'Uccle, *Bulletin d'Arboriculture*, &c., March.

Pentas carnea, *Journal of Horticulture*, March 7.

Home Correspondence.

GARDENERS AND EDUCATION.—I was amused at the tone of "W. G.'s" article on this subject (p. 466), but what he says is, I think, quite correct, and I agree with it. As to the books he mentions, I am afraid the majority of young gardeners could ill afford the price of them. Would it not be far better if those ladies and gentlemen who furnish bothies provided a comfortable room with book-case filled with the standard works and manuals on gardening subjects, to be placed in charge of the foreman? There are large gardens where the head gardeners take high premiums from young men, and yet many such gardens possess not a single book for the use of the young men. This certainly should not be. Instead of pocketing all the money, why not with some of it buy the much-needed gardening books? *G. Burrows, Warwick.*

SEAKALE "GREENS."—Guess my consternation at your recent denunciation of the flavour of green Seakale and Spinach Beet. Regarding the latter, I know that its usefulness is much appreciated by many, and especially where the ordinary varieties fail to grow properly; and as to its flavour, I know a lady who prefers it to the ordinary Spinach, and which latter she deems as too insipid. Hence, we have the extremes in difference of palates, and much also depends upon the care bestowed on the cooking of either the green leaves or their stalks, which latter have been substituted for blanched Seakale. *W. G., Harborne, Birmingham.*

PRIMULA OBCONICA.—This perpetual-flowering species can now be seen in attractive character at Gunnersbury Park, Acton. Mr. G. Reynolds has a group of some ten dozen plants in a frame, mostly growing in 5-inch pots. The plants were raised from seed sown in March, 1894. The visitor, when approaching the frame, is led to wonder what sort of plant it is that yields such an enormous mass of bloom, for the frame appears to be filled with blooms of delicate tints. Some of the trusses are ball-like, assuming the character of those of P. denticulata; others are spreading, with a tendency to develop whorl above whorl, as P. sinensis will sometimes do. The flowers vary in form; some varieties have rounded, stout pips, of good size; others, but only a few, are small and starry; and, as far as my own experience goes, inferior reversions will appear in seedlings from the finest types. Then the colours vary between white to mauve-pink and pale mauve, the white being quite pure, and they form a good contrast to the others, such as silvery-greys, blush, pinkish-lilac, and so on. The great variety of colours and tones shows the care that should be taken in attaching varietal names to such as are not of a very distinct character. It needs a little warmth during winter, but in the late spring and summer it succeeds under cool treatment. I may add that neither Mr. Reynolds nor any of his assistants appear to suffer in any way from handling the plants. *R. D.*

IS THE NELUMBIUM AN EGYPTIAN PLANT?—Herewith I send you some extracts from ancient writers respecting the Egyptian Bean, which may, possibly, be of some interest in the investigation of this question. It is very well known, that for several centuries the identification of the Faba egyptiaca, or Egyptian Bean, has been involved in mystery; and I do not think that, to the present time, the question has been satisfactorily disposed of. Professor Sayce refers to *Herodotus*, ii., 92, and therein I find his description of a plant as follows, which refers merely to the Lotus:—"When the waters have risen to their extreme height, there appears upon the surface an immense quantity of plants of the Lily species, which the Egyptians call Lotus; having cut down these, they dry them in the sun. . . . There is a second species of the Lotus which grows in the Nile, and which is not unlike a Rose. The fruit, which grows from the bottom of the root, resembles a wasp's nest; it is found to contain a number of kernels of the size of an Olive-stone, which are very grateful either fresh or dried." *Theophrastus*, Hist. Pl. iv., 10, p. 437, gives an elaborate account of the Bean, and remarks that it grows in Cilicia, the Chaldean fields of Syria, and in the Euphrates. *Scaliger*, in his animadversions upon this chapter says, that the pink Lotus is the Egyptian Bean; but in Bk. ix., ch. xiii., p. 1093, after making some remarks upon the Lotus, goes on to say: "Before I finish my account, I wish to point out the error in our fourth book that the Egyptian Bean and the Lotus were one and the same plant; but the experience and diligence of more recent writers, especially Justus Heurnius, prove that they are not the same." *Strabo*, xvii., p. 799, says: "In the lakes and marshes of Egypt grow the Bullrush and the Egyptian Bean, of which latter cups are made, which they call Ciboria. Their branches are nearly equal, and about 10 feet high. The stem of the Bullrush is naked, having a kind of moss on the tip. The Bean puts forth leaves and branches in many parts, and the fruit is very like our Bean in size, but differs in taste." The *Ortus Sanitatis* of J. A. Cuba, printed at Mayence in 1491, has a notice of the Egyptian Bean as follows:—"Many persons call the Egyptian Bean polleticon. Its habitat is Egypt, Syria, and Sicily. The leaves are of some length and breadth; it has yellow flowers, and if it blossoms freely the leaves perish. The flower-stalk comes up from the root. . . . . The root is thicker than a reed, and is eaten either boiled or raw. It is called 'Collocasia,' or 'Colcasia.' . . . . . The seed is eaten dry, which is of a greenish-black colour, and larger than our Bean. *Salienus*, in his second book of aliments, gives a chapter upon the Egyptian Bean, and does not consider it to be a Lupine, as some have thought, and he has given a separate chapter upon the Lupine. *Avicenna* says, in his second book, that the Egyptian Bean is the Syrian Bean, and he forthwith calls it the Syrian Bean, having seen so much of it growing in Syria. He says, also, that the Syrian Bean is the Greek Bean. Serapias says that the Egyptian Bean is very heavy, and weighs as much as four pounds, according to the Arabs." That the Egyptian Bean could not have been any variety of the plant which we cultivate is proved by the remark of *Herodotus* (ii., 37), wherein he says:—"Beans are sown in no part of Egypt, neither will the inhabitants eat them, either boiled or raw; the priests will not even look at this pulse, esteeming it exceedingly unclean." Pythagoras, who travelled much in Egypt, adopted their priests' notion respecting the Bean, for during the period of his influence in Greece he forbad the legume to be used. I am very much disposed to consider that the term "Egyptian Bean" is a misnomer, and that the Nelumbium was not an Egyptian plant; for, considering the abundance of its seeds, it could not have been so effectually exterminated. *C. Leeson Prince, The Observatory, Crowborough.* [See also p. 494].

PROFITABLE WOOD MANAGEMENT.—I scarcely think that any land-owner or practical forester will take your correspondent's statements seriously. Mr. Webster's text seems to be what Mr. Elwes stated, and from that text Mr. Webster has preached an erroneous sermon. The whole point lies in the qualification "ordinary." That qualification settles the question so far as ordinary land, which is known as medium arable land, is concerned. No person would think of planting ordinary agricultural land with trees, although it might pay in some instances. Let us take a case in point, and see whether it pays to plant or not. On one of the properties I manage, there is a fine plantation of considerable extent, the average age of which is ninety years. The quantity of wood sold from this plantation during its existence, together with the stock left, amounts to 12,000 cubic feet per acre. Take this at 4*d.* per cubic foot, and you have £200 (the greater part was sold at 6*d.* per cubic foot). The rent of the land at 2*s.* per acre, equals in ninety years, £9. Planting, fencing, and draining, cost £4; maintenance from date of planting till now, £8; interest on capital, say £4 at 5 per cent., £18; in all £39 per acre, leaving for wood alone, £161. Add to this the value of the game killed during the last forty-five years, which amounts *in cumulo* to £22 10*s.* per acre, net revenue. You have then a clear value of £183 10*s.* per acre. I will leave the figures to speak for themselves. I know of many similar instances, and also of some better, others not so good, while some others are failures; but because of a few failures, which in most instances are easily accounted for by practical men, are we to cease doing good? In the face of the above figures, I ask, "Is it not ridiculous for anyone to say that woods will not pay?" The accounts have been most carefully and accurately kept during the whole period, taxes only being omitted. *D. T. Mackenzie, Mortonhall Estate Office, Midlothian.*

THE CHISWICK VEGETABLE EXHIBITION.—I have seen a copy of the schedule of this show. Alas, what a difference is there between the anticipation and the realisation! What a capital opportunity to create an original and attractive as well as a serviceable show has been lost! The schedule is just of the old order, full of imperfections, and worthy of a country cottagers' exhibition. It is an exhibitor's schedule, so far as it offers capital opportunities for the few to pick up many prizes, but as to constituting a schedule that should prove educational, it is valueless. Remembering that just now the Royal Horticultural Society has a special committee engaged in endeavouring not only to formulate a code of judging, no pains having been spared by those having charge of the section to have that section perfect, not only in regard to points, but also in regard to schedule descriptions, the Chiswick schedule is a deplorable one. Certainly, those who have so far done so much might have been first consulted. *A. D.*

PRIMULA VULGARIS.—If we may judge by the enormous quantities of Primrose flowers sold in the streets day after day, we need have little fear that the hardy or wild Primrose is being exterminated. So far for appearances, yet it may be that the very evidence of abundance seen is still the best proof that extermination is going on, because the Primrose is not a long-lived plant in its native wilds, and seems to be largely increased from year to year through the agency of seed; that very much of this seed falls on grass or such barren soil that little germinates there can be no doubt. Still, any one looking over a Primrose area cannot help noticing the great proportion of young plants seen. It seems, therefore, so obvious that this beautiful wild flower may in process of time come to be very scarce, because its flowers are gathered in such vast quantities. A few years will tell the effect on the wild stock. As to cultivating the wild form in gardens, that seems to be a matter of great difficulty, for even if raised from seed and treated as a garden flower, it seldom does well. Give it wild or natural surroundings, and then it is all right. It would be very interesting to learn the chief source of our immense supply of Primrose blooms. It seems hardly probable that so many are clandestinely gathered. Are woods where these flowers most do congregate let out to gatherers for a season, or do the owners of woods find their own pickers? So much would be instructive to learn. One very remarkable thing is happening. It is that the original effort, and one for a time very successful, of converting the Primrose into a striking party emblem, is being made the instrument of working its own destruction. It has now become a so popular and universally dispersed market flower, that every one without regard to party purchases and wears it, or utilises it for home decoration, and long before and after the day which party dedicated to the Primrose, April 19. Thus, as an emblem, the flower has lost all its significance. That such a use would eventually die out was certain, but it was at the first hardly anticipated that the Primrose would become through it everybody's flower. *D.*

MEGASEA TRACHELOIDES [?].—Under this name I obtained from the late Mr. W. Ingram, of Belvoir, a Megasea that is a strong grower, putting forth in summer very large and soft hairy leaves, so bold and striking as to deserve a place in the subtropical garden. It is a very free bloomer under glass at this season of the year, throwing up flesh-coloured flower-stems, surmounted with bold trusses of large blush flowers. A specimen left undisturbed in a large pot for a few years makes a very strong woody growth. The leaves in autumn appear to be susceptible of frost, or frost and fog combined. It has more of an evergreen character than M. Stracheyi; but though the bold leaves get disfigured by frost, it is yet perfectly hardy, my plants in pots having been frozen hard for days together, but they are growing and flowering freely at the present time. *R. D.*

PLANT DISEASES.

The following is the text of an important lecture, given by Dr. M. C. Cooke, on plant diseases, at the *conversazione* of the Horticultural Club on the 9th inst. The importance of devoting more searching and systematic attention to the diseases of plants has been gaining ground in late years. This is evidenced abroad by the establishment of experimental stations, and the publication of detailed and explicit reports; but, unfortunately, in this country very little has been done, and that solely by individual effort. It is true that we have a Government Department, which corresponds to a Department of Agriculture, but the very meagre reports are only additional evidence of the indifference which characterises the "higher powers, in all which concerns the diseases of plants. How disastrous these diseases may be has been exemplified by the damage done to corn crops in Australia, Apple crops in parts of the United States, to Coffee in Ceylon and Mysore, to the Opium Poppy in India, the Cocoa-nut Palm in the West Indies, the Tobacco crops in Australia, the Vine industry in parts of Europe, and now to the Sugar-cane in the West Indies. In nearly all these cases it was not until the diseases became established, and a vast amount of injury was done, that any effort was made to combat the disease. There is no reason to doubt that it is possible to check the spread of these diseases if effort is made in time, but the great desideratum is a more extended knowledge of the nature of the parasites, and the methods of remedy which have been applied in similar cases when any one of these inflictions becomes a disaster, and a large industry is threatened with ruin—and not until then, do we hear the cry for scientific investigation, and suggestions of remedies.

The Causes of Diseases.

Those who are practically conversant with horticulture will be ready to admit that diseases in plants may have several causes. They may result from the attacks of insects of various kinds; they may be consequent upon the incursions of parasitic fungi; they may result from external injuries; in some cases disease may be as hereditary as in the animal subject; and in a great many cases, we venture to think that they are the result of bad or mistaken cultivation. It is not flattering to the culturist to be informed that any failure is due to bad culture, and very few would believe it, if they were told; but undoubtedly, speaking from a large experience, we are bound to confess that it is not uncommon to meet with cases in which plants in a diseased condition have been supposed to be infested with fungi, and treated as such, in which no trace of fungi could be found, and the diseased condition could only be attributed to bad cultivation.

It is not our intention to occupy your time with allusion to any other of the diseases of plants than those produced by the attacks of fungi; but before making those observations to which we desire chiefly to direct your attention, we might offer a suggestion or two upon a closely-related subject. We will suppose for the moment that microbes and ferments are not fungi, but very close relations; yet there cannot be the slightest doubt that they are intimately associated with disease in animals, and possibly, more than we think, with the diseases of plants. It is not so many years since the discoveries in connection with anthrax determined the question of the presence of bacteria in certain diseases of animals, whilst every year adds further knowledge, which leads to the conclusion that bacteria are not only present, but are the primary cause of many forms of animal disease. In past times we spoke of zoology and of botany in terms which led to the inference that life in animals and life in plants were quite different things, whereas nowadays we are in the habit of speaking of biology, and thus tacitly confess that, in all essentials, life is the same in plants and in animals. Such being the case, and there are more analogies than we commonly admit, then there may be great similarities between the diseases of animals and those of plants. This was pointed out, on a memorable occasion, by Sir James Paget, and experience strengthens the views he then enunciated. There have been of late years some startling revelations as to the presence and infectious character of microbes in plant diseases; some of these have been, and others are waiting to be, confirmed. Only to mention two or three we may instance the Californian Vine disease, that prevalent North American disease, "Peach-yellows," another disease called the "Pear-blight," and a rotting disease in Melons and Cucumbers. In the last instance experiments proved that the disease could be communicated to healthy plants by inoculation with the juice of diseased Cucumbers. Admitting all this to be substantiated, we are face to face with a new aspect of plant disease corresponding to diphtheria, scarlatina, typhoid, and other zymotic diseases of animals, and a question to which horticulturists would do well to keep open ears and observant eyes.

In the case of diseases in the human subject, we know how much depends upon an accurate diagnosis of the disease; the symptoms must be studied and compared, and when the true nature of the disease has been ascertained, the proper remedies can be applied; but it is useless to think of remedies so long as the true nature of the disease has not been ascertained. Precisely the same course has to be adopted with plants suffering from disease, and it is our first duty to avail ourselves of every facility for determining the nature of the disease. Even if we suppose that any and every man who is engaged in the cultivation of plants has the primary knowledge which would enable him to decide at once whether the disease in question was caused by insects or by fungi, or whether it resulted from some error in cultivation, this would be the farthest step that the majority would take towards an accurate diagnosis. What more would be required may be gathered from some further remarks with which we will venture to trouble you.

Endophytal Fungoid Diseases.

Diseases of fungoid origin may be classed in two primary groups, which we may call respectively endophytal and epiphytal. The former are developed from within—outwards, analogous to small-pox; the latter commence externally, and establish themselves on the surface before they penetrate the tissues, analogous to some forms of skin disease. Most important and most fatal are the forms of endophytal disease which, as we have said, are present, unseen, in the tissues of the plant, before they present any external appearance of their presence. The two most prevalent types of this kind of disease are the rotting moulds, such as the Potato murrain, and the smut and rust fungi, such as bunt and mildew in corn crops, with such diseases of ornamental plants as the Hollyhock disease, and the brand which affects the foliage of Sweet Williams and others of the Pink family. There are some features in common, but there are other considerable divergences in the life-history and reproduction in these two types of moulds and rusts. In order to illustrate the importance which some knowledge of the life-history should hold in the estimation of the cultivator, we shall advert briefly to some of the phases in that of the rotting moulds, to which the general name of Peronospora is usually applied. Commencing with its simplest initial form, we find that the spore or conidium, produced in great numbers on every fertile thread when mature, is an elliptical, colourless minute body, having a thin outer coating of membrane, with fluid contents. These contents soon become granular, and at length collect at three or four centres, which condense and ultimately are distinctly separated from each other by the growth of a special envelope. Ultimately the membrane of the mother cell is ruptured, and the three or four smaller bodies which have been differentiated in its interior escape, each one furnished at one extremity with a pair of delicate moveable hairs, by means of which these little bodies, now termed zoospores, can swim actively in any thin film of moisture upon which they may fall. Possibly this film may be on the leaf of a foster-plant. In a short time all motion ceases and the zoospores come to rest, the pair of delicate cilia are absorbed and a germinating thread is produced, the point of which seeks out and enters at one of the stomata of the sustaining plant. Having once obtained an entrance, the thread grows vigorously, and a little mass of threads, called a mycelium, is soon developed within the tissues, capable of spreading itself through the plant which it has infected. In the next stage we discover that this mycelium has developed erect branched threads, which pass out through the stomata again into the external air, sometimes singly, sometimes in tufts. These are the fertile threads of the mould, which soon produce a single conidium at the tip of each of the branchlets, just like the original conidium whence the zoospores were developed. When fully matured, each fertile thread produces a score or more of these conidia, which fall away when ripe, and then undergo transformation into zoospores, ready and active, prepared to pass through the same stages again, and indefinitely multiply the pest. This history represents the ordinary conidial fructification of the mould, by means of which it is passed from leaf to leaf, and from plant to plant, until the whole area is affected. How many of the minute conidia may be transported to a considerable distance by a breath of wind it is impossible to say, but it is known that they are capable of suspension in the air, and that they may be carried to any spot where there is sufficient moisture for the conidia to be differentiated into zoospores, and afterwards come to rest and germinate. This process takes place in summer and autumn; but there is yet another means by which the pest is disseminated in the spring.

The mycelium which flourishes within the substance of the plant infested is capable of producing larger globose bodies, chiefly within the stems, concealed from external view. These globose bodies secrete a thick envelope, mostly of brownish colour, and after development they remain in a state of rest within the stems during the winter. So that old stems of plants which are infested with the mould during the autumn conceal within themselves during the winter a large number of these "resting spores." As the old stems rot and decay the resting spores are set free in the spring, and then a period of activity commences. The contents of these globose bodies become differentiated into a considerable number of zoospores, which ultimately escape by a rupture of the thick envelope, armed with vibratile cilia, and in all respects like the zoospores which are developed from the conidia. These active zoospores swarm over the damp soil, and are carried by the spring rains into proximity with the young seedling leaves of the new crop of most plants, then the cilia are absorbed, germination commences, the delicate threads of mycelium enter the nearest stomata, and infection results. In this way, in addition to the spread of the infection from the conidia in summer and autumn, provision is made for an attack upon seedlings in the spring. It will be inferred that in order to check the spread of these diseases the conidia must be destroyed in the autumn to prevent their extension to healthy plants, and the destruction of all rotten *débris* must be carried out during the winter, so as to extirpate all the concealed resting spores, and thus prevent the infection of seedlings in the spring. Thus it will be seen that a knowledge of the life-history of these parasites will suggest the best methods to be employed in their destruction.

Time forbids any illustration of the growth and development of the rust and smut fungi, so that we must rest content with the intimation that in a large number of these also winter spores, or resting spores, are produced, which remain in quietude through the winter, and awaken to life and vigour in the spring. Perhaps the agriculturist rather than the horticulturist is most interested in this group of diseases, which are greatly addicted to the cereal grasses, although some of them attack garden plants.

Epiphytal Fungoid Diseases.

The other primary group of fungoid diseases, which we have called epiphytal, are those in which the fungus makes its appearance superficially upon the leaves and other green parts before the internal tissues are affected, and attain their purpose by choking up the stomata, preventing transpiration, and killing the plant by suffocation. The mycelium of delicate vegetative threads spreads over the surface like a white film, or a cottony felting, which in some cases cause the leaves to appear as if they had been dusted with flower or chalk. This appearance is very familiar to you in the Hedge Maple, the cultivated Pea, the Hop, cultivated Roses, and the well-known Oidium of the Vine. In such cases there is no constitutional disease to be dealt with—or rather, we should say, no affection of the tissues. If we are successful in getting rid of the external pest, the plant is left comparatively healthy. The natural inference would be that this form of disease is more amenable to the action of fungicides than the endophytal, and its presence may be detected in its earliest stages before much mischief has been done. Hence it is a matter of considerable importance to the cultivator that he should be able at once to decide for himself whether he has to deal with an endophytal or an epiphytal parasite. Having this knowledge, he will be able to apply such remedies as experience has taught him are most successful with each of these forms of disease.

It is hardly necessary to remind practical men that there are numerous forms of fungi which establish themselves upon tissues in which the vitality is exhausted; upon spots which have been caused by other agents, with which fungi have had nothing to do; and that such fungi are not true parasites, but merely saprophytes. They, at least, offer no occasion for alarm.

Life History of, and Remedies for, Diseases.

The conclusion to be arrived at from these remarks is, the importance of acquiring knowledge, not so much of the names of species as of the life-history, and especially of the methods of reproduction, in certain important groups. No empirical methods of plant treatment will be more successful than empiricism with animal disease. There is no panacea which will cure all sorts and conditions of plant disease. The only universal remedy lies in the acquisition of practical knowledge, and to this end we have often felt the great need of some authoritative manual of all the more prominent of plant diseases which could be in the hand of all who are interested in horticulture. Such book would give the descriptions of the diseases, with indications of such remedies as had been found effective, or might be tried with some hopes of success. You are well aware that the Germans, for instance, are far ahead of us in this respect, and possess elaborate and exhaustive treatises on vegetable pathology, whilst the British horticulturist, unless he is fortunate enough to be able to read German, is compelled to flounder along in ignorance with no other guide than his own experience.

If you will permit the suggestion, it seems to us that the whole subject of plant disease is one of increasing interest and importance. That it is intimately associated with profit and loss, as you cannot forget that it has been with the Potato disease and the Vine mildew, and may be yet, not only with the growth of Grapes, if the American Vine mould becomes established with us, or even with the Peach, Apple, and Pear, should you still consider them to be worthy of cultivation. The only advice that we can tender is an increased acquaintance with the life history of some of the most important and typical diseases. The acquisition of all possible information as to the antidotes or remedies which have been tried and found to be successful. And lastly, an untiring effort to discover the tendencies and predisposing causes of diseases, remembering that "prevention is better than cure;" for if there is any science in horticulture, it should possess some power to struggle against adverse circumstances, and devise means to circumvent the most insidious of foes. *M. C. Cooke.*

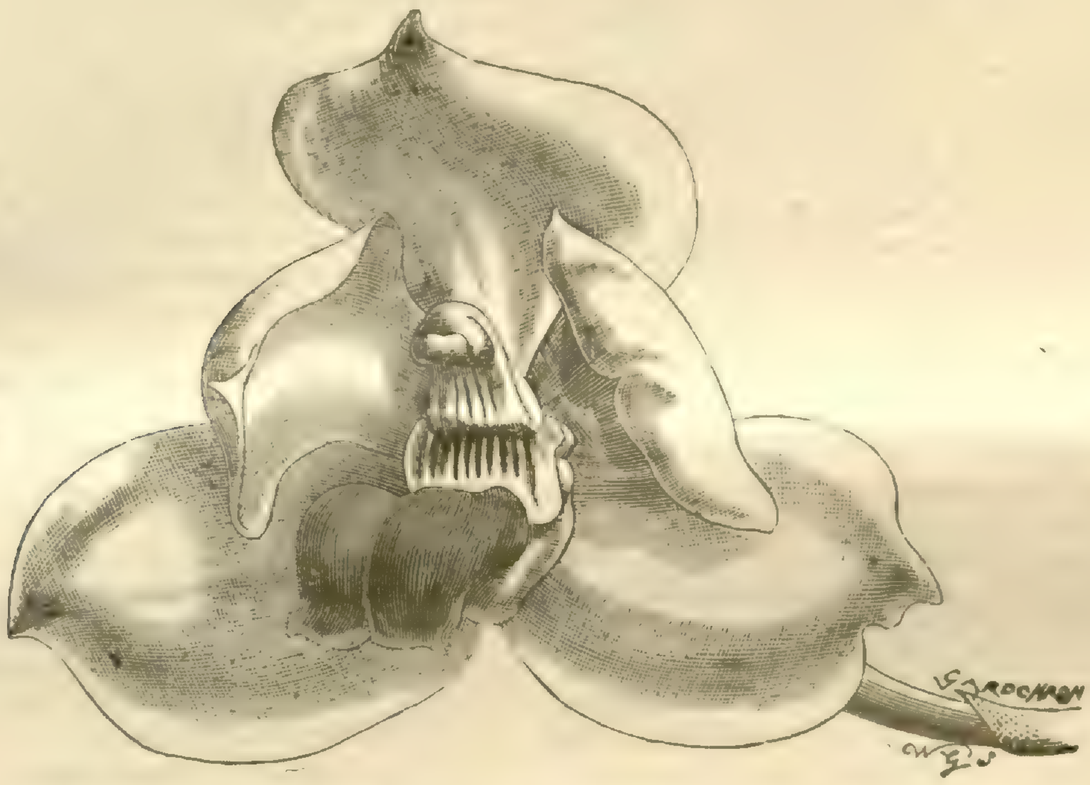

Fig. 70.—Bollea schroderiana: flowers white, flushed with rose. (Hort. Sander).

ORCHARD CULTURE.

Professor Bailey, of Cornell University, said, in an address to the Western New York Horticultural Society:—"In the old days the soil had to be stirred to prevent the encroachment of weeds. The idea was to do only what was absolutely necessary. There was no tilling of the soil in ancient times for the sake of the crops or for the land itself. Now we have learned to till for tillage sake. During the last few years we have experienced a failure of the Apple crop. Well, you are reaping that which you have sown. You have talked of spraying, which is good, but you cannot feed a horse with a currycomb; and so in growing fruit you must get down to the fundamental principles, and attend to the tillage of the orchard. The only good orchard is the one which has been given the best of care from the beginning. You will find people who think that an orchard ought to be able to live on the husks of the hay that has been cut, and in addition support and feed six or eight kinds of tramps in the way of disease and live pests. The only assistance rendered the orchard is through an attempt to eliminate these tramps with the aid of a squirt-gun.

"I do not say that spraying is not helpful, but the orchard should have full nutrition from the ground, and the best and only crop to grow in an Apple orchard is Apples. Another very important matter in the planting of orchards is to plant the trees considerably deeper than they are to stand, as the land, if freshly tilled (as is proper), will invariably sink. A proper tillage of the land affords nitrogen, and nine-tenths of the commercial lands of western New York, with proper tillage, will not require artificial fertilisers."

BOLLEA SCHRODERIANA,

(*Hort. Sander*).

Our illustration (fig. 70), represents a flower of this fine new Zygopetalum of the Bollea section, and which was introduced by Messrs. F. Sander & Co., of St. Albans, from the Andes of Colombia. At the meeting of the Orchid Committee of the Royal Horticultural Society, March 26, this year, Messrs. Sander showed a fine plant of it, bearing nine pure white flowers, on which the only colour was a pale pink tint on the front of the labellum. The flowers are delicately fragrant, and the habit of the plant is so robust as to lead to the belief that it will be a free grower. Bolleas, Pescatoreas, and other of the leafy Zygopetalums come from moist shady valleys, where they are frequently found growing at the base of the trunks of trees, and invariably in sheltered shady places. Under cultivation they generally do best when grown with Miltonia Roezlii.

Law Notes.

BANKRUPTCY COURT.

At the offices of the Official Receiver, Mr. H. C. Tombs, at Swindon, on Monday, April 8, a meeting took place of the creditors of John Fletcher Mould, seed merchant and nurseryman, of Pewsey. This debtor's gross liabilities amounted to £1,046 10*s.* 1*d.*, of which £868 14*s.* 7*d.* was due to unsecured creditors. The assets amounted to £488 odd, including £200 stock-in-trade, and £250 book debts, leaving a deficiency of £380. Debtor attributed his failure to pressure by creditors, losses, and bad times. It was resolved to adjudicate the debtor a bankrupt, and Mr. Edward Hobbs, chartered accountant, of Old Jewry, London, was appointed trustee, with a committee of inspection numbering five.

Obituary.

W. S. Kimball.—We announced in our last issue the decease of this enthusiastic Orchidist. He died in his fifty-eighth year, from abscess of the brain, on March 26. He was one of the foremost citizens of Rochester, U.S.A., and a thorough man of business. In attending to his own concerns, however, he never forgot the interests of the city in which he lived, nor the claims of others less fortunate than himself. His collections of pictures, china, and articles of *vertu* were among the largest in America, whilst his Orchids, admirably grown by Mr. George Savage, testified to the enthusiasm of the enlightened collector. His collection of Cypripediums (over 400 varieties) is the largest in America, and his great Orchid-houses include also superb collections of Cattleya, Vanda, Dendrobium, Oncidium, Lælia, Angræcum, and Cœlogyne. In early winter one may see about 5000 of them in bloom at one time, and as the register testifies, thousands of people avail themselves of Mr. Kimball's generosity in opening the houses daily to the public from

9 until 4 o'clock. The Lily-house is a unique feature, with its long oval pond, edged with Papyrus, and covered with Water-Lilies—the Nymphæa zanzibarensis, the Lotus, and the splendid Victoria Regia.

IGNATZ FÖRSTERMANN died at his residence, Newtown, N.Y., on March 29, where he had carried on business since 1889 as a cultivator of Orchids, Palms, greenhouse and stove plants. [A brief announcement of the fact appeared in our last impression. Ed.] Born at Coblenz, in Rhenish Prussia, in 1854, he commenced his horticultural career in the gardens of his native town, and passed thence to some of the chief establishments on the Continent. In 1880 he entered into an engagement with Messrs. F. Sander & Co., of St. Albans, and started off for India the following year as a collector of Orchids, which tour lasted five years. In that time he discovered many valuable novelties, but the one event by which his memory will live is the rediscovery of Cypripedium Spicerianum; but the trials of this adventurous journey affected him, as so many others who scour unknown districts to enrich our Orchid-houses—he undermined his constitution, and to the end, his health remained indifferent. One of his porters on this occasion was killed by a tiger, the beast being shot in the act of feeding on his prey. Förstermann also visited the Malayan Archipelago, Java, the Phillipines, and Burmah in this journey, and sent home among other plants Pteris Victoriæ, Cypripedium Sanderianum, Cœlogyne Sanderiana, C. Förstermanni, Dendrobium cruentum, and D. nobile Sanderianum. Förstermann made a collection of, in all, some sixty specimens of Orchids (supposed by him unknown), and gave his materials to the late Professor Reichenbach, and they are now buried with the other material left by that eccentric botanist under seal for twenty-five years. After returning from his tour, Förstermann came to the United States to represent Messrs. F. Sander & Co., but soon started for himself, as already said.

JOHN W. THOMSON.—A veteran horticulturist passed away on March 25 at Hayward's Heath. Having previously been a school-fellow with Charles Darwin at Shrewsbury, he entered the Royal Gardens, Windsor, in 1819, at 12s. a week, "a wage that did not admit of riotous living," as he said himself in the *Journal of the Kew Guild*, 1894, from which we take the following particulars:—At Chiswick at that time the wages were 12s. a week, and at Lee's nursery, Hammersmith, Joseph Knight, the proprietor of what is now Veitch's nursery, worked for 10s. a week and a quartern loaf, then worth 1s. 10*d*. In 1820, Thomson was transferred to Kew, where he assisted in matting up the Araucaria, the first introduced into this country, and which was removed in 1892. In 1822, Thomson was again sent to Windsor, concerning his sojourn in which place he tells some interesting stories in the *Journal of the Kew Guild*. In 1827, Thomson was again at Kew, in company with the late Mr. Drewitt, afterwards gardener at Denbies. In 1830 Thomson left Kew to take charge of the gardens at Sion House. He outlived three Dukes of Northumberland, two Duchesses, and nine head gardeners at Sion and other seats of the Northumberland family. In 1835, he set up in business as a nurseryman at Hammersmith, where he continued till 1860, when the nursery was sold, and the land built over. In later years, Thomson occupied himself in designing gardens and erecting conservatories. He completed his ninetieth year at Hayward's Heath, where, since 1876, he had been in business as a nurseryman.

NURSERY NOTES.

MESSRS. JOHN LAING & SONS.

The first display of bloom each season in the nurseries at Forest Hill, S.E., is usually furnished by the house of Cliveias, and at the present time these plants are worth inspection. Cliveias are among the least exacting of all greenhouse plants in regard to their cultural requirements, and at all seasons of the year the plants are more than presentable on account of their bold glossy foliage and neatness of habit. Notwithstanding this, however, the plants are only poorly represented in most gardens, and this may be due to the fact that, while differing slightly in form and in shade of colour, the general effect of one variety is not greatly different from that of another. Mr. Laing, however, has been patiently working with a view to inducing as much variety as possible in the seedlings, to which he attaches a distinct name, and although in this plant it is apparently extremely difficult to effect a change in the colour of the flowers by hybridisation, it is pretty certain that if it be possible to obtain a pure white variety, for instance, then the chances are very good that the skill of Mr. Laing, which has been so much rewarded in the case of the Begonia, will in due time achieve this result. Amongst a number of unnamed seedling plants in flower was noticed several with flowers in which the colour had been very materially reduced, and even approaching in some degree to white, but if this is the desired result, there remains considerable work yet to be done. By far the greatest acquisition from latest seedlings is a variety named Right Hon. Joseph Chamberlain, which was distinguished by the Floral Committee of the Royal Horticultural Society at their last meeting, when the plant was recommended an Award of Merit. It is vigorous in habit, and has produced a very large head of flowers of much substance. In form the flowers are quite equal to the best yet produced, the segments being large and rounded, much reflexed, and the colour is very deep orange-red, but changing to canary-yellow in the tube. Another one named Vesuvius is very strong in respect to colour, but the flowers lack form and substance, the pointed segments producing a less favourable appearance; the white tube of this flower is pretty. Her Majesty, Lady Wolverton, and Patrick Davidson may be highly commended of varieties that were noticed a year or more ago; also Novelty, one of the plants above mentioned as exhibiting a good share of white in its blossoms. Mrs. J. Broom, though not large, we have seen exhibiting very good form; and such varieties as Stanstead Beauty, and John Laing are too well-known to require any further recommendation, but it would be unfair to the qualities of Ambroise Verschaffelt, though an old variety, were it to be omitted entirely from this note. Wandering from the house in which the Cliveias were arranged—and which contained a nice lot of spring-flowering bulbs and plants—it was evident that a large collection of Caladiums will again be seen at Messrs. Laings'. They are coming along quickly now, but when these notes were taken only a few leaves had developed their normal character. A few plants of varieties of Begonia semperflorens suspended in baskets were still in flower, having bloomed profusely all through the winter. The plants are prettier this way than on the stage.

BOTANICAL TRAVELS IN NORTH-WEST INDIA.

We take the following extracts from Mr. Duthie's official Report of his tour in Kashmir, 1893:—

Between Mataiyan and Pandrás, the road crosses from the right to the left bank. A tall, aromatic, Fennel-like plant, called A'pat Kashpur (Ferula Fœtidakeana) is very abundant in this part of the valley. It is much valued by Kashmiris as a fodder plant, and is cut for winter use. On the Pir Panjál it is called Kàngwa. The valley suddenly opens out before reaching Drás, an unimportant-looking place, consisting of a few scattered hamlets. There is, however, a small fort here, also a tahsil and post-office. The elevation is just under 10,000 feet. The surrounding mountains are very bare and rocky. Trees are scarce, only a few Willows and Poplars are to be seen near the villages. I halted for one day, and left on July 5 with a new set of ponies and coolies.

After crossing the valley in a north-westerly direction, through fields of Buck-wheat, Masur (Lens esculenta), &c., the road begins to rise in zig-zags along a very rocky valley almost bare of vegetation for the first few miles. At 12,000 feet the botany becomes more interesting. The white variety of the marsh Marigold fringes the side of the stream; a brilliantly yellow-flowered Draba was conspicuous, growing in masses near the top of a pass; and mixed with it was a rare Anemone (A. albana). The tents were pitched at a place called Pattarkhan Brangsa, between 12,000 and 13,000 feet. There is an enormous rock here which affords good shelter for coolies.

The village (Golteri) is on the right bank of the river, and is situated on a plateau of moraine *débris*. The elevation is about 11,000 feet. I stayed here for one day, as the botany was interesting, and I had to make arrangements for another set of coolies. The pencil Cedar (Juniperus excelsa) is plentiful in this valley, but the trees are stunted.

I left Golteri on July 7, and went down the valley on the left bank to a place called Chamlong. The river is crossed by a small rope bridge just below Golteri; close by here and alongside the river is the village polo-ground. The path keeps near the river all the way, and is very rocky in places. One great feature of this valley is the abundance of a very floriferous sweet-scented Rose (R. Webbiana). The flowers vary from deep pink to white. The people here call it sermang. Many other interesting botanical specimens were gathered. A wild-looking valley, called the Shingo nullah, has to be crossed by a rope bridge before reaching Chamlong.

We had not far to go the next morning (July 11) before reaching the summit of the Bod Lá about 15,000 feet. There are several small tarns on the farther side. A good deal of snow was lying about, and vegetation was scanty, consisting chiefly of Primulas, Sedums, and Saxifrages. A very curious plant called Galgal is abundant here. It is a species of Saussurea (S. obvallata). The pale yellow bracts are very large, and loosely envelope the composite heads of flowers, which are strongly scented. The stillness at these high elevations is always very striking. After descending, however, for a short distance on the other side, the air was filled with the shrill cries of the marmots.

The path descends steeply from the pass called Santung Lá into the Satpur nullah, at the head of which is the camping-ground, called Kalishiker, or Jalna Brangsa. It occupies a small piece of flat ground on the spur of a mountain, and the elevation is about 12,500 feet. Looking down the valley a view is obtained of some distant mountains on the farther side of the Indus.

The floor of my tent was carpeted with Edelweiss, Anemone albana, and other interesting specimens.

The path down this valley is very steep and very stony. My intention was to have gone on to Skardo from here, but finding the botany so interesting, I decided to halt halfway near the village of Satpur. Several bushes of a handsome Spiræa (S. hypericifolia) were met with on the way down. This species is not included in the flora of British India. My friend Captain Hunter Weston, R.E., brought me flowering specimens of this shrub, discovered by him in Baltistan three years ago. The plant, however, is well known to the natives, who call it Saber. The wood is hard, and the bark is of a reddish-brown colour, and smooth. Native shikaris from Kashmir nearly always take back with them a bundle of sticks cut from this shrub. Many other rare plants were also collected.

We had to go down the valley to about 12,000 feet before we could find a suitable camping-ground. The botany was most interesting, and many new plants were discovered. The whole way down to Gudhai on the Gilgit Road, the scenery in this valley is very fine. It is richly wooded in parts, the chief trees being Pinus excelsa, Juniperus excelsa and Willows.

The edible Pine (Pinus Gerardiana) is common in this portion of the valley (Astor), the elevation

being about 8000 feet. The local name is Garol. Juniperus excelsa is also abundant here, and is called Chili.

The scenery of this portion of the valley is remarkable. The villages on either side are perched on the slopes of an enormous moraine, through which the river has cut a deep channel, with high precipitous cliffs of moraine *débris* on either side. Astor itself is high above the river.

The Hollyhock (Althæa rosea), with pure white or mauve-coloured flowers, is abundant here along the edges of cultivated ground. It is not indigenous, and was probably introduced at some time or other along with the large white-flowering Iris, for planting over graves.

Beyond Daskin, the road still ascending, passes through the lower portion of one of these forests, which extend more or less all along the high-level ridges from Astor to Doian. This proved to be one of the most interesting bits of botanical ground met with during the whole of my tour. The principal trees are Pinus excelsa, Pinus Gerardiana, and the pencil Cedar. Streams of clear water cross the road at intervals, and many rare plants may here be found.

Captain Yeilding, D.S.O., arrived here that evening from Srinagar, and I had the pleasure of his company as far as Gilgit. The distance is nearly 40 miles by the new road. It is certainly a journey to be undertaken as quickly as possible, for the whole valley is extremely hot during the day time, there being no shade whatever until you reach the village of Minawar, about 8 miles from Gilgit.

The views of the snowy peaks towards the north-east were wonderfully fine, one of them, Rakapushi, over 25,000 feet, standing out clear against the blue sky. The first sight of Gilgit from the Jutial Ridge is very striking, as you look down upon the wide expanse of orchards and cultivated fields, the colours of which appeared so vivid by contrast with the surrounding bare and dazzling rocks.

I stayed at Gilgit for one day, and left early on the morning of August 2 for Nomal, in the Hunza Valley. After crossing the bridge over the Gilgit River, the road follows the left bank of that river in an easterly direction for about 3 miles, and then turns round towards the north up the Hunza Valley. The distance from Gilgit to Nomal by this road is about 16 miles. This is a very hot and trying march in summer, as there is not a particle of shade except at one place, about halfway, where a landslip has brought down some big boulders. There is no water either, except that of the river, which at this time of the year is quite muddy, and looks more like a mixture of ink and milk. After entering the Hunza Valley, the road traverses for some miles an undulating sandy tract, covered in parts by a large bushy species of Ephedra (E. intermedia). After passing the halfway boulders, the road is carried for a considerable distance along the side of a precipitous hill, descending again to more level ground before reaching Nomal. The elevation of this place is 5500 feet.

Naltar Valley.—After resting for a little while, I continued up the path for a few miles, and found a capital camping ground in a forest of Silver Fir, at an elevation of 9000 feet. Beyond this, the valley opens out, and is clothed with fine forests containing Silver Fir, Juniper, and blue Pine (Pinus excelsa). On the slopes facing the north-east, these forests extend to a considerable elevation, mixed with Birch and Willow. There is a path leading up to the head of this valley to a pass which separates it from the Chaprot Valley. Numerous glacier-fed streams come down into this valley from either side. As I had only two days to spare for botanical exploration, I found it difficult to decide as to which route to take on each day, there being so much promising-looking ground in every direction. My expectations were fulfilled on the first day, and the coolie-load of drying paper which I took with me was very soon used up, and the collecting-box crammed full of rare specimens long before I had reached any great elevation. In fact, owing to the richness of the vegetation, and the difficult nature of the ground, I managed to get up only to about 2000 feet above my camp.

In order to escape the heat of the Hunza Valley during the day, I left Nomal at about 2 A.M., and reached Gilgit in time for breakfast. The rope bridge was a decidedly disagreeable obstacle at the end of a long and tiring march. In addition to the sense of insecurity which a man with a fairly good head for giddy heights need not be ashamed of, and with an inky-black river rushing beneath him at a racing pace, there is a considerable amount of physical exertion required.

I remained at Gilgit for two days, and I gladly take this opportunity of expressing my obligations to Mr. Robertson, the officiating British agent, for his kindness and hospitality. I had the pleasure also of making the acquaintance of Surgeon-Captain Roberts, the medical officer attached to the agency. His knowledge of gardening does justice to the capabilities of the climate in the production of good vegetables and fruit. He also takes an interest in botany, and through his kindness I have since received from him a very interesting set of specimens collected in the neighbourhood of Gilgit.

On the 26th I went over the pass (about 13,000 feet), and descended about 3000 feet on the other side to the village of Gurikot, in the Barzil Valley. One very striking feature in the vegetation of the upper part of the Kamri Valley is the abundant growth of a most remarkable cruciferous plant called Megacarpæa polyandra. It has thick hollow stems upwards of 4 or 5 feet high. It grows in open grassy places, and at some little distance these tall herbaceous plants look very like young trees. The local name is Chach, and the young leaves are used as Ság or Spinach. It is also found on the Pir Panjal Range, where it is called Chattarhák, or Chatri.

MARKETS.

COVENT GARDEN, April 18.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	5 0	6 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	3 0
Daffodils, double, dozen bunches	3 0	4 0
— single, doz. bun.	4 0	6 0
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays	1 0	2 0
Lilium Harrisii, per dozen	4 0	6 0
Maidenhair Fern, per 12 bunches	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	8 0	12 0
— 12 sprays	0 8	1 0
Narcissus, Pheasant-eyed, 12 bun.	5 0	6 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	6 0	8 0
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Snowdrops, 12 bun.	1 0	1 6
Stephanotis, dozen sprays	6 0	9 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	2 6	3 6
— Czar (French), per bunch	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Azaleas, per doz.	30 0	48 0
Cinerarias, per doz.	8 0	12 0
Cyperus, per dozen	4 0	10 0
Dracænas, each	1 0	7 6
Erica hyemalis, dz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Genistas, per doz.	9 0	12 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Spiræas, per doz.	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cobs, per 100 lb.	18 0	20 0
Grapes, 1st quality, black, English, per lb.	5 0	—
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	3 0	4 0
,, ,, 2nds., lb.	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	6 0	8 0
Beans, per lb.	10	1 0
Cauliflowers, p. doz.	2 0	3 0
Cucumbers, per doz.	3 0	4 0
Mint, per doz. bun.	6 0	9 0
Mushrooms, per lb.	0 8	0 10
Onions, per bushel	2 0	2 6
Potatos, Channel Islands, per lb.	0 6	0 7
Rhubarb, per dozen bundles	1 3	1 9
Seakale, p. punnet	1 0	1 6
Tomatos, Canary Islands, per lb.	0 3	0 6
— Home-grown, lb.	1 6	1 9

POTATOS.

The holidays have prevented any marked variation; prices remain about the same. *J. B. Thomas.*

SEEDS.

LONDON: *April* 17.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a brisk sowing business now in progress. All descriptions of Clover and Grass seeds keep steady at the moderate level of value which in these times of depressed agriculture prove so acceptable to buyers. Spring Tares are this season remarkably good and cheap. Haricot Beans continue scarce and strong. There is no change in Peas. The birdseed trade presents no new feature. White and Scarlet Runner and Canadian Wonder Beans are in active request at former prices. Black Rape seed is 2*s.* higher. Mustard unaltered.

FRUITS AND VEGETABLES.

BOROUGH: *April* 16.—Quotations:—Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 2*s.* 6*d.* to 3*s.* 6*d.*; Parsnips 2*s.* 6*d.* to 3*s.* per bag; Rhubarb, 1*s.* 6*d* to 1*s.* 9*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Onions, English, 4*s.* to 5*s.* per cwt.; Spanish, do., 7*s.* to 9*s.* per case; Apples, Canadian, 12*s.* to 18*s.* per barrel.

STRATFORD: *April* 16.—There has been a big supply of all kinds of produce at this market during the past week, and with plenty of buyers the trade was all that could be desired. The prices were as follows:—Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; do., 7*s.* 6*d.* to 10*s.* per tally; Turnip-tops, 1*s.* 6*d.* to 2*s.* per bag; Broccoli, 1*s.* 6*d.* to 2*s.* per sieve; do., 2*s.* 6*d.* to 3*s.* do., Rhubarb, natural, 2*s.* to 3*s.* per dozen; do., forced, 1*s.* to 1*s.* 3*d.* do.; Turnips, 20*s.* to 30*s.* per ton; Carrots, household, 30*s.* to 24*s.* do.; do, cattle-feeding, 16*s.* to 24*s.* do.; Parsnips, 60*s.* to 80*s.* do.; Mangolds, 12*s.* to 16*s.* do.; Apples, English, 3*s.* 6*d.* to 5*s.* per bushel.

FARRINGDON: *April* 18.—Quotations: Sprouts, 2*s.* 6*d.* per half sieve; Greens, 3*s.* per bushel; Leeks, 1*s.* per dozen; Spinach, 6*s.* per bushel; Cauliflowers, 2*s.* 6*d.* per dozen; Rhubarb, 2*s.* per dozen; Carrots, 2*s.* per dozen bunches; Parsnips, 3*s.* per cwt.; Beetroots, 3*s.* to 4*s.* per cwt.; Parsley, 3*d.* per bunch; Mint, 1*s.* 3*d.* per bunch; Turnips, 2*s.* 6*d.* per bag; Apples, Canadian, 16*s.* to 20*s.* per barrel; Cucumbers, 3*s.* 6*d.* per dozen; Radishes, 1*s.* 6*d.* per dozen bunches; Seakale, 1*s.* 6*d.* per bundle.

POTATOS.

BOROUGH: *April* 16.—Quotations ranged from 95*s.* to 130*s.* per ton. New Teneriffe Kidneys were 12*s.* to 16*s.* per cwt.

STRATFORD: *April* 16.—Quotations:—Magnums, darklands, 85*s.* to 90*s.*; do., lightlands, 95*s.* to 105*s.*; do. Scotch do., 95*s.* to 110*s.* per ton.

FARRINGDON: *April* 18.—Quotations:—German Imperators, 100*s.* to 110*s.*; Scotch Dunbars, 130*s.* to 140*s.*; do. Main Crop, 100*s.* to 110*s.*; Bruces, 95*s.* to 110*s.* per ton.

LONDON AVERAGES: *April* 17.—Quotations:—Scotch Dunbars, 110*s.* to 130*s*; Hebrons, 100*s.* to 130*s.*; Main Crops, 90*s.* to 120*s.*; Snowdrops, 90*s.* to 110*s.*; Magnums, 90*s.* to 120*s.*; Blacklands, 85*s.* to 100*s.* per ton. *New*: Teneriffe Kidneys, 12*s.* to 16*s.* per cwt.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending April 13, and for the corresponding period last year:—1895: Wheat, 20*s.* 4*d.*; Barley, 21*s.* 3*d.*; Oats, 13*s.* 11*d.*; 1894: Wheat, 24*s.* 7*d.*; Barley, 27*s.* 10*d.*; Oats, 18*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90*s.* to 110*s.*; do., inferior, 60*s.* to 75*s.*; hay, best, 6*s.* to 90*s.*; do., inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 32*s.* per load.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature.					Rainfall.			Bright Sun.	
		Accumulated.								
	Above (+) or below (—) the Mean for the week ending April 13.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	17	23	— 57	+ 310	6 +	71	12·4	17	26
1	1 +	33	16	— 97	+ 430	3 —	56	7·0	46	29
2	2 +	42	14	— 47	+ 296	4 —	62	7·7	53	28
3	2 +	50	14	— 53	+ 308	4 —	57	6·0	57	31
4	2 +	50	14	— 80	+ 396	4 —	47	5·7	52	27
5	2 +	44	4	— 105	+ 347	4 —	44	5·2	44	28
6	1 +	34	11	— 80	+ 381	4 —	57	7·8	41	27
7	0 aver	35	8	— 81	+ 323	5 —	53	7·3	50	26
8	2 +	40	4	— 113	+ 349	5 —	50	8·6	54	35
9	1 +	36	7	— 118	+ 292	4 —	65	8·4	32	27
10	2 +	43	0	— 152	+ 210	5 —	54	9·9	37	29
*	1 +	45	0	— 139	+ 249	5 —	59	7·7	60	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending April 13, is furnished from the Meteorological Office:—

"The *weather* continued somewhat unsettled over the extreme north-western and northern parts of the Kingdom, but elsewhere it was generally fair and dry.

"The *temperature* just equalled the mean in 'Scotland, N.' and 'England, N.W.,' but was above it in all other districts, the excess ranging from 1° to 2°. The highest of the maxima were recorded either on the 9th or 10th, and varied from 65° in 'England, E. and S.,' and 64° in the 'Midland Counties,' to 58° in 'Ireland, N.,' and to 55° in 'Scotland, N.' The lowest of the minima were registered either at the beginning or at the end of the period, when they ranged from 25° in 'Scotland, E.' and the 'Midland Counties,' and 26° in 'Scotland, W.,' to 31° in 'England, S.,' and to 39° in the 'Channel Islands.'

"The *rainfall* was considerably more than the mean in 'Scotland, N.,' but much less elsewhere. Over the greater part of the Kingdom the fall was extremely slight.

"The *bright sunshine* was very abundant over 'England' and the greater part of 'Scotland,' but in 'Ireland' and over 'Scotland, N.' the number of hours recorded fell short of the normal. The percentage of the possible duration ranged from 60 in the 'Channel Islands,' 57 in 'England, E.,' and 54 in 'England, S.W.,' to 32 in 'Ireland, N.,' and to 17 in 'Scotland, N.'"

Answers to Correspondents

ADIANTUMS: *Old Amateur.* The difficulty may be met by placing the plants on a staging erected over the close-bottomed stage on which are the coal-ashes, the latter being retained for the sake of the moisture that it dispenses.

BOOKS: *Jersey. The Lily of the Valley*, by Theodore Jannoch, Lily Nursery, Dersingham, Norfolk.

COCHLIODA, MILTONIA VEXILLARIA, AND M. ROEZLII: *F. W. T.* It would not be prudent to show any of these species as Odontoglossums, although Lindley says that Cochlioda "in habit resembles Odontoglossum, and the lip and column refer it to Epidendrum." The other two plants are now placed under Miltonia.

FUNGI: *A Regular Reader* asks if vegetation ever benefited by fungi growing upon it? To this the answer is generally not, sometimes yes. There are certain fungi which are always found associated with the roots of trees like Oaks and Chestnuts, and which were thought to be injurious. Recent research has shown that there is in these cases a sort of co-operation, each furnishing the other with something it requires. This is technically called "symbiosis." Then if bacteria are to be considered as fungi, some of them, as, for instance, those which occur on the roots of leguminous plants, are valuable as supplying nitrogen to the plants on which they grow, and which they could not otherwise obtain for themselves. The subject is a very curious one, and will doubtless be much extended in future. See also a Parasite valuable to the Vine, p. 493, in present issue.

GALLS ON ROOTS OF CABBAGES: *G. T.* Your Cabbage plants are attacked by the Cabbage-gall weevils, Centiorhynchus sulcicollis, which have deposited an egg in the underground part of the stem, and the resulting grub has caused deformity, and diverted the sap into the formation of a smooth gall, which will result in decay owing to the mature grub eating out the substance of the stem now formed into a gall just above the root. When full grown

FIG. 71.—THE CABBAGE-GALL WEEVIL (CENTIORHYNCHUS SULCICOLLIS): PERFECT INSECT AND GRUB. (*Much magnified*)

the grubs leave the galls and make earth-cases in which they become chrysalises. The perfect beetle emerges in something less than two months. Take up and burn all apparently affected plants, which are readily remarked by their sickly appearance, lack of vigour, and stocking of growth. The remains of all Cabbages and Turnips should be burnt, planting totally different kinds of crops on the land. The best application is gas-lime dug in, in the late autumn; or sown broadcast and pointed in, in the spring; and deep trenching. This kind of clubbing must not be confused with that caused by the slime fungus (Myxomycetes), Plasmodiophora Brassicæ, which is productive of irregular protuberant masses that rapidly decay.

INSECTS: *Aloa.* Weevils. They are most destructive. Trap them with pieces of Carrot, or bran soaked in vinegar, and go round at night when they are feeding (*see* also answer to *F. A. W. R.*).

LEAF-MOULD: *Enquirer.* This substance should be used for most kinds of plants after it has laid in a heap to rot for two or three years, according to kind, it being turned once a year, sifting the decayed portions out of it at each turning. Leaf-mould in a partially-decayed state may be used for plants which are cultivated in much heat and moisture, such as Aroids, Alocasias, Achimenes, Gesneras, Gloxinias, &c. If the heap of decayed leaf-mould is out-of-doors, it should be protected against rain and snow, or it will become unfit for use.

LILIUM HARRISI: *Jersey.* Having flowered the bulbs, you should either keep the plants in pots, or plant them out in a sunny border; if in pots, water must be afforded them till the stems and leaves indicate by their yellowing colour the arrival of the period of rest, a stage at which no more water is needed. The plants should then be laid on their sides on the soil. If out-of-doors, no water will be necessary after the first thorough watering in, and the stems and leaves may be left to decay naturally. If they are again to be grown in pots, the bulbs must not remain in the soil after this has occurred, but they should be taken up and stored in charcoal or sand for a few weeks, or at once re-potted. Lilies do not like to be long out of the soil. It would be quite wrong to cut the stems down, as you propose, at this season, and plant out.

NAMES OF PLANTS: *G. T.* We cannot undertake to name plants from such specimens. Sent in an envelope without any packing, they arrived perfectly withered.—*W. C. & Sons.* Pieris floribunda, better known as Andromeda floribunda.—*J. C. S.* Mosses: Funaria hygrometrica, Polytrichum juniperinum, Hypnum cupressiforme. Fungus: Hypoxylon fuscum. Lichens: Graphis scripta, G. stellata. *C. H. W.*—*Lugano-Belge.* Edgeworthia chrysantha.—*L. C., Lichfield.* Pelargonium grossularifolium variegatum of gardens = P. australe. *H. C.* Tradescantia zebrina tricolor and Crassula sp. Send the latter when in flower.—*S. P. D.* 1, Cœlogyne cristata; 2, Saxifraga oppositifolia; 3, Cytisus racemosus; 4, Chionodoxa Lucilie; 5, Daphne Mezereum.

PEARS: *B. W. W.* The fruits sent are quite valueless for dessert or cooking purposes.

STOPPING THE LATERAL SHOOTS OF NEGLECTED VINES: *Vitis.* Assuming the Vines are being treated on the short spur method, the shoots which carry a bunch should be stopped two or three joints beyond the bunch; or if there are two bunches, at that distance beyond the better one. If the space between the Vines is 3½ to 4 feet, a basal shoot may be trained in, and stopped when it has reached the same length as the fruiting one; unfruitful laterals to be treated similarly. To allow space for the due development of healthy leaves, the bearing spurs of Vines should not be closer together than 1½ foot, and these should have their place of origin on alternate sides of the canes, all other shoots being rigorously rubbed of whilst quite young; or if they have been allowed to grow to any considerable length, cut off at the base a few at a time; or have their leaves gradually reduced in number, finally removing the shoots. This will be your wisest course. The Vines will not "bleed" if they have made a number of leaves. You may use the knife or the Vine-nippers—"Sécateur." Clean cuts are of no consequence in pruning the Vine when in growth, the snags, if any, being removed at the winter pruning, except in so far as the removal of stem growths which are not required.

THE DROPPING OF THE FRUIT OF THE FIG: *W. L.* This is a common occurrence in the early stages of forced Figs, especially those which are planted in borders, and it seems to point to a want of reciprocal action between the roots and the top. It disappears after a time, no more fruits falling off the trees.

TO KEEP PHLEBODIUM AUREUM OF GOOD COLOUR: *Old Amateur.* Give ample light and air, and do not syringe them overhead.

WEEVILS: *F. A. W. R.* You will find all that you want in Miss E. A. Ormerod's *Manual of Injurious Insects, and Methods of Prevention*, second edition, price 5*s*, published by Simpkin, Marshall, Hamilton, Kent & Co., Limited, Stationers' Hall Court, London. A good way of catching these night-feeders is to spread a sheet on the ground in the afternoon, and go at night provided with a dark lantern, and then by turning on the light they will be scared, and dropping into the sheet, great numbers may be caught.

COMMUNICATIONS RECEIVED.—W. N. & Co.—L. R. & Co.—Louis Van Houtte, *Père.*—H. G.—A. P.—H. H. D'O.—G. M. S. (not suitable for our columns).—G. H.—W. E. G.—N. E. Br.—L. B., *New York.*—W. H. P., Colchester (many thanks; we will examine and report.—W. L.—A. D. W.—L. C.—Ernst Benary, next week.—B. W.—J. L.—Professor Wrightson.—S. D.—G. B.—W. H. S.—R. E. M.—W. B. H. J. D.—W. P.—W. Miller.—R. J. L.—E. C.—G. N.—R. D. —H. W. W.—P. Grieve.—H. C. P.—R. L. H.

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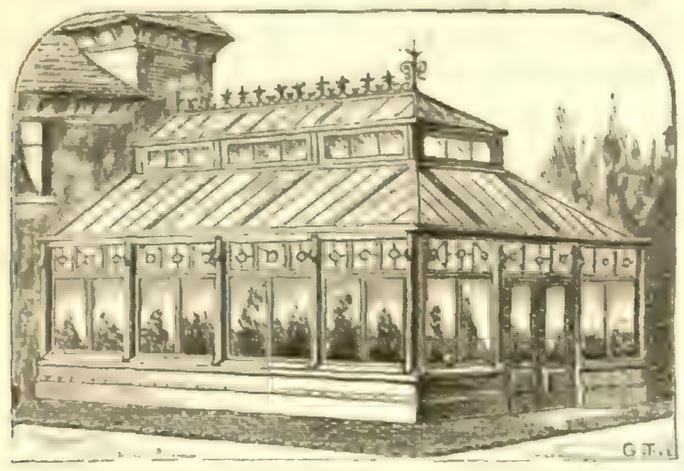

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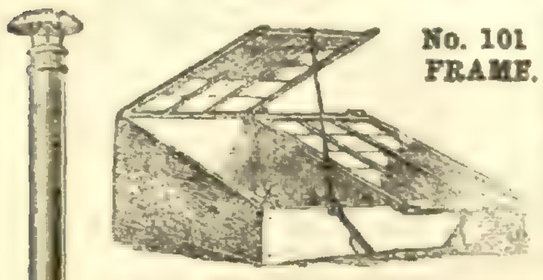

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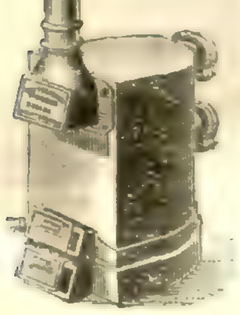

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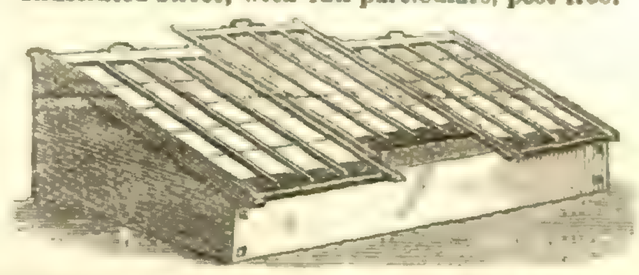

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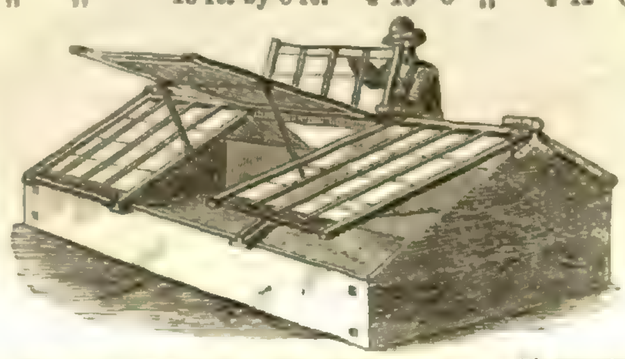

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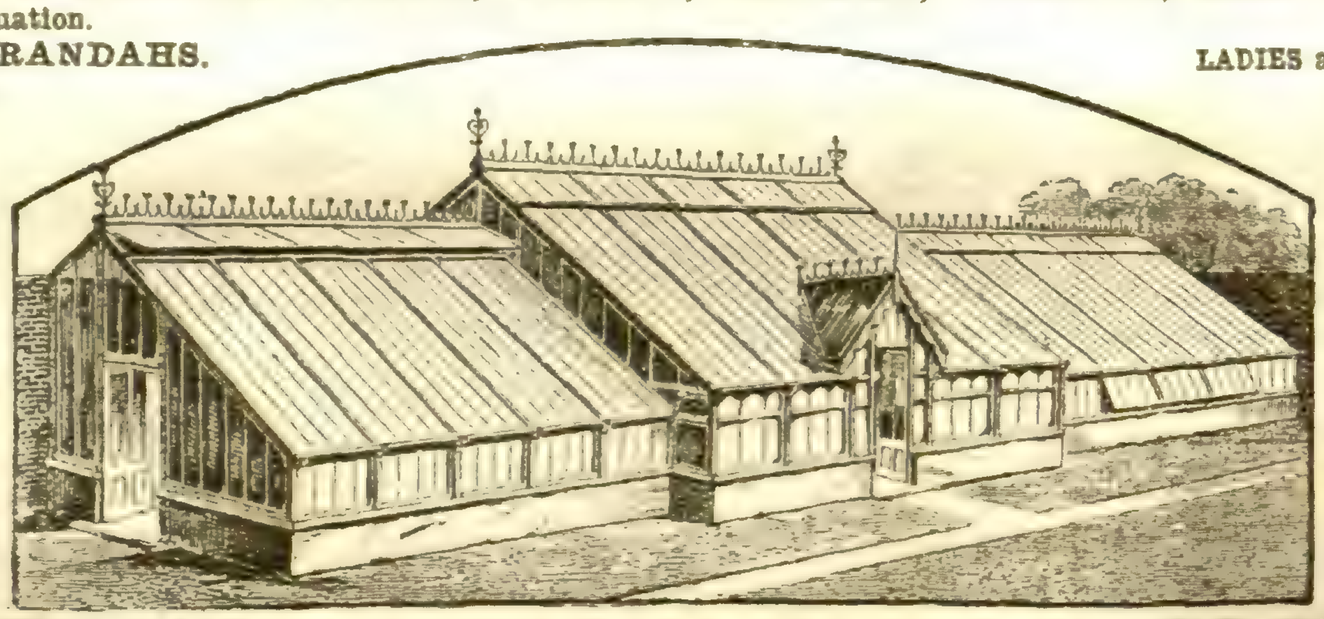

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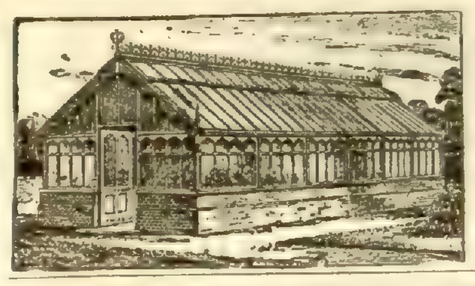

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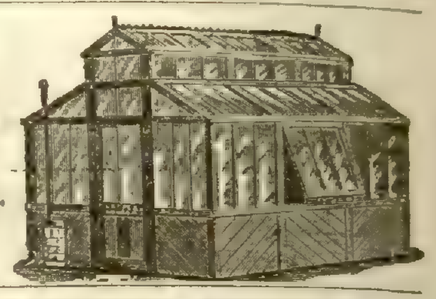

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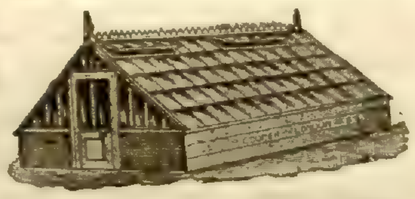

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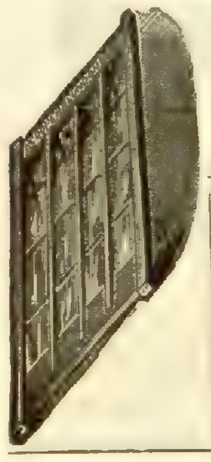

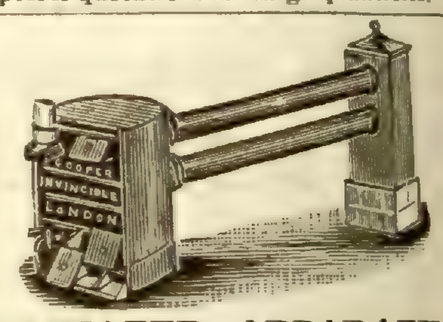

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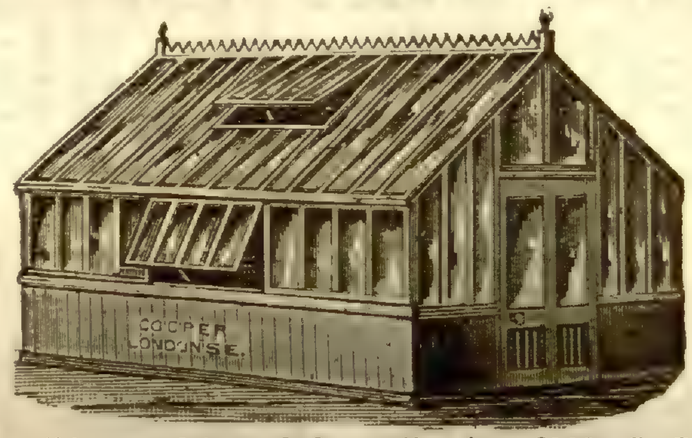

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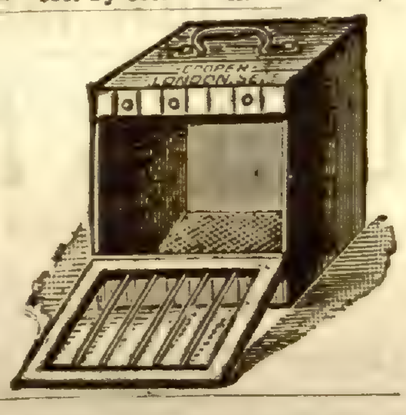

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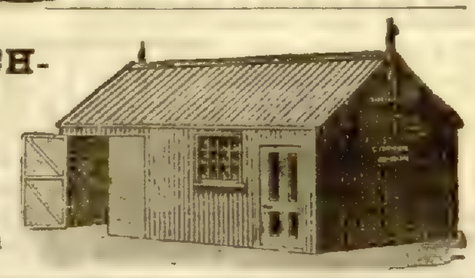

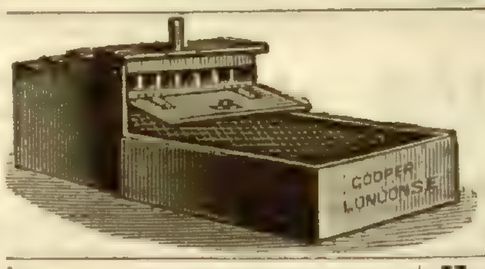

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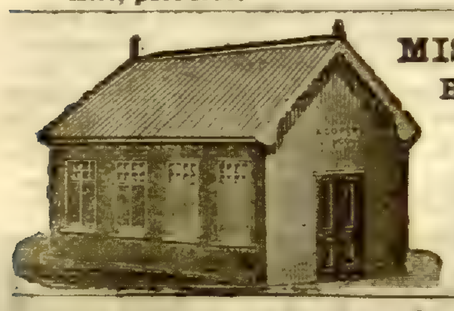

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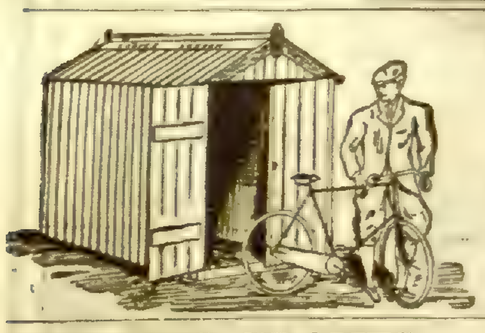

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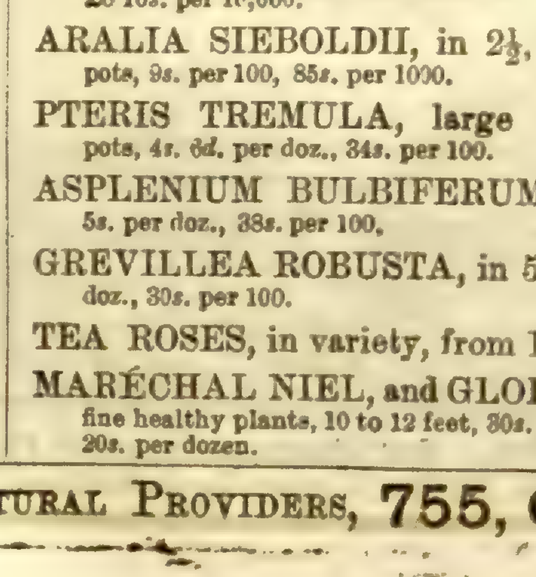

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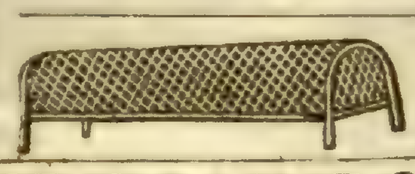

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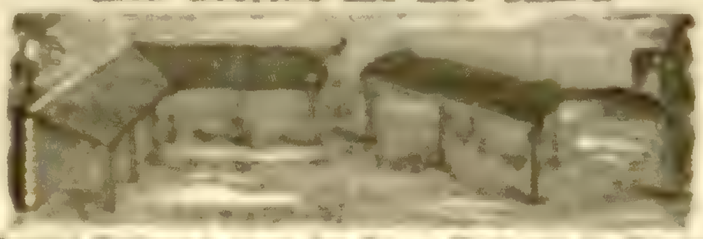

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GARDENING APPOINTMENTS.

Mr. Wm Sirl, as Gardener to Mr. Lionel Hanbury, Wexham Spring, Stoke Poges, Slough.

Mr. A. W. Wade, for the past eighteen months Orchid Grower to D. Ireland, Esq., Broughty Ferry, as Manager of the Glass Department, Storrie & Storrie's Nursery, Glencarse, Perthshire.

Mr. Henry Underwood, for the past three years Head Gardener at Nithsdale House, Market Harboro', as Head Gardener to W. Chaplin, Esq., Wynnham Lodge, Melton Mowbray.

Mr. James Charlton succeeds Mr. Bradshaw as Head Gardener to C. W. Dyson Perrins, Esq., Davenham Bank, Malvern.

Mr. M. Lowther, for the last three years Head Gardener at Eydon Hall, Byfield, as Head Gardener to General Sir Henry de Bathe, Wood End, Chichester.

Mr. John Ross, until recently General Foreman at Cobham Hall, Gravesend, has been appointed Assistant Manager of the Central Cachar Tea Co., at Burnie Brae, Cachar, India.

Mr. George Rodwell, for the past four years Foreman to Viscount Midleton, Peper Harow Park, Godalming, Surrey, as Head Gardener to Sir Edward Newdegate, Arbury Hall, Warwickshire.

Mr. Louis Pope, as Head Gardener to Colonel Craig, Carlton Hall, Carlton-on-Trent, Notts.

Mr. W. Norman, late Gardener at Knightshaye Court, Tiverton, Devon, as Gardener to the Right Hon. the Earl of Mar and Kellie, Alloa Park, Alloa, N.B.

Mr. A. Keine, late Foreman at Luton Hoo, as Gardener to Colonel Crosier, Westhill, Yarmouth, I.O.W.

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WANTED, a GARDENER, for near Manchester.—Experienced in Greenhouse and Kitchen Garden; one man under.—Apply to A. ASHTON, Holmes Chapel, Cheshire.

WANTED, TWO young MEN, as JOBBING GARDENERS.—10*s*. per week, board and lodging. None but with good character need apply.—H. WRIGHT, 2, Station Terrace, Willesden Green.

WANTED, as UNDER-GARDENERS, TWO good MEN, for Pleasure Grounds; married or single, optional.—Mr. BEARD, Champneys, Tring, Herts.

WANTED, MAN, age 25, as LEADING-HAND, in large Nursery.—Well up in Outside Stock, Layering, Planting, &c. Also MAN, about 22, as ASSISTANT to above.—ILEX, 41, Wellington Street, Strand, W.C.

WANTED, AT ONCE, a FOREMAN to take charge of about 600 feet of Glass.—Tomatos, Cucumbers, and Grapes for Market. Must have good references as to character and ability.—State wages and full particulars to T. J. EDNEY, Nurseries, Basingstoke.

WANTED, at West Wickham Nurseries, near Croydon, a Junior OUTDOOR FOREMAN, experienced in Grafting; ALSO, good SPADE-MEN, and young MAN in the Houses, quick Trade hand.—State wages received, and full particulars, by letter only, marked "Wickham Vacancy," to JOHN R. BOX, Croydon.

To Gardeners Waiting for Situations.

WANTED, a NUMBER of MEN, for Grape Thinning, until July.—Apply to JOSEPH ROCHFORD, Turnford, near Broxbourne, Herts.

WANTED, a young MAN, for Market Nursery.—Well up in Chrysanthemums, assist in Vines.—State experience, wages, and references, to G. BERR, Cheswood Gardens, Worthing.

WANTED, a young MAN, to Work in the Greenhouses, under the Foreman. Applicants must have a knowledge of Plant Growing in General. An intelligent and energetic young man will find a permanent situation.—State age, salary and references, to CURTIS, SANFORD AND CO., Limited, Devon Rosery, Torquay.

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WANTED, TWO young MEN, well-up in Growing Cucumbers for Market, under Foreman. Wages, 18*s*. per week. Also, TWO sharp active YOUTHS, as Improvers in general Market routine.—Apply, stating age, experience, and references, to GEO. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

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WANTED, a MAN thoroughly competent for Mushroom Growing for Market, also Spawn-making, one preferred well-up in other gardening. Apply, stating age, wages, and experience, to BARROW, "The Moat," Enfield Highway, N.

WANTED, a young MAN for the Houses, energetic, and with a little experience. Wages, 18*s*.—FRANK HOLDRUP, High Barnet.

WANTED, Good Market VEGETABLE-GROWER.—Capable Salesman, and able to drive. Good references required.—The Nurseries, Smeeth, near Ashford, Kent.

WANTED, at ONCE, young MAN (not under 20), inside under Foreman. Wages, 18*s*. per week. State experience and references, to T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, a smart young MAN, from 20 to 25, well up in Seeds, Bulbs, Garden Requisites, and Cut-flower Work; one with knowledge of Fruit preferred (single-handed). Will be required to travel occasionally.—Apply first by letter, stating wages expected, to W. GOARING, Hayward's Heath.

WANTED, for the Season, young MEN, about 23 or 24, with some knowledge of Potting and Watering. Wages 18*s*. per week, 4*d*. per hour for all overtime.—CHARLES WOODROFFE, Florist, Sudbury, Harrow, N.W.

WANTED, a HEAD WAREHOUSEMAN, for Agricultural Seed Department.—Must have a good general knowledge of the Trade, and understand Seed Cleaning. Married preferred.—TOOGOOD AND SONS, The Queen's Seedsmen, Southampton.

WANTED, a LAD, about 17, to look after Pony and Carriage, and assist Gardener.—Wages 4*s*. weekly, food and quarters free.—Address, R. G., Portledge House, Bath.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

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GARDENER (Head), where two or more are kept.—Age 30, single; good all-round experience, including Chrysanthemums for Exhibition. Excellent testimonials.—F. NASH, Amport, Andover, Hants.

GARDENER (Head), where two or three are kept.—J. CROWN will be pleased to recommend his Foreman, age 29, to anyone requiring a practical and trustworthy man.—6, Grove Terrace, Board School Road, Woking.

GARDENER (Head); age 30.—Jas. Stocks, who has been General Foreman in the Stoke Edith Gardens, Hereford, for the past two and a half years, begs to offer his services to any Lady or Gentleman requiring the services of a first-class practical man.—For full particulars apply to Mr. WARD as above.

GARDENER (Head), where two or three more are kept.—Married; thoroughly experienced in Vines, Flowers, Fruit and Kitchen Gardens. Twenty years' good character.—J. C., 23, Park Road, Henley-on-Thames.

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GARDENER (Head Working).—Age 27; married when suited.—Josh. Vessey, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

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GARDENER (Head Working).—Age 30, married; practical life experience in all branches of Gardening. Life abstainer. Five years in present situation. Excellent character.—W. HOWELL, New Cottage, Bell Bar, Hatfield, Herts.

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GARDENER (Head Working, or good Single-handed), by good all-round Man.—Age 33; Married, three children, youngest 3. Life experience in all branches. Six years' excellent character.—E., 2, Liverpool Cottages, Hayward's Heath, Sussex.

GARDENER (Head Working).—Age 37, married; thoroughly experienced with Grapes, Peaches, Cucumbers, Tomatos, Flowers, Vegetables, Stove and Greenhouse Plants. Excellent character.—SHEPHERD, Dragon Street, Petersfield, Hants.

GARDENER (Head Working), where two or three are kept.—Life experience with Vines, Peaches, Cucumbers, Melons, Tomatos, Greenhouse Plants, Flowers, and Kitchen Garden. Good character. Married when suited.—G. GINN, Downe, Farnborough, Kent.

GARDENER (Head, or good Single-handed). — Age 29; single. Good experience Inside and Out. Excellent character and references. Abstainer.—HERRING, Carville Hall Gardens, Kew Bridge.

GARDENER (Head, or good Single-handed).—A Gentleman giving up his place, would be pleased to recommend his Gardener to any Gentleman requiring a good man.—A. CHURCH, Anchor Coffee House, Westbourn, Bournemouth.

GARDENER (Head, or Single-handed).—Age 49, married, no small family; thoroughly experienced in the work throughout. Capable of taking entire charge. Can manage Poultry, Cows, &c., if necessary. Highest references from present situation.—G. H., New Barns Cottages, Kinley Common, Surrey.

GARDENER (Single-handed, or Under).—Age 28; well up in Glass, Flower, Fruit, Forcing, Pruning, and Kitchen Garden. Good character. — F. J. PAMPHLION, Hertford Heath, Herts.

GARDENER (Single-handed), or where another is kept.—Age 28, married. Excellent references.—W. T., 456, Mayfield Villas, Southfield, Wandsworth, S.W.

GARDENER (Single-handed or Second).—Age 28, single; life experience, good all-round gardener and manager; references reliable, two years present situation.—J. BREWSTER, 10, Palmer Street, Weston-super-Mare.

GARDENER (Single-handed, or good Second).—Age 26, married, no family; understands Stove and Greenhouse Plants.—H., Mr. Whitehorn, Mill Lane, Carshalton.

GARDENER (Second, or Single-handed).—Age 33, married; seven years' in present situation. Understands Horses, and general all-round Gardening. Abstainer. Well recommended. — SWALLOW, Newsells, Royston, Herts.

GARDENER (Second), Inside.—Age 25; experience in all branches. With good references from last and previous situations.—A. S., Glenavon, Saltford, near Bristol.

GARDENER (Second), where three or four are kept; or situation in a Public Park.—Twelve years' experience, Inside and Out. References. — H. RUMGAY, Wootton Lodge, Ulceby.

GARDENER (Second).—Age 25; thoroughly experienced Inside and Out. Single. Good references.—G. D., The Gardens, Mowbray Lodge, Melton Mowbray, Leicestershire.

GARDENER (Second), Inside, or Inside and Out. — Age 24; good references from present and previous employers. Ten years' experience.—F. FELLOWS, 21, Wotton Terrace, Little Bowden, Market Harborough.

GARDENER (Second, or otherwise).—Age 25, married; life experience Inside and Out. Good character.—J. DANIELS, 90, Hall Place, Paddington, W.

GARDENER (Second), where four or more are kept.—Age 25; nine years' experience Inside and Out. Good references.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (Second), Inside, or Inside and Out; age 24.—Mr. Burgess, Head Gardener, Hazelwood, King's Langley, Herts, can highly recommend W. Humphris as above. Eight years' experience.—Apply as above.

GARDENER (Second), where not less than three kept; age 25, single; experience Inside and Out.—H. Bond, Manor House, Bathford, Bath, can highly recommend H. SLOCKOME, who has been with him two years; honest, obliging, trustworthy. Good recommendations.

GARDENER (Second).—Age 25; 11 years' experience, inside and out; married when suited; good references from previous and present employer.—CHUTER, The Gardens, Coopers, Chislehurst, Kent.

GARDENER (Second) Inside. — Age 26, single; 11 years' experience in Stove and Greenhouse plants. Good references.—F. W., 41, Wellington Street, Strand, W.C.

GARDENER or FOREMAN, well experienced in all branches. Special knowledge of Orchids. First-rate testimonials. Five years with Messrs. Low & Co.—C. WILLEY, 12, Winslade Road, Clapton, N.E.

GARDENER, where two are kept, or good Second.—Age 26; experienced Inside and Out. Abstainer.—A. DRIVE, Nursery, Manor Park, Essex.

GARDENER, age 27, seeks situation. Used to Market Nursery. Abstainer. Good references.—A. GOACHER, Fern Cottage, Henfield, Sussex.

GARDENER, where two or three are kept.—Mr. J. Brown, Great Doods, Reigate, will have great pleasure in recommending Walter Coldman as above. Well up in Fruit, Roses, and general Gardening. Age 27, married, one child. Eight years' good character.

GARDENER, where two or more are kept.—Age 24; ten years' reference. Abstainer. Inside and Out.—A. B., Weston, Turville, Tring.

GARDENER, under Foreman, in Fruit and Plant Houses, where Gardening is well done. Age 21; three years in present situation. Abstainer.—J. Bradley highly recommends a young Man, as above, he being a reliable workman.—Tilehurst Nurseries, Reading.

GARDENER.—A young Man seeks situation as Second or otherwise, Inside and Out. Willing and obliging. Four years good reference.—W. BRITTAIN, Britwell Road, Burnham, Bucks.

GARDENER (Kitchen or Pleasure Grounds).—Age 26; married when suited. Used to machine or Scythe. Mr. F. Jordan, The Gardens, Tilgate, Crawley, recommends advertiser, G. Haylock as above. Good previous references.

GARDENER (good Under, or Second in small place).—Age 23; seven years' good experience. Good characters.—H. SMITHERS, The Gardens, Roydon Hall, Tunbridge, Kent.

GARDENER (Second or Third).—Three years' good character. Seven years' experience.—E. S., Halliford Hoo, Shepperton, Middlesex.

GARDENER (Under), Inside and Out; where several are kept.—Age 22, single; four years in present place. — COLLYER, The Gardens, Aldershot Park, Aldershot.

GARDENER (Under). — Age 21, height 5 feet 7½ inches; willing to make himself useful.—C. KING, Catesby House, Daventry, Northamptonshire.

GARDENER (Under).—Age 21; willing to learn —W. T. LONG, Cutwell Villas, Tetbury, Glos.

GARDENER (Under), Inside and Out.—Age 22, single; five years in present place; good character; bothy preferred.—F. WATTS, The Gardens, Chacombe House, Chacombe, near Banbury.

GARDENER (Under). — A young man (age 27), seeks situation as above. Willing to make himself useful Inside or Out. Good character.—G. BROAD, The Poplars, Cove, Farnborough, Hants.

GARDENER (Under). — Used to Kitchen Garden and Pleasure Grounds; good hand with Scythe and Machine. Understands Inside if required. Strong, and willing.—T. W., Manor Road, Brackley, Northamptonshire.

GARDENER (Under), Inside and Out.—Age 24, single; six years' experience; good references.—H. CHARMAN, Cranford Rectory, nr. Hounslow, Middlesex.

GARDENER (Under).—Young Man, age 19, good experience Inside and Out; good character. Left last place through death.—PEDDER, 3, Stoke Road, Aylesbury.

GARDENER (Under). — A Gentleman wishes to recommend a young man (age 21) as above. Four years' good character. Strong, active, and willing.—FREER, West Leake, Loughborough.

GARDENER (Under). — Age 22; good experience, Inside and Out. Five years in present place. Good references. Bothy preferred. — C. HOWARD, The Cottage, Sandgate.

GARDENER (Under), Inside and Out.—Age 21; hard-working, reliable, and obliging. Four years and sixteen months' excellent characters.—GARDENER, Egerton Lodge, Newmarket, Cambs.

GARDENER (Under).—Age 27, single; twelve years' experience in good places.—W. FENTON, Lullington Hall Gardens, Burton-on-Trent,

GARDENER (Under), Inside and Out.—Age 25; good character. State wages.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

GARDENER (Under), and IMPROVER Inside and Out.—Age 23; three years and a half in present situation. Well recommended by Head Gardener and employer.—TOWNSEND, The Gardens, Coppice, Ross, Herefordshire.

GROOM or GROOM-GARDENER. — A Gentleman wishes to recommend a young man, age 21, as above. Character eighteen months; previously with clergyman for five years. Indoors preferred, and country or suburbs.—S. MARCHMONT, Leyland Road, Lee, Kent.

GROWER, Market, or otherwise. — Age 26; experienced all round; well recommended; state terms.—F. B., Mrs. Allward, Little Heath, Potters Bar, Middlesex.

TO NURSERYMEN.—Situation wanted by FERN GROWER,; life experience in same, of which many years for London Market. First-class references. Please to state salary and other particulars.—S. S., 41, Wellington Street, Strand, W.C.

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FOREMAN, Inside.—Age 28; two years in present place as Foreman; four previously. Can be highly recommenned.—E. R., The Gardens, Farnham Castle, Surrey.

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FOREMAN.—Age 28; fourteen years' experience in Stove and Fruit Houses. Good characters.—W. MILTON, Harefield Nursery, Harefield, near Uxbridge, Middlesex.

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JOURNEYMAN (First), Inside.—Age 25; seven years' excellent character. Last three years as Foreman. At liberty any time.—J. HILL, North Elmsall, near Pontefract, Yorkshire.

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JOURNEYMAN (First), Inside, age 26.—Five years at Ketton Hall, three years at Ripley Castle, and one year present place. Excellent references.—W. WOOLLEY, Catmose, Oakham.

JOURNEYMAN (First), in a good establishment.—Age 23; ten and a half years' experience Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner, near Harlow, Essex.

JOURNEYMAN; age 21.—James Cypher begs to recommend a young Man as above. Six years' experience, Inside and Out. Very steady and obliging.—BOWDER, Queen's Road, Nursery, Cheltenham.

JOURNEYMAN.—I can very highly recommend a good Man.—Mr. LEACH, Albury Park Gardens, Guildford.

JOURNEYMAN, Inside.—Age 22; six years' experience. Two years in present situation. Bothy preferred.—L. DRAGE, Hill House Gardens, Saffron Walden.

JOURNEYMAN (First), age 20.—Mrs. Stratford Dugdale, Merevale Hall, Atherstone, wishes to highly recommend C. ROBINSON as above.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; seven years' experience. Four and a-half years' good character from present situation.—C. DUFFETT, Crownhill, R.S.O., Devon.

JOURNEYMAN, Inside and Out.—Mr. Osman can with confidence recommend young man (age 21), as above.—F. EALING, The Gardens, Ottershaw Park, Chertsey, Surrey.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Left through breaking-up of establishment. Excellent references. Bothy preferred.—GEORGE HEMLEY, Little Billington, Leighton Buzzard, Beds.

JOURNEYMAN, medium place, age 22.—Late at Beaham Park, Newbury; previously three years with Mr. Grace, at Bichton, Fordingbridge. Good general experience.—CHAS. HICKS, Avonside, Fordingbridge, Hants.

JOURNEYMAN, Inside or Out.—Age 24; seeks situation as above. Nine years' good character.—WM. PASSINGHAM, The Gardens, Sanderstead Court, near Croydon.

JOURNEYMAN (First), or GARDENER (Second).—Age 22; six and a-half years' experience. Abstainer; strong and willing. Good testimonials.—W. HURFORD, Bayfordbury, Hertford.

JOURNEYMAN, in a good establishment.—Age 23; four and a half years' good reference from present situation.—F. SAGE, Chantry Gardens, Ipswich, Suffolk.

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JOURNEYMAN (First), Inside.—Private place under Foreman. Age 22; over six years' experience. Abstainer. Highest testimonials from present and previous places.—A. FRANKLAND, Willowfield, Halifax.

JOURNEYMAN (First), in good Establishment; age 23.—W. Pearson, The Gardens, Carleton Grange, Pontefract, would be pleased to recommend young man as above.

JOURNEYMAN, in a good Establishment.—Age 23; eight years' good practical experience. Well recommended.—C. HUBBARD, The Gardens, Roffey Park, Horsham, Sussex.

JOURNEYMAN (First); age 24; ten years' experience.—Mr. J. Sedman, Wyreside, Lancaster, recommends advertiser, W. BOOTH, 31, Cross Lane, Marsh, Huddersfield.

IMPROVER.—A Youth (age 18) seeks situation as above in the Garden, Inside and Out. Will pay premium. Had twelvemonths' experience. Near London preferred.—W. G. W., 2, Canterbury Place, Sudbury, Harrow.

IMPROVER.—Wanted, by a Youth, age 18, strong and tall, Inside and Out. Bothy preferred.—Apply to HEAD GARDENER, Manor House, Effingham, Leatherhead.

IMPROVER.—Age 18; seeks situation in a Gentleman's Garden. Two and a half years' experience, In and Out. Abstainer. Good character.—FRANK FOSTER, Playden, Rye, Sussex.

IMPROVER, Inside, or Inside and Out.—Age 19; five years' good character. Abstainer.—F. WERNHAM, Welhouse, near Newbury, Berks.

IMPROVER.—A young Man, age 19, seeks a situation in a Gentleman's garden, Inside and Out. Can be well recommended.—E. PIKE, Ivy Cottage, Iping, Midhurst, Sussex.

IMPROVER.—Situation wanted in Gentleman's Garden, Inside and Out, for Youth, age 18, strong and willing.—W. GODDARD, Elmhurst, Christchurch, Hants.

IMPROVER.—T. Kennet-Were, Esq., can recommend a young man in his employ the last six years as above.—W. CHURCHILL, Station Road, Sidmouth, Devon.

IMPROVER.—Advertiser (age 17), seeks situation. Three years' experience present situation, with Plants, &c., generally. Good references.—Please state terms, &c., to F. SIMS, Letcomb Regis, Wantage.

IMPROVER.—Age 19; seeks a situation. Is strong and willing, and can be recommended.—H. PAXTON, Wyck Hill, Stow-on-the-Wold, Glos.

IMPROVER.—A Gardener wishes to recommend his son as above. Four years' experience, chiefly under him, Inside and Out. Bothy preferred.—HEAD GARDENER, Ivy Cottage, Brimpton, Reading.

TO HEAD GARDENERS.—A respectable young Man seeks employment in a Gentleman's Garden as IMPROVER. Good references.—G. W. B., 15, Dorset Road, Merton, Surrey.

TO GARDENERS.—A Gardener's Son, age 19, seeks situation in good garden. Premium given. English.—T. SHEASBY, Ballywalter Park, co. Down.

TO GARDENERS.—The Gardener, Normansfield, Hampton Wick, can highly recommend A. Eldridge age 24, as a strong JOURNEYMAN, with eight years' experience and character.

TO GARDENERS, &c.—Well up in Ferns, Chrysanthemums, Carnations, Roses, &c. Long experience; married.—G. M., 125A, Brettenham Road, Upper Edmonton.

TO GARDENERS.—Young Man (age 18) wants situation in private garden. Five years and four months in present place. Good character; state wages.—C. C., West Barnes, Malden, Surrey.

TO GARDENERS.—Two young MEN, experienced Outside, little knowledge of Inside, require situations Inside and Out, together or separate. Good characters.—F. CLEVERLEY, Victoria Road, Cowes, I.W.

TO GARDENERS.—Young Man (21) desires situation in large garden. Great taste for gardening; three years' experience in garden and small greenhouse. Very steady.—COMMUNICANT, Vicar, Billesdon Leicester.

TO GARDENERS.—Lady Louisa Howard will recommend Wm. Buckland, a Youth, age 18, who requires a situation in a large Garden. Three and a half years in present situation.—WM. BUCKLAND, Hazelby, Newbury, Berks.

TO GARDENERS.—£2 offered, if Advertiser can secure situation in the Houses, under a Foreman, where he can improve. Four years' good character. Can be well recommended. Age 22.—W. COOK, Portmore Park, Weybridge, Surrey.

TO GARDENERS.—A young Man (age 21) seeks situation in Kitchen Garden and Pleasure Ground. Abstainer. Five years' character from present situation. Well recommended.—H. BROOKS, Bishopsbourne, Canterbury.

TO GARDENERS.—Young Man (age 23), requires situation in a Gentleman's garden Well up in general Outside work; good Scythe hand. Six years in last situation. Can be well recommeded.—F. U., Mr. A. Woodgate, Capel Manor Gardens, Horsmonden.

TO GARDENERS.—Lad (age 16), seeks situation in the Gardens. Indoors preferred. Three years' good character and experience. Strong, willing, obliging. Please state wages, with lodgings or bothy.—H. RANDALL, Police Station, Horsham.

TO NURSERYMEN.—Situation wanted, by a young man, age 20. Four years' experience.—C. KING, care of D. King, Felstead, near Chelmsford, Essex.

TO NURSERYMEN.—Young Man, age 24, from first-class Nurseries, seeks situation in same. Highly recommended; life experience. Good Wreathist.—C. DENNIS, 13, Boulter Street, St. Clements, Oxford.

TO NURSERYMEN.—Situation wanted by a young man (age 25), in a Market Nursery as GROWER of Soft-wooded Stuff, Ferns, &c. Good references.—J. O., 1, Alabaster Cottages, Howard Lane, Lower Park Fields, Putney, S.W.

TO NURSERYMEN.—A young Man, age 22, seeks situation, good knowledge of potting and growing Fruit, Flowers, and Ferns for Market. Good references.—F. STEVENS, Shiphouse, near Hindon, Salisbury, Wilts.

TO NURSERYMEN or FLORISTS.—A. Rix Rose Cottage, Staines Road, Hounslow, having been Foreman Grower for Robert Green, Crawford Street, W., nine years at his Nursery, where all kinds of Foliage Plants are grown, seeks situation. Excellent references.

TO NURSERYMEN.—Situation wanted, by young Man. Age 21; experienced in Vines, Melons, Chrysanthemums, Roses, Carnations, Tomatos, &c. Good references.—W. H., 41, Wellington Street, Strand, W.C.

HANDY MAN, age 27.—Experience in large Nursery. Carpenter by trade.—J. H., 58, Frith Road Croydon, Surrey.

COWMAN, and fill up time in Garden.—Age 34, married; thoroughly understands Pigs and Poultry. Seven years' good character.—J. DAVIS, Kilfords Cotts, Hawkhurst.

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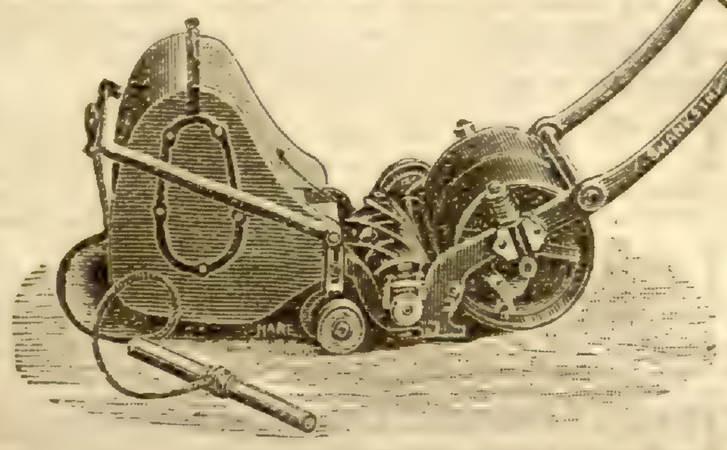

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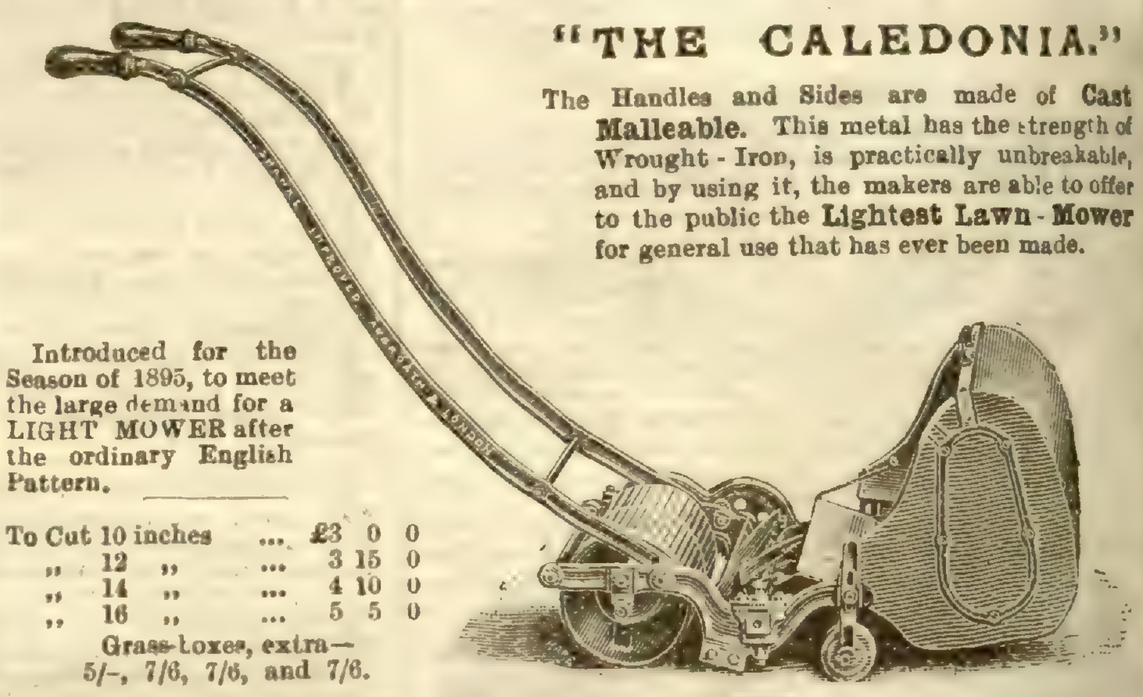

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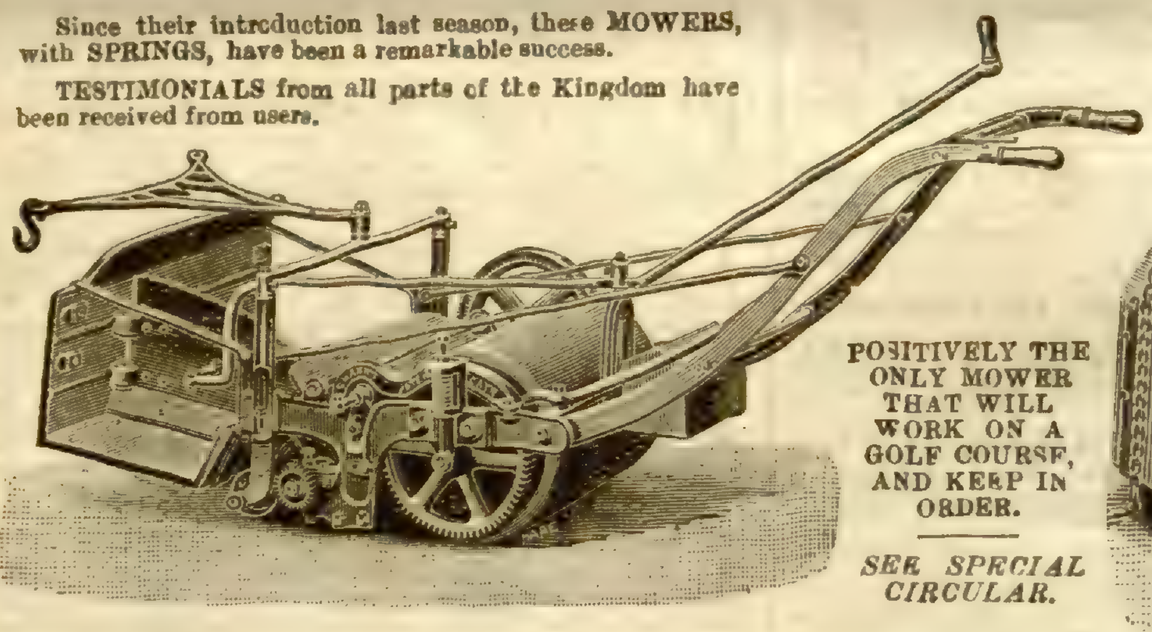

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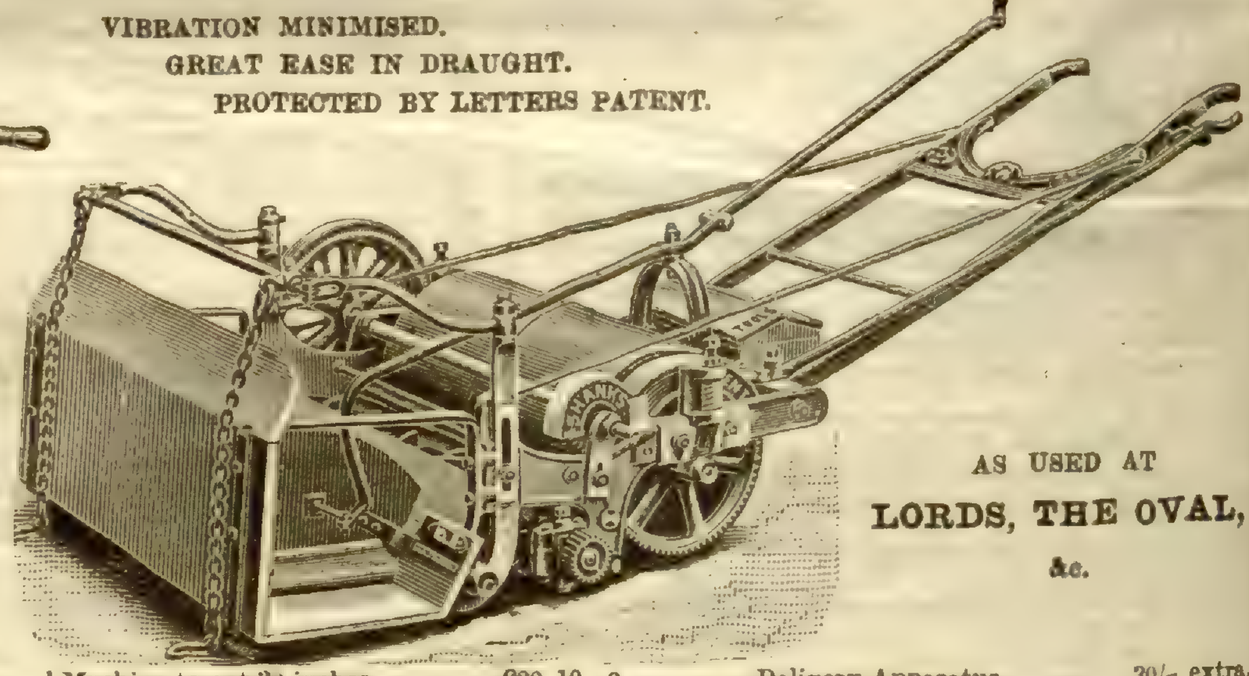

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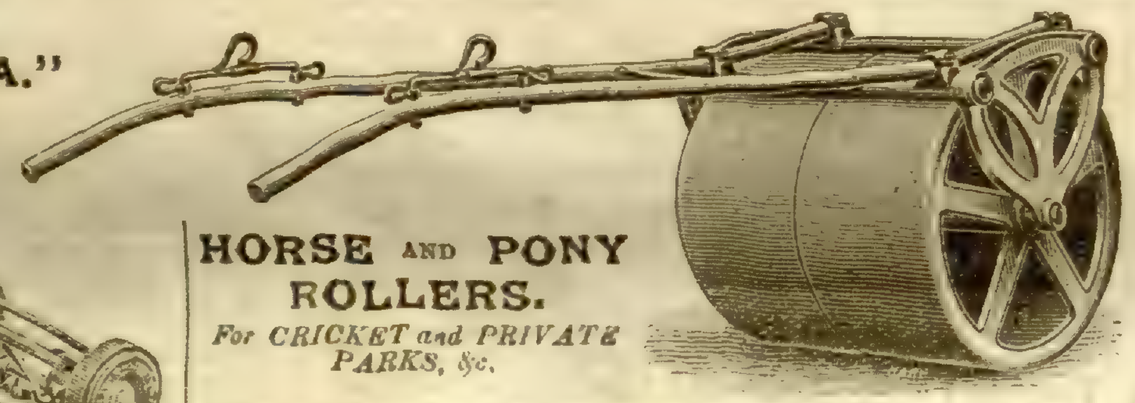

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	30 in. by 42 in. ,, ...	11	10	0	...	9	,,
	30 in. by 48 in. ,, ...	13	5	0	...	10½	,,
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	30 in. by 72 in. ,, ...	17	10	0	...	15½	,,

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

H. CANNELL AND SONS' FLORAL GUIDE and CATALOGUES will be sent post-free to all who require the best Seeds, Plants and Bulbs for the Garden and Greenhouse. They will be found by far the best Books issued. Our Nursery Gardens are exceedingly interesting, and all those who wish theirs to be quite a success should "COME AND SEE."

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The most complete and exhaustive Treatise on Grapes and their Culture ever published.
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PRICE LIST free.

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WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt cash.

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Prices on application to—
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ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

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MAIDENHAIR, in 48's, good Stuff, 5s. per dozen.
All the above packed free for Cash with Order.
T. BAKER, Manager, Blandford Nursery, Upper Teddington.

BEESON'S MANURE, Crushed Bones and all High-class Fertilisers,
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Tuesday Next, April 30.

By order of HUGH LOW AND CO.

DENDROBIUM SPECIOSISSIMUM.

THE GRAND WHITE DENDROBE from KINA BALU.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, April 30, at half-past 12 o'Clock, 100 lots of the above-named beautiful DENDROBE.

On view morning of Sale, and Catalogues had.

Wednesday Next.

Important consignment of PALM SEEDS just received in magnificent condition, comprising:—

100,000 GEONOMA GRACILIS
100,000 ARECA LUTESCENS
100,000 LATANIA BORBONICA

Also SEED of Ractrix sitosa, Elæis guineensis, Sabal umbraculifera, and 15 lb. of Grevillea robusta.

MESSRS. PROTHEROE AND MORRIS will include the above in their Sale on WEDNESDAY NEXT, May 1.

On view morning of Sale, and Catalogues had.

Wednesday Next—Without Reserve.

A grand Importation of LILIES from Burmah, consisting of 1500 Lilium Wallichianum superbum, L. nepalense, L. Lowii, L. Bakeri, and others, received direct in fine condition, and quite dormant.

Also 1423 JAPANESE MAPLES in variety, and JAPANESE LILIES, in great variety. A consignment from Belgium.

75 LATANIA BORBONICA
75 KENTIA FORSTERIANA
30 ,, BELMOREANA.
92 CORYPHA AUSTRALIS
50 ARECA BAUERII
20 ,, SAPIDA
50 ,, LUTESCENS
25 ASPIDISTRAS (green)

and

300 BEGONIAS (red)

Together with CYCLAMEN BULBS, Dwarf Pearl TUBEROSES, Double and Single BEGONIAS, 300 Dwarf ROSES, GREENHOUSE PLANTS, TIGRIDIAS, DAHLIAS, GLADIOLI, Hardy Border PLANTS, in great variety; 200 CARNATIONS, VIOLAS, PANSIES, SPIRÆAS, HARDY CLIMBERS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 1, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Sutton, Surrey.

SALE of Beautifully-grown Trained SPECIMEN AZALEAS and other PLANTS, which are well-known in the district, having been successfully shown at the local shows, and gained numerous prizes. Also COWS, PIGS, and Effects.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, the Manor House, Manor Lane, High Street, Sutton, near Sutton Station, L. B. & S. C. Ry., on WEDNESDAY, May 8, at One o'Clock, without reserve, the well-grown STOVE and GREENHOUSE PLANTS, comprising Splendid Specimen AZALEAS and FUCHSIAS for exhibition purposes, large Ivy-leaf and trained ZONAL GERANIUMS, PALMS, specimen FERNS, large EUCHARIS AMAZONICA, a fine collection of CALADIUMS, 200 BEGONIAS and GLOXINIAS, choice strains of ORCHIDS, large CAMELLIAS, &c. Also 2 Cows, 9 Pigs, 34 Head of Poultry, &c. May be viewed Two Days prior to the Sale.

Catalogues had on the Premises, of Messrs. BLYTH, DUTTON, HARTLEY & BLYTH, Solicitors, 112, Gresham House, E.C., and of the Auctioneers, 67 and 68, Cheapside, E.C.

Woking, Surrey.

By order of the Trustees under the Will of W. Jackman, deceased.

TO LAND SPECULATORS, NURSERYMEN, MARKET GARDENERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Auction Mart, 67 and 68, Cheapside, London, E.C., on FRIDAY, May 10, at 2 o'Clock, in 7 lots, the valuable FREEHOLD ESTATE, of about 20 Acres, known as the Hook Hill Nurseries, 2½ miles from Woking Station, and comprising several Enclosures of Nursery and Fruit Land, many having Building Frontages, with 4 Brick-built Cottages, situate in an exceptionally choice and elevated position, commanding extensive and delightful views for many miles. The surrounding property is being developed for the erection of first-class Villa Residences. Possession on completion of purchase.

Particulars and plans may be had on the Premises, of Messrs. SMALLPIECE AND CO., Solicitors, Guildford, Surrey; and of the Auctioneers and Estate Agents, 67 and 68, Cheapside, London, E.C.

Potter's Bar.

Fifteen minutes' walk from Potter's Bar Railway Station, G.N.R.

Important to FRUIT GROWERS, LAND SPECULATORS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Cheapside Auction Mart, 67 and 68, Cheapside, London, E.C., on FRIDAY, May 10, at 2 o'Clock, in one lot, the compact FREEHOLD ESTATE, Hollybank Nurseries, Great North Road, Potter's Bar, area about 2 acres, with 18 Greenhouses, all heated; brick-built Dwelling-house, containing 10 rooms, brick-built Cottage, sheds, Stabling, and other out-buildings. The Estate possesses the commanding frontage of about 364 feet to the main road, a great portion of which could be utilised for building, retaining the remainder for carrying on the present Business. Possession on completion of Purchase.

Particulars can be had of Mr. FOULGER, on the Premises; of Messrs. KILBY AND MACE, Solicitors, Chipping Norton; of Messrs. A. H. ARNOULD AND SON, Solicitors, 10, New Court, Carey Street, W.C.; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

GREAT UNRESERVED SALE.

FRIDAY, MAY 3.

BY ORDER OF MESSRS. F. SANDER & CO., ST. ALBANS.

5000 FREE-FLOWERING, EASILY-GROWN and all UNFLOWERED ORCHIDS.

This enormous Sale will be a rare opportunity for both Amateurs and the Trade. The plants will be lotted to suit all buyers. Single fine specimens and also a number of fine plants together in big lots will be offered, all in superb condition. As the plants are all unflowered, many splendid and exceptional novelties are sure to be found among them.

The Sale will also include 1000 Imported Plants, just to hand, in every form of bulb, and green and red-sheathed forms, of our true and superior type of—

SWAINSON'S OLD LABIATA,

CATTLEYA LABIATA AUTUMNALIS VERA.

THE TRUE AUTUMN-FLOWERING TYPICAL C. LABIATA.

THE GRANDEST CATTLEYA KNOWN.

From our previous importations the following and many other grand varieties have flowered, viz.:—Cattleya labiata alba, C. l. Cooksonæ, C. l. Hardyana, C. l. Mundyana, C. l. Rothschildiana, C. l. albo-cœrulea, C. l. Measuresiana, C. l. R. H. Measures, C. l. candida, C. l. Foleyana, C. l. Countess of Fitzwilliam, C. l. Richard Measures var. All the above, and many more gems of the greatest excellence—in fact, all the finest forms known—have all bloomed from our own importations.

These plants come from the same region—SWAINSON'S ORIGINAL HUNTING-GROUNDS—from which all the finest forms have emanated; no other district contains varieties of such unusual magnificence, and those now offered we can most confidently recommend. Also—

ODONTOGLOSSUM GRANDE.

Another consignment of this magnificent Odontoglossum just to hand in fine condition. The plants are strong, healthy, and in compact, well-shaped pieces. We have great pleasure in offering this noble Orchid, now very difficult to obtain.

This Sale affords an excellent opportunity for acquiring fine vigorous plants of this gorgeous-flowered market Orchid,

Also

ONCIDIUM SPLENDIDUM (TRUE).

Strong, thick-leaved, healthy plants of this rare Oncidium. The flowers surpass in splendour Oncidium tigrinum. It is difficult to collect this species owing to the inaccessible country in which it grows.

ODONTOGLOSSUM CITROSMUM.

GRAND IMPORTATION,

in the finest possible condition, of this charming sweet-scented Orchid, in healthy compact masses, with large plump bulbs. These superb plants could not be finer. One of the handsomest of all known Orchids. LÆLIA (BRASSAVOLA) GLAUCA, a large white-flowered Lælia; VANDA KIMBALLIANA, splendid plants, well leaved; LÆLIA ANCEPS, DENDROBIUM DALHOUSEIANUM, CYPRIPEDIUM EXUL, &c., &c.

We shall also include vigorous Established Plants, many in spike, of

Phaius Wallichi, P. Blumei, P. Sanderiana, Cœlogyne Dayana, Eulophiella Elisabethæ, Aganisia lepida, Dendrobium Brymerianum (specimen), Grammatophyllum, Measuresianum, &c.

Also

Many fine CYPRIPEDIUMS, C. grande, C. Lathamianum, C. œnanthum superbum, C. Schroderæ, C. Maynardii, and numerous other beautiful and popular ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 3, at half-past 12 o'Clock.

Catalogues may be had, and the plants viewed on the morning of Sale.

"Bown's" Collection of Established Orchids.

ATTRACTIVE SALE of this important COLLECTION of ORCHIDS, by order of W. Bown, Esq., who is giving up their cultivation in consequence of leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Holly Lawn, Beech Lane, Hagley Road, Birmingham, on WEDNESDAY and THURSDAY, May 8 and 9, at 12 o'Clock, the above valuable Collection of ESTABLISHED ORCHIDS, comprising in all about 2000 plants, and including a large number of very fine specimens for Exhibition purposes; these having been shown successfully at the Birmingham Spring and Autumn Shows, and also at Wolverhampton, and gained many Prizes and Special Certificates.

The EXHIBITION SPECIMENS comprise:—

Cattleya Mossiæ specimen	Epidendrum prismatocarpum
,, Skinneri	Lælia purpurata alba
,, gigas variety	,, crispa
,, labiata	,, Perrini
,, Trianæi	,, anceps
,, Mendeli	,, ,, Barkerii
Dendrobium Dalhousieanum	Odontoglossum grande
,, nobile	,, Alexandræ
,, fimbriatum	

Also

200 ODONTOGLOSSUM ALEXANDRÆ, extra fine plants
50 ,, GRANDE, very fine plants
100 CYPRIPEDIUMS, various

The plants may be viewed any day prior to the Sale.

Catalogues may be obtained of Mr. PALMER, the Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next.

200 Standard and 200 Dwarf ROSES, Home-grown and Imported LILIES, Stove and Greenhouse FERNS, PALMS, TIGRIDIAS, ANEMONES, IRIS, Double and Single BEGONIAS, TUBEROSES, GLADIOLI, DAHLIAS, Extending WOODEN TRELLIS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, April 29, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

GREAT TRADE SALE OF ORCHIDS

(Absolutely Without Reserve).

BY ORDER OF JOHN COWAN & CO., LTD.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, APRIL 30, at half past 12 o'Clock precisely, a grand importation of

CATTLEYA LABIATA AUTUMNALIS,

in splendid condition; being the first which has arrived in this country for this season. Also grand lots of

CATTLEYA CITRINA
CATTLEYA INTERMEDIA AMETHYSTINA
CATTLEYA GUTTATA LEOPOLDII
LÆLIA PURPURATA
,, ANCEPS WHITE
,, ,, MORODA
DENDROBIUMS in great variety
CYPRIPEDIUMS in variety
ONCIDIUMS in variety
EPIDENDRUMS, &c., &c.

Also fine lots of DENDROBIUM THYRSIFLORUM, ODONTOGLOSSUM CITROSMUM, and CYPRIPEDIUM CALCEOLUS, with Flower Spikes.

All in lots to suit the Trade and other large buyers,

On view morning of Sale, and Catalogues had.

Tuesday Next.

By order of Messrs. HUGH LOW & Co.

DENDROBIUM SPECIOSISSIMUM (Rolfe).

MAGNIFICENT NEW SPECIES.

MESSRS. PROTHEROE AND MORRIS will include 100 lots of the above in their ORCHID SALE on TUESDAY NEXT, April 30, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Claygate, near Claremont, Surrey.

Advantageously situate about five minutes' walk from Claygate Railway Station. To GENTLEMEN fond of Horticultural pursuits, NURSERYMEN, and FLORISTS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Cheapside Auction Mart, 67 and 68, Cheapside, London, E.C., on FRIDAY, May 10, at 2 o'Clock, the FREEHOLD NURSERY of 2 acres, with four newly-erected Greenhouses, also the beneficial interest in the leasehold gardens of about 14 a. 0 r. 32 p. The soil is adapted for the growth of Fruit, Nursery Stock and Market Garden produce, and will be sold as a going concern.

Particulars may be had on the premises, of Messrs. NORRIS & SON, Solicitors, 11, Gray's Inn Place, Gray's Inn, W.C., and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Surrey.—Manor Farm, Normandy,

near to Aldershot and Guildford.

MESSRS. PROTHEROE AND MORRIS in conjunction with Messrs. MUMFORD AND BOND, will OFFER by AUCTION early in June, in lots, this important FREEHOLD ESTATE, comprising the well-known Manor Nurseries, extending to about 40 acres, with Forcing-Houses, 2 Dwelling-Houses, Offices, Stabling, and Buildings thereon. Valuable accommodation. Lands. Building sites. Productive Farm Lands, with superior Residence, and set of excellent Farm Buildings, the whole embracing an area of about 260 acres.

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Wednesday Next.

A fine Collection of BORDER PLANTS and BULBS, including an extensive variety of Carnations and Pinks, Dahlias, Begonias, Gloxinias, Iris, Michaelmas Daisies, &c., beautifully grown Ornamental Shrubs, Trees, &c., from English and Dutch Nurseries. Choice named French, German, and Dutch ROSES, including Standards, Half-standards, Dwarfs, and Climbers. A Collection of well-grown PALMS, PALM and CARNATION SEED, a variety of LILIUMS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 1, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Nightingale Nurseries, Grosvenor, Bath.

GREAT ANNUAL UNRESERVED SPRING SALE.

MR. W. T. D. SUTTON will SELL by AUCTION, on the Premises, on TUESDAY, May 7, 1895, at half-past 12 o'Clock, by direction of Mr. Wm. Webb, many thousands of well-grown BEDDING and DECORATIVE PLANTS, the Stock of a new COLEUS, favourably noticed in the *Gardeners' Chronicle*, and a great variety of other stock.

On view day prior to Sale. Catalogues (3*d*. each) may be had on the Premises, or of the Estate and Horticultural Auctioneer and Valuer, 34, Catherine Hill, Frome.

Central Auction Mart, Upper Boro' Walls, Bath.

A CHOICE COLLECTION of ESTABLISHED ORCHIDS, many in flower or bud, and remarkably well grown.

MR. W. T. D. SUTTON will SELL the above by AUCTION on WEDNESDAY, May 8, 1895, at half-past 12 o'Clock, by direction of Mr. P. McArthur.

On view day prior to and morning of Sale. Catalogues may be had at The Mart, or of the Estate and Horticultural Auctioneer and Valuer, 34, Catherine Hill, Frome.

CATTLEYA LABIATA AUTUMNALIS

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Have just received a large and splendid importation of CATTLEYA LABIATA AUTUMNALIS, in grand condition, which they are now offering, together with other fine importations from other countries.

The Company have also an immense stock of ESTABLISHED ORCHIDS; and they are at present selling by private treaty a fine collection at very low prices.

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WANTED, to purchase, a sound SEED and FLORIST BUSINESS of medium size, without Nursery or only a very small one, and in a market town preferred.—E. H., 41, Wellington Street, Strand, W.C.

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FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

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THREE GOLD MEDALS for TRADE EXHIBITS.
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Solid Fruit, Good Flavour, High Perfume.

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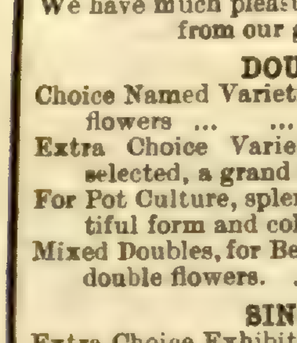

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A Pamphlet on its use, with full directions for cleaning plants, &c., sent free on application.

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The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

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Insoluble Phosphate	35·74 per cent.
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(Equal to Ammonia)	10 85 "

Sold in Tins, 1*s*., 2*s*. 6*d*., 5*s*. 6*d*., and 8*s*. each; and in Kegs, well secured, to prevent loss through exposure, 28 lb., 10*s*. 6*d*.; 56 lb., 18*s*.; 112 lb., 32*s*.

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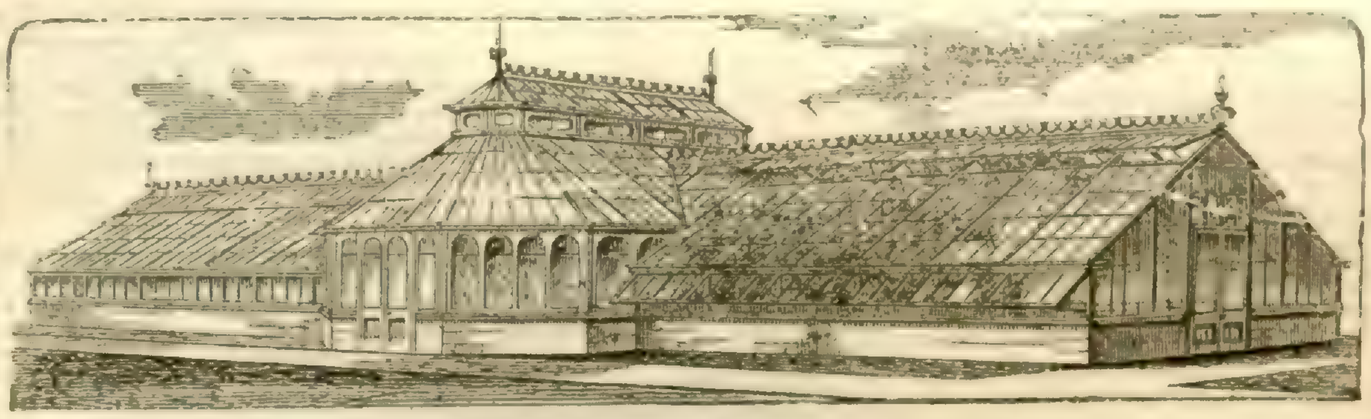

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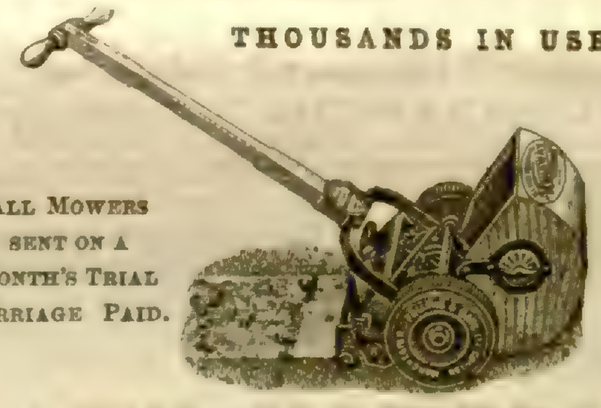

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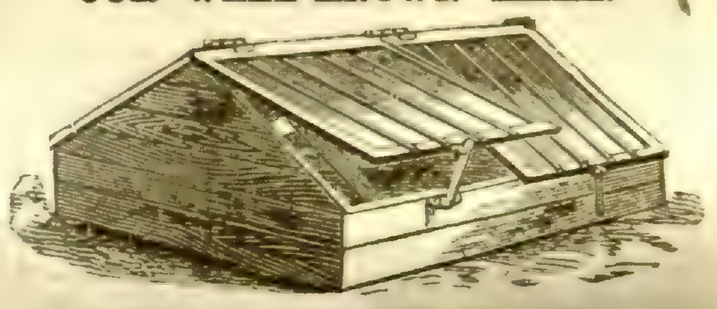

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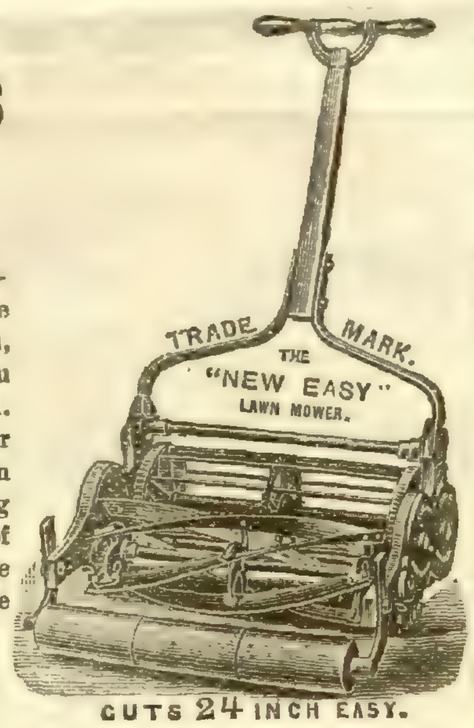

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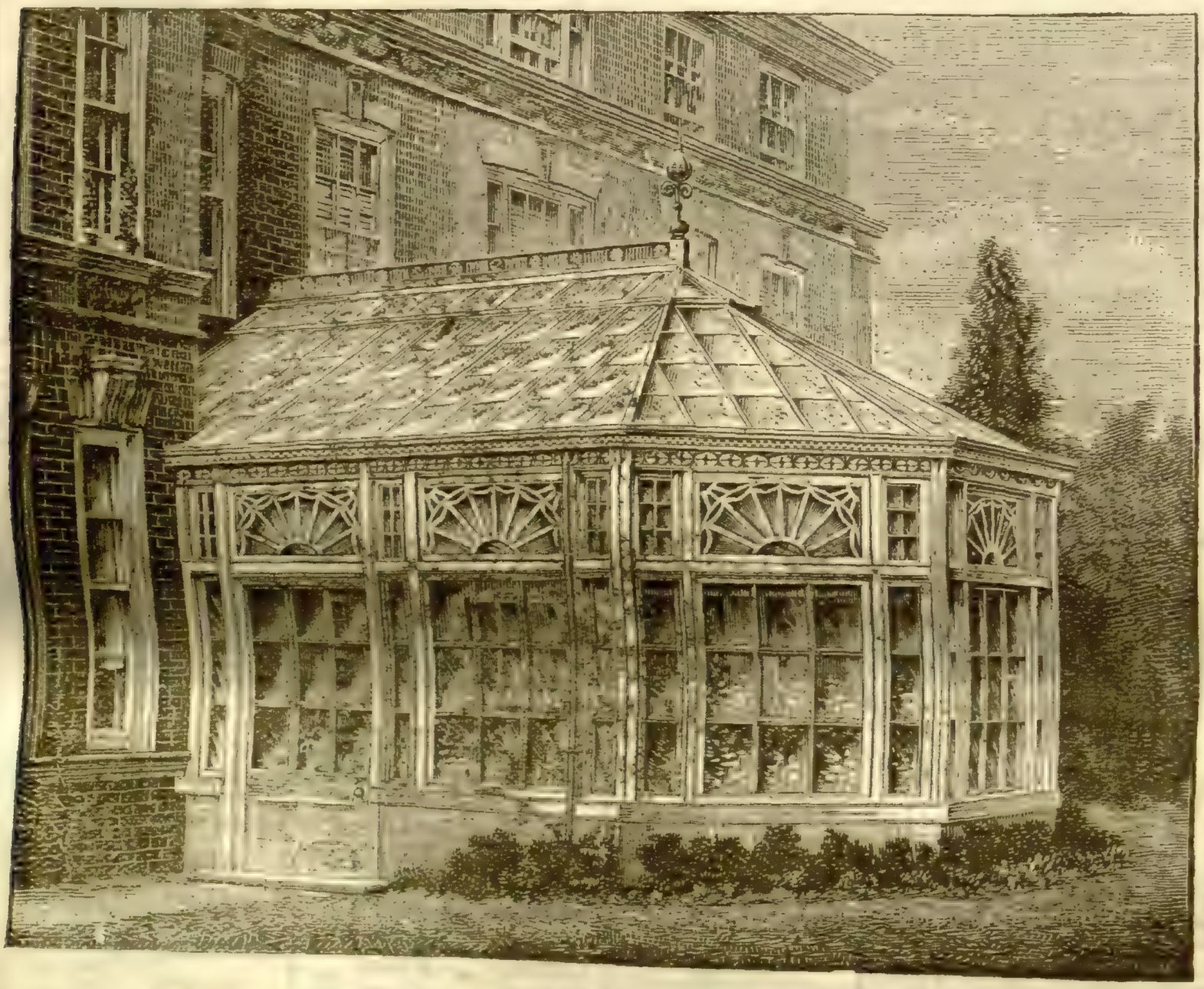

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THE

Gardeners' Chronicle.

SATURDAY, APRIL 27, 1895.

THE MAGNOLIAS.

IT seems appropriate, now that the Magnolia season has commenced, to string together a few notes respecting the known species of the genus—especially those which are actually in cultivation in this country. And it is not too late now to transplant—indeed, there is probably much more chance of success for plants purchased now than for those moved some months ago. Many of the species have rather thick, fleshy roots, and if the injured portions are not cut away, the said roots have a way of rotting further and further back. By careful management, however, and timely transplantation just before growth begins, Magnolias are not more difficult to "move" than most other trees, in spite of their reputation to the contrary.

Most—indeed, nearly all—of the species in cultivation thrive in the open air in the southern counties of England, and some are amongst the most beautiful of all cultivated trees and shrubs. One exception is the Chinese M. pumila (*Botanical Magazine*, t. 977), which requires to be grown under glass. M. Campbellii, an Eastern Himalayan species, which excited great expectations after the publication of the figure in Catheart's *Himalayan Plants*, has not realised the hopes centred on it. It flowered a few years ago in the garden of the late Mr. Crawfurd, at Lakelands, in southern Ireland, and was figured, from material sent thence to Kew, in the *Botanical Magazine*, t. 6793; the Lakelands plant, however, was a pale-flowered form, very much inferior to that figured in the first-mentioned work. Now, another plant has flowered at Fota Island, in another famous garden of southern Ireland, and this—a fine specimen, 25 feet in height—has gloriously rich rosy-red-tinted flowers. Three Indian species have not yet been introduced to cultivation, viz., M. globosa, M. sphenocarpa, and M. Griffithi. At least three others—and this number may be considerably surpassed as China becomes better known—await introduction. The following paragraph by Mr. W. B. Hemsley, in *Garden and Forest*, for 1889, p. 123, sets the tree-lover longing. "Imperfect specimens were received at Paris of an arboreous species, between 90 and 100 feet high, which bears very large white and purplish odoriferous flowers, similar to those of M. Campbelli, and produced in April and May; and Dr. Henry has sent specimens of two very fine species from the Patung district. They are both large trees, with huge deciduous leaves and large terminal solitary flowers, red in one species, and white in the other."

For convenience of reference the species are arranged alphabetically.

Magnolia acuminata — The Cucumber Tree, so called by reason of the resemblance between its young fruits and a small Cucumber, is one of the best trees for planting in towns. According to the *Hortus Collinsonianus*, it was introduced to this country by that famous old gardener, the friend and correspondent of Linnæus, Peter Collinson. His memoranda concerning it are as follows:—"My two deciduous or mountain Magnolias were planted from seed in 1746; planted one in the corner of the bed in the best garden. May 20, 1762: the mountain Magnolia flowered in my garden, which I raised from seed about twenty years ago, being the largest and highest tree in England, and is yet in very few gardens." There are now fine trees at Kew, Syon Gardens, Claremont, and many other places. The flowers are slightly fragrant, bell-shaped, and of a glaucous-green colour, tinged with yellow; the deciduous leaves are from 5 to 10 inches in length, oblong, pointed, slightly hairy beneath. It is a native of the United States, where it occurs in rich woods from Western New York to Ohio and southward, attaining a height of 60 to 90 feet, with a trunk 2 to 4 feet in diameter. A form with golden leaves originated in an American nursery several years ago. M. cordata, Michx., is now considered by Professor C. S. Sargent as a variety of M. acuminata. That eminent authority on matters appertaining to arboriculture, remarks (*Garden and Forest*, 1889, p. 338), "No wild form, it must be said, has been found just like the one, of unknown origin, long preserved in cultivation, which has small, canary-yellow flowers, broadly oval, and occasionally slightly cordate, dark-green leaves. Two specimens of this variety may be seen in the Harvard Botanic Garden, where they were found already full-grown trees by Professor Gray in 1842 when he assumed control of the garden."

M. Campbelli.—A native of the outer Himalaya, where it occurs at elevations of from 8000 to 10,000 feet, and attains a height of 150 feet, producing its large, fragrant flowers, which vary in colour from pale rose to crimson, before the leaves appear. As already mentioned, a beautifully-coloured form of this superb tree has borne flowers this spring for the first time at Fota Island.

M. conspicua.—This species, one of the best known and most deservedly popular of all the Magnolias, is a native of China. It is very generally cultivated in Japan, but is regarded as an introduction, and not a genuine member of the Japanese flora, by Professor C. S. Sargent, in his *Forest Flora of Japan*. It has pure white flowers, which are produced in great profusion on old plants, such as the grand specimens at Kew, Syon Gardens, Gunnersbury House, &c. This species is the second in order of flowering, M. stellata being the first. The Yulan, as it is often called, forms a grand object for cool conservatory decoration, when grown in large pots or tubs, and lends itself admirably to this purpose. Under such conditions, the flowers are not injured by frost or parching east winds, which, in the neighbourhood of London, at any rate, too frequently mar their beauty. M. Soulangeana, fig. 74, p. 525, is a hybrid between this species and M. obovata, and was raised in 1826 in the garden of M. Soulange-Bodin, at Fremont, in France. M. Soulangeana nigra has dark plum-coloured flowers, and M. Lennei (another hybrid derived from the same parents) has rich red-tinted flowers. A considerable number of hybrids or sports have received distinctive names in European gardens, but those just mentioned are the most noteworthy. (See figs. 74 and 75)

M. Fraseri is thus apostrophized by Bartram in his wonderfully-interesting *Travels:* "How gaily flutter the radiated wings of the Magnolia auriculata, each branch supporting an expanded umbrella, superbly crested with a silver plume, fragrant blossom, or crimson studded strobile and fruits." The white flowers measure from 3 to 4 inches across. In a wild state the tree rarely exceeds 40 feet in height.

M. glauca.—The Laurel Magnolia or Sweet Bay. In this country M. glauca has nearly evergreen blue-green leaves, silvery beneath. It makes a beautiful bush or small tree, and flowers very freely. In a wild state it occurs in swampy ground, but thrives well in tolerably dry situations, and according to Mr. J. G. Jack, in *Garden and Forest*, grows much more rapidly if grafted on M. acuminata. The exquisite beauty and fragrance of the globular flowers—which open a rich cream colour, and gradually acquire a pale apricot hue—have caused some enthusiasts to suggest that the Laurel Magnolia should be chosen as the "national flower" of the United States. M. Thompsoniana, regarded by some authorities as a large form of M. glauca, is probably a hybrid between M. glauca and M. Fraseri; Professor Sargent inclines to the hybrid origin of the plant, and points out in *Garden and Forest*, vol. i., p. 269, where a beautiful figure is given, that although the leaves are indistinguishable from those produced by vigorous plants of M. glauca, the reflexed sepals and obovate-oblong petals contracted into a narrow claw, distinctly belong to M. Fraseri. The flowers, too, are intermediate in size between those of the two species.

M. grandiflora.—This does best as a wall tree with plenty of space. Fairly good specimens exist in the open (away from walls, I mean), in many parts of the South of England, but such winters as the one through which we have just passed sorely try them. In Western and Southern France I have seen noble specimens, but none to compare with those in the South-eastern United States. Here is what Bartram says in his *Travels:* "Behold yon promontory, projecting far into the great river, beyond the still lagoon, half a mile distant from me. What a magnificent grove arises on its banks! How glorious the Palm! How majestically stands the Laurel, its head forming a perfect cone! Its dark green foliage seems silvered over with milk-white flowers. They are so large as to be distinctly visible at the distance of a mile or more. The Laurel Magnolias which grow on this river, are the most beautiful and tall that I have anywhere seen, unless we except those which stand on the banks of the Mississippi; yet even these must yield to those of St. Juan, in neatness of form, beauty of foliage, and, I think, in largeness and fragrance of flower. Their usual height is about 100 feet, and some greatly exceed that. The trunk is perfectly erect, rising in the form of a beautiful column, and supporting a head like an obtuse cone . . . ." A number of seedling forms have received varietal names in gardens, but space fails to mention them in detail.

M. hypoleuca.—As far as I know, this species has not yet flowered in this country, but it grows freely and is perfectly hardy—at any rate in the neighbourhood of London. The very fragrant flowers are 6 or 7 inches across when expanded, with creamy-white petals and brilliant scarlet filaments, and are produced in May or June, after the leaves are nearly fully grown. The leaves are light bright green above, and pale steel-blue or silvery beneath, and measure from 10 to 14 inches in length, by 6 to 8 in breadth. Professor Sargent, in his *Forest Flora of Japan*, says that in the damp rich forests which cover the low rolling hills of Yezo, this species sometimes attains a height of 100 feet with trunks 2 feet in diameter, and that its timber is valuable.

M. Kobus.—This species, according to the author just quoted, grows to a height of 70 or 80 feet in the neighbourhood of Sapporo, and develops a tall, straight trunk, nearly 2 feet in diameter. The white flowers are 4 to 5 inches across when fully expanded, and appear before the leaves. Good figures are given in *Garden and Forest*, and in Sargent's *Forest Flora of Japan*.

M. macrophylla.—This species has the largest leaves of any member of the Magnolia family, and larger than those of any other North American tree, attaining a length of upwards of 3 feet; they are green above, and silvery-white beneath. The large flowers measure about 10 inches across, are white, with the exception of the inner petals, which have a deep purple blotch at the base. M. macrophylla is one of the most beautiful of all trees. Unfortunately, it does not thrive well in most places in this country; but there is a fine tree at Claremont, which was about 30 feet high some ten years ago.

M. obovata is a Chinese species, formerly believed to be a native of Japan, because it is very commonly cultivated in that country, and was thence sent to Britain. It is not so desirable from an ornamental point of view as M. conspicua, or as many of the numerous hybrids which have been raised between it and that species. It begins to produce its purple-red flowers just after M. conspicua, and does not attain such tree-like proportions as does that plant.

M. parviflora is, according to Professor Sargent, not a native of Japan, but an introduction from China or Corea into that country. This species has just been figured in the *Botanical Magazine*, t. 7411, from a plant which flowered at Kew last June. It is nearly allied to M. Watsoni, but differs in the smaller size of all its parts, the fewer nerves of the leaves, and the longer peduncle of its flowers, which measure 3½ to 4 inches in diameter, and are white, with the exception of the sepals, which are rose-tinted. It forms a small tree with rather slender, glabrous branches and pubescent branchlets.

M. salicifolia, a Japanese species, seen growing by Professor Sargent in low wet situations, on Mount Hakkoda, is a slender tree 15 or 20 feet high, with stems 3 or 4 inches thick. The foliage and fruit are figured in *Garden and Forest*, but the flowers are so far unknown to botanists. It is to be hoped that the seeds brought home by Professor Sargent will soon allow specimens to be distributed.

M. stellata.—This, although introduced from Japan and largely cultivated there, is regarded by Professor Sargent as an introduced plant. It was first grown in English gardens under the name of M. Halleana, and is, with us, the first of all the species to open its flowers; at the time of writing this they are in full beauty. The fragrant blossoms are white, and measure 3 inches across; the anthers are yellow. At first the narrow petals—with a faint pink central streak—are spreading, but they afterwards become reflexed. Another form, introduced by Messrs. Veitch from Japan, has blush-pink flowers; the type and the variety have both been exhibited at various meetings of the Royal Horticultural Society. With the exception of M. pumila—a species not hardy with us—M. stellata is the smallest-growing Magnolia I know. It is rarely seen more than 4 feet or so in height. (See fig. 73)

M. tripetala.—The Umbrella-tree, so called on account of the leaves being crowded into an umbrella-like circle at the tips of the flowering branches, has slightly-scented white flowers from 5 to 8 inches across. It was first introduced to this country by Philip Miller, and independently introduced a year or two later by Peter Collinson from South Carolina. It has stately leaves, from 1 to nearly 3 feet in length, and in spite of its lax habit, is a handsome tree where it succeeds.

M. Watsoni, described and figured in the *Botanical Magazine*, t. 7157, was introduced from Japan a few years ago. It is looked upon by Sargent as not a genuine member of the indigenous Japanese flora, but as an introduction from China or Corea. The large fragrant flowers are white, with crimson filaments. It is yet too early to speak with certainty of the value of this species; whether it will grow and flower as freely as some of the older Magnolias remains to be seen. (See fig. 72)

M. compressa is Michelia compressa, and only a word is necessary respecting it here. The species has been introduced to Kew, and it has withstood the past severe winter very successfully. There is reason to hope that it will prove a valuable addition to our collections of hardy trees. *Geo. Nicholson, Royal Gardens, Kew.*

FIG. 72.—MAGNOLIA WATSONI: FLOWERS CREAM-COLOURED, WITH CRIMSON ANTHERS. (SEE P. 516.)

NEW OR NOTEWORTHY PLANTS.

MIMULUS CLEVELANDI.*

This species [figured and described by Mr. Brandegee in *Garden and Forest*], one of the handsomest of the genus, was found on the south side of Cuyamaca Peak, in Southern California, not far from the signal-station on its summit. It grows in patches, spreading by underground roots. Among loose rocks the stems attain a height of 2 feet, but on exposed slopes their length is considerably less. Although growing at a much greater elevation (over 6000 feet) than Mimulus glutinosus, its stems are woody, though short. It connects that species more closely with the sections Œnoe and Eunanus, which have in most cases the same dehiscence. It is now in cultivation in San Diego, and it will be of interest to observe whether its stems become longer or larger in this milder climate.

The species is named in honour of Mr. Daniel Cleveland, whose name is so well known in connection with the flora of San Diego County. *T. S. Brandegee, San Diego, Cal.*

[Judging from herbarium specimens, this Mimulus ought to be a good ornamental plant in California or Southern Europe. Of course, it would not be hardy here, and it is hardly probable that it would make a good greenhouse plant; but in dry climates, where it could be watered, it might become a large shrub and flower throughout the year. Ed. *Garden and Forest.*]

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM EDITHÆ, *Warner.*

This fine variety of Odontoglossum, one of the most beautiful of the O. crispum-gloriosum crosses, and which would in scientific arrangement come under O. lanceans, Rchb. f., is now in bloom in the collection of the Rev. R. Kinleside, at Sunbury House, Tunbridge Wells. It has flowers that are beautifully and delicately tinted; in size, nearly as large as those of O. crispum. The margin of each segment is furnished with a light yellow-coloured, waved, broad band, which encloses other broader bands of a rose-purple hue, with a yellow-coloured tinge showing through them in places. The middle of the basal portions of the sepals and petals are creamy-white, and on the sepals are three or four well-defined bright chestnut-red blotches, the blotches on the petals being smaller than those, and more numerous. The base of the lip is of a bright yellow hue, with a few red streaks at the sides, and some brown spots.

Dendrobium Wardianum and D. nobile.

These are two of the most useful of the Dendrobes when well cultivated. Visiting the gardens at the Manor House, Chislehurst, the other day, I was much struck with the high state of cultivation of these two species of Dendrobium—Wardianum with growth over 4 feet long, carrying forty flowers on a growth; and nobile growing in 12-inch half pots in splendid health, with 300 flowers on a plant. The treatment of D. nobile, said Mr. Heard, the gardener, consisted of not drying them off, but affording them a partial rest after growth was made, and this doubtless was the reason that the foliage is retained by the plant in such perfection. *Visitor.*

Orchids at Wimblehurst, Horsham.

In every part of his pretty and compact garden it is evident that E. Allcard, Esq, finds his chief pastime, and his healthiest recreation. The lawn is characterised by its smooth unbroken surface, and around are immense clumps of Rhododendrons, and herbaceous borders and pretty side gardens of rockery and rosary are noted. Forming an outlet from the dwelling is a lofty conservatory furnished with stately Palms in the middle area, and low staging around now covered with bright spring-flowering plants. Here at times are suspended the fine Dendrobiums and other Orchids which the skill of Mr. T. Sparkes brings to such perfection in the small, but convenient houses situated on the other side of the gardens. Indeed, most of the houses, whether Peach-houses with the trees now so beautifully in bloom, Rose-house, vineries or greenhouse, have accommodation for a few of the Orchids, whenever a shift to other quarters is deemed beneficial to them. A change invariably is beneficial to an Orchid, which is not quite satisfactory, if its needs are duly considered, and a suitable place selected into which to shift it. Retention in a house simply because it was built for Orchids, brings about the destruction of a large number of Orchids, and generally this occurs where a season of rest passed in a cool vinery or greenhouse might have induced vigour instead of decline. This is especially the case with Lælia anceps, L. autumnalis, and other Mexican species.

In the Rose-house at Wimblehurst, various species of Dendrobium are suspended from the roof, some in flower; and the plants of D. Falconeri are healthy and vigorous. In the pretty fernery, in which the species of Adiantum are very fine, and especially A. Farleyense, Orchids are growing among the Ferns, and the whole house is gay with their flowers. Among other good things in bloom were noted Cattleya Lawrenceana, C. Trianæi varieties, C. Schroderæ, C. speciosissima; some fine varieties of Dendrobium nobile, in well-grown plants; D. crassinode, D. fimbriatum, D. luteolum, which is not an easy plant to grow; D. undulatum, Lælia cinnabarina, Lycaste Skinneri, L. aromatica, some grand plants of Angræcum sesquipedale, with very large flowers; the fine old Phaius grandifolius, Oncidium altissimum, O. pubes, and other pretty species. The surroundings of the Orchids tend to heighten the beauty of their flowers, the back wall being covered with Ficus stipularis and other plants, and plants of Gymnogramma schizophylla being suspended along the front, while graceful plants of Davallia hirta cristata, Nephrolepis davallioides furcans, and other Ferns of a similar character arch over from the back. A pretty little Fern rockery is on one side of the house, and the space beneath the staging is planted with Fittonias and other foliage plants. In one warm house growing among a fine lot of Crotons, &c., a nice little collection of Cypripediums was noted, of which in flower was a grand variety of C. Chamberlainianum, some good plants of C. Argus, C. callosum, and a few diverse species, together with plants of Aërides, Saccolabiums, &c. In another was a number of plants of Dendrobium Dalhousieanum, some having fine flower-racemes. Suspended from the roof are a number of pretty and uncommon species in very fine condition.

Lastly, we come to the small Cattleya-house, and what may be called the beginning of an Odontoglossum-house, for the house itself, which might easily be adapted for Odontoglossums, &c., is filled chiefly with a splendid lot of herbaceous Calceolarias, which take, perhaps, more labour in the growing than cool Orchids would do. The house is divided by means of a movable front, and it is in this division that the Odontoglossums and other cool-house Orchids are placed, amongst which a few Odontoglossum crispum, O. Hunnewellianum and Sophronitis grandiflora were in bloom.

Orchid culture takes a rational form at Wimblehurst, and Mr. Allcard's plan of making them merely contributory to garden pleasures and garden effects might be imitated with advantage in many gardens where Orchid culture is not attempted because it is thought that a specially-built set of houses is needed for their accommodation.

IN THE SOUTH.

The Home of the Cannas.—During a tour through the south of France and Italy in November and December last, I visited Lyons purposely to see M. Crozy and his famous collection of Cannas, and found them cultivated there in enormous quantities. Cannas everywhere, many even thrown away as rejected seedlings and sorts. It was in the end of November when I visited his nursery, and even then some of his very fine varieties were in bloom. The nursery is about 1½ mile from Lyons, and the long spell of wet weather had spoilt the bloom of a great many of the plants, still, enough could be seen of the beauty of this grand race of decorative plants to show how richly they desired general cultivation. So greatly is M. Crozy identified with this plant, that he is universally known in the district as Papa Canna, and even the children affectionately address him by that name.

His catalogue for this season describes twenty quite new varieties of his own raising, and 220 other varieties, some by other raisers, but the majority of his own raising. I especially noticed Souvenir d'Antoine Crozy, a grand variety resembling Koningin Charlotte, which is a very fine variety, but with larger, broader flowers. Papa Canna is a very fine red variety, with a large wide truss, and of dwarf habit. Souvenir du President Carnot is a superb vermilion colour; so also is Doyen Jean Liabaud, a distinct variety. Gloire Lyonnaise, Directeur Roelz, Madame Perrin des Isles, and Robert Owen, are all great acquisitions.

Chrysanthemums are other favourite plants of M. Crozy, and he had recently been winning several prizes for these and Cannas at the Lyons exhibition, and amongst the Chrysanthemums he exhibited there were Fille Lyonnaise, Colonel Juppe, orange yellow; Fascination, ivory white, and very fine; Marie Barre, red tipped with yellow, a promising market flower; Marie Delaux, bronzy-red, and very hairy. Twenty-four quite new varieties are mentioned in his catalogue, amongst which is General Jacqueminot, described as possessing the colour of that grand old Rose. In addition, there are some new varieties of late-flowering kinds, at the head of which is a new variety, Papa Crozy, which has received leading honours at the exhibition. Two new varieties of early-flowering kinds are enumerated, and two new varieties, Triomphe and Albinos, belong to the hairy or thread-like section. Cheveux d'Or has golden hairs, and it very lovely; so also is Argentine, silvery-white; and Marie Caremont Tonnère, bronzy-yellow.

Another variety which struck me as a decided acquisition is Mdlle. Thérèse Panckouke, a very fine dwarf-growing broad-petalled white Japanese variety, somewhat resembling Elaine, but finer. All are cultivated in pots not exceeding 7 inches in diameter, the plants averaging 2 feet in height, and with one to three blossoms on each.

Cannes.—I was also very desirous of visiting the district where Roman Hyacinths and Narcissus are grown extensively, both as bulbs for sale, and for blooms for the Riviera and Paris markets. This place is Madame Camille Solignac's nursery, in the Rue d'Antibes, California, Cannes, situated on the side of a hill, and is a series of terraces, and exposed to the Mediterranean. There is a large quantity of glass-houses, where flowers are extensively grown for the Paris and other markets. At the corners of the walks, in fact, wherever a place can be found for planting an Acacia dealbata, they are found by the hundred, and the blooms are cut in a half-open state, and are placed in a little heat to open, and then sent away to the markets. Thousands of Cypripediums in pots are grown out of doors, and the beds are

* *Mimulus Clevelandi*, n. sp.—Perennial, suffrutescent at base, 3 to 6 cm. high, glandular-pubescent throughout; stems many from the base, sparingly branched above; leaves lanceolate, serrate, 3 to 7 cm. long, narrowing to the clasping base, in age revolute on the margins; flowers shortly pedicellate; calyx 2 cm. long, contracted above the ovary, the upper and longer portion curved and spreading, the lanceolate, somewhat unequal teeth, half the length of the tube; corolla golden-yellow, nearly twice the length of the calyx, with gradually dilated throat, and widely-spreading nearly equal lips; style stout, minutely and densely glandular; stigma tubular-peltate; mature capsule 10 to 12 mm. long, nearly quadrangular, tapering slightly toward the apex, opening to the base by the upper suture, the lower separating for only a short distance from the tip, and each valve splitting at the tip for nearly the same distance as the lower suture; placentæ separate, as in M. glutinosus; seeds foveolate, apiculate at both ends. *T. S. Brandegee.*

shaded by Bamboo screens, the Bamboo growing luxuriantly there, and thus retarding the blooms for the Paris markets at Christmas. Aloe ciliaris is grown in large quantities, growing over the edges of the terraces and banks for the cut flowers, also for Paris. Immense quantities of Carnations are flowered under glass for the Christmas demand, and were in full bloom at the time I called, and they were almost all of the serrated edged kinds. Roses flourish there, and are very extensively cultivated for the blooms, and an enormous quantity of Maréchal Niels are grown under various conditions for the Paris market at all seasons. That very fine old Rose, introduced quite sixty years since, Noisette Lamarque, is a favourite here, and with its charming white flowers, it ought to be more grown than it is to suit our home demand. Gardenias flourish here also, and are largely cultivated. The American Rose, Papa Gontier, yellow and crimson, is a favourite at Cannes; so also is Paul Nabourits, a carmine-crimson China; Queen Olga of Wurtemburg is also extensively grown. Hedges of Eupatorium, with Oranges, Lemons, and Shaddocks abound, and a goodly number of the Cork barked Oak are also seen betwixt Cannes and Monaco.

Ollioules.—I wanted also to visit the great bulb-growing district at Ollioules, about three miles from Toulon, as the great supply of Roman Hyacinths is grown almost exclusively here, also the early varieties of Narcissus, this being the great bulb-growing district of the Riviera. It is astonishing the quantity annually supplied from here, and there is so much to interest one in this favoured country. Rose-blooms are always fine from this district, and the Diospyros kaki is seen in perfection, with its well-coloured Tomato-like fruits. Toulon is a great centre for exportation, and the bulk of the Green Peas, Asparagus, young Potatos, Lettuce, and, indeed, salads of all kinds, go from here to the Paris market. A large broad-leaved variety of the Batavian Endive, called by the natives "Escarolles," is grown in enormous quantities. Prunes are grown extensively, and simply dried by exposure to the sun. *J. P., Birmingham.*

PLANT NOTES.

ROYAL BOTANIC GARDEN, EDINBURGH.

Rudgea macrophylla.—A plant of this member of the order Rubiaceæ is now flowering in the Palm-house, where it is planted in a bed fully exposed to the sun. A native of Brazil, this species was introduced about 1867 by the late Mr. A. Henderson of the Pine-apple Nursery. The habit of the plant is erect, with large shining foliage. Its large terminal heads of flowers are pure white, and the plant when in full flower has a handsome appearance. Its propagation is sometimes said to be difficult; but if short cuttings are taken soon after the plant commences to grow, and placed in a brisk bottom-heat, they soon callous and form roots. A good figure may be seen in the *Gard. Chron.* of July 19, 1879, p. 81.

Crotalaria longerostrata.

This recent introduction is a native of Mexico. Plants received from Kew are now flowering freely, one being trained to a pillar at the cooler end of the stove, where it is very attractive with its numerous racemes of golden-yellow flowers. The stems are slender, and grow to a height of 4 feet or more, with small side-branches bearing alternate trifoliate leaves. Here it is grown in a cool-house after propagation in spring, and introduced to warmer quarters during the winter, where it flowers for a considerable length of time. A figure prepared from a plant flowered at Kew may be seen in the *Botanical Magazine*, t. 7306.

Cystacanthus turgidus

This plant is of a shrub-like habit, with glabrous stems and foliage. At the nodes, just above the leaves, the stems are swollen. The panicled inflorescences are terminal, the flowers appearing among purplish-coloured bracts. The flowers are inflated at the mouths, and covered with reddish reticulated lines, and the yellow-coloured throat possesses numerous white hairs upon its inner surface. A specimen in the Palm-house is about 6 feet in height, and although not possessing many showy points, is still well worthy of a place in our collection of stove plants. It is a native of Cochin-China, and was known under the name of Meninia turgida.

Greenhouse Rhododendrons.

Several handsome species and hybrids of the above section of Rhododendrons are now flowering; among the most attractive the following may be noted:—R. Veitchii lævigatum, R. Sesterianum, R. Macnabianum, very free-flowering, in bud a deep pink, gradually becoming more white as the flowers expand; R. ciliatum, a hybrid between this species and R. Edgeworthi, possesses a very similar habit, but has larger flowers which are of a more pinky hue; and R. fragrantissimum. *R. L. Harrow.*

CAMBRIDGE BOTANIC GARDEN.

Anoiganthus breviflorus.—This is a charming bulb, introduced some few years ago to Kew and the Cambridge Botanic Garden. In the latter establishment it is now in flower at the foot of a south wall, where it has survived several winters, including the last, without additional protection, and this evidence of its hardiness seems rather to enhance its value. The flowers are deep yellow, about 1½ inch long, and the present scape bears about six, two or three of which are open at the same time. A figure was published in the *Botanical Magazine* of 1889. *R. J. L.* [See illustration (fig. 95) in *Gard. Chron.*, May 4, 1889, p. 557.]

THE HERBACEOUS BORDER.

PERENNIAL SUNFLOWERS.

These plants are liable to injury from prolonged or very severe frosts, especially in low-lying districts. The large clumps become quite rotten in the centre, and decay outwardly, sometimes leaving only a limited number of young breaks round the outside, and, if left alone, even these decline in vigour. It is better therefore to lift and replant in a fresh spot as soon as possible. In some instances it may be even necessary to pot the surviving pieces and place them in a cool greenhouse. If the surviving plants are few, it will be best to allow them to make quite one foot of new growth, before taking any cuttings; when this is done, cut the young growth to within 4 inches of the base. If a large quantity is required each joint will furnish two cuttings by splitting the stem in halves, and inserting the remaining single eyes to the base of the eye after the manner of Vine-eyes. These quickly root in sandy soil, and will furnish good plants during the season if planted out in May in good soil. The points of the shoots should also be utilised, and will make earlier plants. In ordinary seasons plenty of young stock may be had by division.

Saxifraga oppositifolia varieties.

The varieties of this distinct section of Saxifrages are too seldom seen in places suited to them, such as broad patches in semi-shaded spots of the rockwork. They delight in deep and moist sandy soil, and if this be given them with protection from hot summer sun they quickly develop into healthy carpets, which in the earliest days of spring are covered freely with red, or white, or purple-shaded blossoms. They do not really need frequent transplanting if the soil be good, but an annual mulching of sandy loam and old mortar rubbish, with a little well-decayed manure added, is very beneficial. Pass this compost through a half-inch sieve, and when the plants have flowered, distribute it over the surface, and water in among the growth. A pretty effect is produced by planting Snowdrops here and there among the plants, as they expand before the Saxifrages. The most valuable varieties are major, pyrenaica, superba, splendens, &c. The variety alba is not of the purest white, but a large pure white in this group would find many admirers.

Saxifraga apiculata, *Engler.*

The free-growing tufts of this plant are now studded with pale yellow blossoms. It says much for its perfect hardiness that the flower-buds now expanded were prominent before the severe spell of frost. At one time I feared the bloom for this year at least was ruined, as it lay apparently shrivelled and lifeless. This is a most satisfactory kind to grow, being easy to manage, very readily increased, and free and profuse in flowering. If lifted, and divided every three years into rather small pieces, a patch a yard across will quickly result, and by allowing room for development in this way, almost every rosette will flower. They are more satisfying thus than in the solitary mound-like form generally seen. A loamy soil, with plenty of grit added, suits this kind well. This plant is also known as S. luteo-purpurea, and was figured in our columns with a description from Professor Engler, May 5, 1894. *J.*

CULTURAL MEMORANDA.

PANAX (ARALIA) VICTORIA.

This plant has a dwarf, compact habit of growth, with handsome compound foliage, and leaflets margined with white. Plants in pots varying in size from 2½ to 4½ inches are the best for decorative purposes. Cuttings of the young growths taken a couple of inches long and inserted in 3-inch pots filled with light soil, and plunged to the rims in a propagating pit, or in sawdust in a box over which can be put a square of glass, and placed in heat, will soon root, when they should be potted singly into 2½-inch pots, using a compost of four parts peat and one of loam and silver-sand. The stove is the best place to grow the plants.

Salvia.

Cuttings taken off now and inserted in small pots filled with light sandy soil, watered, and placed in heat, will quickly root. They should then be potted singly into 3-inch pots, put into a frame near the glass, watered, and kept close, and shaded during the heat of the day until the roots have entered the new soil, when the plants should be gradually inured to a free exposure preparatory to planting them out-of-doors. For this purpose prepare 4 inches deep of four parts light sandy loam and one part leaf-mould, and spread over a little manure laid on a hard bottom, into which the roots will not be likely to push. Allow sufficient space between the plants to admit of them developing into nice bushy specimens. They should be put into suitable pots again about the end of August, and housed before the autumn frosts occur. The only attention required by the plants while in the border is the pinching of the young growths, and a supply of water at the roots. The best varieties to grow are Bethelii, rose, shaded white; rutilans (Pine-apple-scented), foliage delightfully fragrant, and surmounted by feathery spikes of bright magenta-coloured flowers; splendens, scarlet; Mons. Issanchon, pure white; gesneræflora, bright scarlet; and Heeri, red, shaded orange.

Pentas carnea rosea.

In habit this stove plant is low-spreading, and free-growing; it produces trusses of its pretty rose-coloured flowers with freedom during the summer months. In 3-inch and 4½-inch pots it is useful for associating with other small foliage and flowering plants on the side stages in the stove or warm greenhouse. Cuttings of the young growth put in small pots filled with fine sandy loam, watered, and stood in heat, will emit roots in a week or ten days after potting them; pinch the shoots to induce them to branch.

Diplacus glutinosus puniceus.

This shrubby Mimulus is very useful for covering lattice-work in a conservatory or greenhouse, for filling hanging-baskets, or for covering a dwarf wire trellis, the large, single, light orange-coloured flowers being very pleasing. The stock may be easily and quickly increased by cuttings from the young growth, inserted in 60-size pots, filled with light mould, watered, and placed in heat.

Tuberose.

Where a good successional supply of white double flowers and delicious fragrance is required, batches of the Pearl Tuberose should be potted up as soon as the imported bulbs can be obtained, and continued at intervals of a fortnight or three weeks until the end of July. Put the tubers singly into 3-inch pots in good sandy loam, clean them of all side-growths, and cover each three-parts in the soil. Plunge the pots to the rim in a hotbed, or a box of sawdust placed in heat, and keep the soil fairly dry until growth begins. All suckers should be persistently rubbed off as they appear. When the spikes are about 8 inches high, repot into 4½-inch and 6-inch pots, which must be well drained. Keep close and moist until the flowers begin to open, and syringe the leaves to prevent red-spider from attacking them. When the pots are fairly full of roots, give frequent root waterings of weak liquid manure. *H. W. Ward.*

MUSAS FOR CONSUMPTION AND FOR SHOW.

(*Concluded from p.* 458.)

Of decorative species of Musa, M. Ensete is perhaps the most grown, and although often used and treated as a decorative plant for the open air during the summer months, it is well deserving of a place in the conservatory. When well grown, the leaves and leaf-stalks reach a length of 20 feet, and the blade of 3 feet. As most gardeners know, the plant produces no offshoots, and must be raised from seed; when planted out, the leaves become more erect than in pots or tubs. One variety of Musa Ensete has green mid-ribs, but in the true form it is red, and this is the more ornamental variety. The finest example of it I ever saw was growing in the temperate-house at Kew some four or five years ago. Another pleasing variety is M. superba, which is dwarfer in stature than M. Ensete, growing to 10 feet or less in a pot or tub; the leaves narrower at the base, and furnished with a deep mid-rib, are from 5 to 8 feet long, and of a dark shade of green. This species, as well as M. Ensete, does well in a winter temperature of 55°, which is lower than suits any of the species grown for their fruit.

Musa Basjoo, a species less well known than these, but which has been occasionally noticed in these pages, is a Japanese form, very hardy, and attains a height of 8 to 9 feet. It was mentioned by Mr. J. H. Veitch in his recent travels in Japan, and was sent to this country a few years ago by Mr. Maries when collecting for the Chelsea firm; in southern Europe it stands the whole year out-of-doors without injury. I have not tried it in the open air, but doubtless such winters as the last would be too much for it. [We should think so. Ed.] This Musa is one that increases by suckers, and is of decorative value. In Japan the fibre obtained from the stem is accounted of considerable value. This species flowered in 1891 in the temperate-house at Kew. Dr. Morris gives a list of species of Musas, some of which may be worthy of cultivation in this country.

A few words as to culture may not be out of place. For the production of good fruits, abundance of heat, nutriment and moisture during the season of growth are essential. The present season is very suitable for making a start with Musas. For such varieties as M. Cavendishii, I would advise the restricting of the rooting area, affording bottom-heat if possible, and planting only showy suckers. The season when plants require the most heat, light, and moisture is from March to October. The soil should be a good turfy loam, with bones or bone-meal and broken charcoal added, the drainage ample, and the liquid manure, fish manure, guano, or others of good strength afforded. If the plants are cultivated in a border, it is well to restrict the roots to a certain space, and when in active growth to afford them every encouragement; the suckers, when taken off, do best if potted-up into 8 or 10-inch or larger pots placed on bottom-heat. Fruits may be obtained from plants grown in a space of 18 inches deep and 24 to 30 inches square, or from pots 18 or 20 inches in diameter, if the soil be rich, and manurial aids are given. It is always desirable to get the plants to throw their fruit in the summer or spring, as when the fruit bunches show in the winter, there is a difficulty in getting them to grow well out from the foliage, and decay is then likely to follow. The day temperature during growth should be 70° to 80°, and at night 10° less. On the approach of winter, plants must be rested for three months, which is readily done by lowering the warmth from 60° to 65° by day, and 50° to 55° by night, but it is not advisable to let the soil become very dry. Should any full-grown plants produce suckers, remove them, as they rob the fruits if left on the plants. By affording Musas a rest in the winter season, it is an easy matter to start them at this season, and it will soon be seen whether the fruits are pushing up by the swelling in the stems upwards, and when observed, more warmth and moisture should be afforded at that time, a rich mulch and liquid manure at every watering being of much service, and these aids should not cease till the fruits approach ripeness. When Musas fruit in the winter, less nutriment and moisture are required by them, but as the fruits take a long time to mature, there must be no lack of moisture. The plants having a deep channel over the midrib, syringing overhead is not to be advised, the water being conveyed to the centre of the plant; but it is well to syringe all other parts with tepid water, and keep all surfaces in the house moist. Thrips and green-fly often infest the leaves, and they must be well sought for and destroyed. *G. Wythes.*

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS' AND VILLA GARDENS (*continued from p.* 432).—Having in previous papers referred to hardy and half-hardy annuals and biennials, I now come to make a few remarks on hardy perennial plants suitable for the cottage and villa garden. These must, for convenience, be divided into two classes, viz., the early spring flowers first; and, secondly, those that bloom in summer and autumn. I will take those first that bloom in early spring, and here we have some of the most charming treasures of the flower garden. Spring flowers, whether they are found in the wayside cottage garden, or the more highly-favoured positions of the wealthy, always find admirers. The modest Violet, nestling in some secluded nook, the Primrose by the river's brim, the wild Hyacinth or Bluebell amidst the woody copse, the common Anemone, and many more spring visitors have each their charms, telling of days of gloom and darkness past, and inspiring us with bright hopes for the future. May is truly the time of flowers, for the Aubrietias, Daisies, Pansies, Primroses, Auriculas, and other prominent early-blooming plants each appear to vie with one another as to which shall put on the most brilliant attire. Of spring flowers for producing a gorgeous effect we have a goodly array, but for massive splendour, for producing a large mass of bloom at the same time and lasting for the longest period, the Daisies and spring-blooming bedding Pansies stand pre-eminent in this respect. Others there are which fill important niches in Queen Flora's vast domain, which cannot be dispensed with, such for instance as the Aubrietias, Arabis, Alyssum, and Auriculas. For the sake of convenience, I had, perhaps, better take each genus of plants separately, and give a few plain cultural remarks with each, and first I will take the

Aubrietia.—This is one of the sweetest and prettiest spring-flowering plants in cultivation. During March, April, May, and June, it is not surpassed by the brightest Lobelia for its rich profusion of bloom. It is a most valuable plant for the suburban garden, and also in the town garden where there is not too much smoke; but though its natural brightness does not appear to the best advantage in a smoky atmosphere, and amid sooty surroundings, yet there are few plants that can accommodate themselves with conditions so opposite to those of their natural homes. For rockwork the Aubrietia is invaluable, its even carpet-like growth being adapted to that kind of ornamentation. There is no kind of rockwork, sloping banks, or rockeries, where this grand old Alpine plant will not grow and bloom, and no plant so quickly establishes itself, and it clothes the rockery or rootery where it is growing with the most exquisite verdure. It will succeed well on all light soils, but very indifferently in very wet and heavy soils. There are several so-called species or varieties of this plant, but some of them so much resemble each other that it is difficult to distinguish one from the other. A. purpurea is very much after the form of A. deltoidea, slightly the taller, and blooms longer in the spring. Aubrietia Campbelli is, no doubt, of garden origin, this is quite distinct from the other species; its flowers are larger and more profuse, but the plant is a delicate grower, and without care is soon lost. I bought it when it was first introduced, but never could work up a big stock of it. A. Leichtlini is unquestionably the finest of the family, flowers of a bright reddish-crimson, foliage very neat and dwarf, flowers abundant, and when better known it will become an universal favourite. However, until the latter is better circulated, for growing by the hundred or thousand we should certainly prefer A. deltoidea, as it is more robust, more easy to propagate, and comes into bloom earlier; it is adapted to any style of arrangement. I have used it for forming chains in carpet beds, as divisional lines between other masses of colour, and in every position it is at home. It matches well with the bright yellow Alyssum saxatile, it may also be mixed plant for plant with the variegated Arabis, or it is at home planted in a mass and edged with white Daisies. The plants may be propagated either by cuttings in a shady place early in summer, or by division in autumn and winter. If, however, we wish to work up a good stock, and have very few plants to start with, it may be raised true to name from seed. A sixpenny packet of seed should be obtained from a good seedsman. Sow it very thinly in shallow pans, and place them on a gentle hotbed or under handlights in the open air. Be very careful with watering, and shade from bright sunshine, and when the plants are ready to handle, prick them out in the open ground, in rich light soil, and with attention to watering when necessary, and keeping the plants free from weeds, by autumn they will be fine large clumps ready for the flower-garden. With regard to plants from seed, there is generally a little difference in them, but this only makes them more valuable as real garden ornaments, for they will answer the end of carpeting the borders with splendid masses of flowers. I have not always found it safe to divide the plants when they are taken from the beds towards the end of May; when the weather sets in hot and dry, a good many of the plants are liable to be lost. If they are divided at that time, they must be shaded from very bright sunshine, by having a few evergreen twigs or short branches stuck in amongst them. *R.*

(*To be continued.*)

THE CHINESE PRIMULA, DOUBLE VARIETIES.

I have a good deal to do with judging at flower-shows in November in various parts of the country, and at most of them Chinese Primulas are represented, but in nearly every instance where the choice is left to the exhibitor single-flowered varieties are exhibited. At some places, notably at Brighton, both single and double are represented in the schedule. The most popular of the double varieties is the old double white, so well known as a variety to produce double flowers for market purposes. The varieties brought into prominence some fifteen years or more ago by Mr. R. Gilbert, of Burghley Gardens, Stamford, are seldom seen, but when they are well grown the old variety, with flowers little more than semi-double, have to take a second place. There are two distinct forms of these varieties, with flowers like what are termed the Camellia-flowered Balsams. Lord Beaconsfield has double red flowers; White Lady, pure white flowers; and Marchioness of Exeter, white flowers, lightly flaked with red or rose—but the one was evidently a selection from the other, as they merged into one another again in a few years. Some flowers are pure white, others very lightly touched with colour, and some of them quite

flaked and spotted. I believe these beautiful varieties of the Chinese Primula have fallen into comparative neglect because of the supposed difficulty in culture. Their culture is not at all difficult if they receive the attention they really need. The Chinese Primula is supposed to be a greenhouse plant, and so it is for the greater part of the months. When passing out of bloom the plants should be placed to rest near the roof in some glasshouse, where the atmosphere is dry and the temperature from 45° to 50°, affording them just enough water to keep the leaves from flagging, and when the cuttings are ready to take off, plant each one singly and firmly in 60-sized flower-pots, using a four to six weeks to form roots. The formation of roots may be known by the production of new leaves, and when this is observed in a plant, it should be placed in a hand-light, to which more air is admitted. It is, as any gardener knows well, bad practice to take such a plant from a close frame or light into the free air of a greenhouse all at once; it must be

Fig. 73.—Magnolia stellata: flowers white, with yellow anthers. (see p. 516)

year; but in winter, when the flowers ought to be at their brighest and best, the plants suffer from damp and cold. Many other greenhouse species suffer in the same way, particularly P. obconica, and to a less extent P. floribunda and P. Forbesii.

The plants will not develop good flowers in a house from which frost is merely excluded, and they will sometimes damp off at the neck. They are best for flowering in the late autumn and early winter light sandy kind of soil. Place them in hand-lights kept close, and the cuttings being much like those of the Hollyhock, require very similar treatment, and they should have no water afforded them for ten days at the least after insertion, and then only if the leaves flag. The inside of the glass cover should be wiped dry once a day, and some powdered charcoal spread over the soil in each pot to absorb moisture, which will, to a certain extent, prevent decay in the cuttings. The cuttings will take from inured by degrees. It is all owing to carelessness in suddenly removing plants, even such as are not by nature tender, from a close and moist to a dry and airy place that so many failures in plant culture take place. When the small Primula plants have become well rooted, they should be repotted into small or large 60's, according to their size and vigour. They like a fairly rich, porous kind of soil, such as would be a mixture of fibrous yellow loam three parts, leaf-mould one part, and decayed manure one part,

a small quantity of coarse sand, and powdered charcoal.

About the end of the month of May the plants should be removed to a cold pit or ordinary garden frame, filled up with coal-ashes to a space of about 1¼ foot from the glass, the frame being put to face the north, the Primula being at all times impatient of bright sunshine. Even in this position a light shading of tiffany will be necessary when the sun is hot. The rather cool ash bottom is beneficial, and the plants will thrive famously. Repot them when strong enough into 5-inch pots, and again in August or September—this time into 7 or 8-inch. Under this sort of culture, early-struck Primula cuttings will make fine large flowering specimens. The later cuttings will do well enough in 5 and 6-inch pots. The plant does not require much water—in fact, few soft-wooded plants can do with so little, and it must be applied with the utmost care for some time after each repotting. This, indeed, applies to seedlings of the single-flowered varieties, but as a rule these are not so liable to be injured by a little more water than they ought to have. The plants begin to bloom immediately, but it is undesirable that they should be allowed to do so in summer, and the flowers should be removed all through the summer months. The advantage of growing the double Chinese Primrose in preference to the single-flowered varieties, is in the greater usefulness of the flowers when cut, the blooms being capable of being wired and used for bouquets of all kinds, and when taken from well-grown plants, they are very beautiful decorative objects, as are the plants also for the greenhouse or conservatory; but the gardener should not forget that damp and low temperature may be fatal to them. The old semi-double white throws its flowers better above the foliage than the varieties I have named, and some persons prefer it, for if anything it is a more manageable plant. It should be remembered that any variety, single or double, of the Chinese Primrose can be propagated from cuttings. Some even of the single varieties produce seed so sparingly that it is necessary to grow them from cuttings in keeping up a stock of them; and, of course, it is only in that way that any variety can be depended upon to come quite true. The very best single varieties are reproduced from seed near enough to fix the strain of colours, and if no crosses are allowed to get amongst them, the white, rose, and red varieties are always true enough to their selected colours, and they are also sufficiently good as regards form. *J. Douglas.*

The Week's Work.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

FIG-HOUSE. — Plenty of ventilation must be given day and night in favourable weather, in order to obtain well-ripened, good-flavoured fruits, and, moreover, syringing and atmospheric moisture should be lessened until the crop is gathered. Clear decanted lime-water occasionally afforded the soil will be beneficial to the trees, and will aid in keeping the soil from souring after the frequent applications of liquid and other manures. Keep the night temperature between 60° and 65°, and 70° and 75° by day, with a rise of 10° with sun-heat. The trees in later houses are growing quickly, and the past week of bright weather has proved very beneficial to them; as the Fig is a sun-loving plant, shade of every description should be avoided. Vigorous trees will require frequent attention in the matters of tying-in, thinning, and stopping the shoots, the latter operation being done at the fourth or fifth leaf, reckoning from the base of a shoot; and by attending to this operation daily, the necessary pruning may be done with the thumb and finger, and thus the loss of energy that occurs when great numbers of leaves and much wood are removed is avoided. The fruit-dropping propensity of the Fig at this season, sometimes causes anxiety to the gardener. In some cases this is brought about by allowing the trees to carry more fruit than they can bring to perfection, and they fail in consequence to pass through the flowering period safely. To guard against this evil, the roots should be under control in well-drained borders, and be regularly supplied with moisture. Sudden changes of the temperature, too, should be guarded against, and until it is seen that the fruit has commenced to swell after flowering, the temperature of the house should range from 60° to 65° at night, after which time, if the trees are not over-cropped, the fruit will swell away quickly. Trees that are brought on slowly with plenty of ventilation, seldom drop their fruit, because they are not subject to sudden changes of temperature. [Hence it is infrequent in late-forced Figs. Ed.]

STRAWBERRIES.—Plants whose fruits are acquiring aroma should be looked over at least twice a day during bright weather, to see that the soil does not become dry, or the fruit will receive a check that will affect both its flavour and size. The placing of saucers under each plant is a saving of labour in the matter of watering, but I do not practise it, as the fruits always lack both flavour and firmness. Turves are sometimes placed on the shelves to stand the pots on, but I consider it a waste of labour, as it is seldom the plants remain in one position long enough for the roots to penetrate the turves sufficiently deep to be of any benefit to the plants, and it is only the moisture the turves contain which can be of any use to the plants. The best method I know to keep the balls of the plants from drying up quickly during hot weather is to place a good handful of woodland-moss between each pot, which may be moistened each time the plant is watered, and damped with the syringe once or twice during the day. Plants swelling off fruit may receive plenty of heat, and be afforded liquid manure or weak soot-water, but on the first signs of ripening, clear tepid water only should be used, affording the plants more air and less heat. The fruits may be retarded for a few days if necessary, by turning the plants round so that the sun's rays do not shine direct on the fruits, or the roof-glass may be shaded at mid-day for a short time. The fruit should be gathered early in the morning, especially if it has to be packed and sent to a distance. In packing the "berries" use plenty of the soft foliage of the plant or Lime-tree leaves between them, and always avoid cotton wool and tissue paper for packing. Less heat will be required to bring later batches on, a cold house or pit will bring them on quite fast enough at this season. We have several hundred La Grosse Sucrés which have just gone out of flower, and these have received no forcing beyond what is involved in closing the house early in the afternoon after syringing the plants. The flower-trusses were extremely strong, and every flower set without assistance. Later batches should be supplied with manure-water, and if in pits or frames, the lights should be drawn off during the day, and replaced at night in case of frost. Plants from which the fruit has been gathered should be gradually hardened off, if required to form new plantations; and to economise room they may be turned out of their pots and placed close together in a cold frame, and be kept well supplied with water until required.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

PEAS required very early for special and show purposes, providing they were sown singly in thumb-pots, should now be planted out. Make trenches for them similar for those usually prepared for Celery, but using a soil less light, and less rich. Transplant the Peas singly, three lines to form a row, and put each Pea-plant about 3½ inches from its neighbour each way. Protect a little at first, and leave the soil about 3 inches lower than the usual surface, to shield them from the cold winds, and to catch the moisture. Stake them as soon as the soil has settled down, and give them every attention, as if mice or other pests are allowed to get at them when thus thin, the crop will be ruined. A few pots should be reserved for filling up any blanks that may occur.

ASPARAGUS.—In cold, late districts this will be a very good time for planting Asparagus for forming permanent beds, the young plants now starting nicely into growth. If the soil be wet, raise the beds well, or the mounds if planted singly. Spread out the roots as flatly and evenly as possible, and cover with prepared soil if obtainable, the ground having previously been trenched and manured as advised. If the weather be dry, damp the roots and soil a little when planting to keep the former fresh. For single plants the rows may be 3 feet apart, and the plants in the rows 2½ feet, using every alternate space between the lines for alleys. If beds are formed, a suitable size is 5 feet of width, with alleys 2 feet wide between. Where ground is scarce, however, the alleys may be made of somewhat less width. Plant one row down the middle of the bed, and on either side of this, at 18 inches apart, so that the outside rows are not less than 10 inches from the verge of the bed, and about 14 inches in the lines. If very dry hot weather ensue, water occasionally, and afford a mulching of litter or cow-dung.

SCORZONERA.—Early sowings often run to seed, but a sowing may be made at this time, and half of the bed left for sowing until about the second week in May. Scorzonera likes a light, moist, fairly rich soil, which has been well trenched. Sow in drills not less than 1 foot apart, and 1 inch deep.

SALSAFY.—Choose a piece of rather light but good land, which was well trenched and broken up last autumn, make one sowing at the end of this month, and again in the middle of May, giving 1 foot or a little more between the rows.

GENERAL WORK.—Take advantage of the present weather to finish the digging or trenching of all quarters not yet completed, and as soon as the soil becomes sufficiently friable the seeds should be sown. The soil between growing crops should be kept free from weeds by frequent use of the hoe, also encouraging the young seedlings.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CATTLEYAS. — The flowering season of the numerous forms of C. Trianæi is now over, and the last-made pseudobulbs, with the increase of light and heat, are pushing forth roots, and thereby giving promise of a robust growth. New growths will soon start away, sending forth fresh roots. If any plant should require more root-space, it should be repotted forthwith, the young roots at this season soon getting hold of the new compost. If top-dressing only is required, it should not be delayed, as it is difficult to remove decayed material without doing injury to the roots if the latter have grown much. Cattleyas, in common with many other species of Orchids, should in no case be over-potted, nor subjected to the disturbance at the root that accompanies re-potting oftener than it is required. And when re-potting well-established specimens, it is well not to disturb or injure the old roots, but carefully to break the old pot, commencing at the rim, and taking the pieces of crock away until a few inches from the bottom is reached, which should not be removed if the roots firmly cling to it, and by this means preserve the drainage intact. Place the whole mass into a pot of one size larger, keeping the crown well elevated above the rim, and use sufficient stakes to hold the plant firmly in its place. Make use of plenty of drainage material—in fact, one cannot well err in this respect—and over it place a thin layer of sphagnum to support the compost, which should consist of the best fibry peat and living sphagnum moss in equal proportions, freely mixing with it some thick crocks. Many of the following species, if not already started, will soon do so, and as the young breaks push out their roots, they should be repotted or top-dressed, as the case may require: — Cattleya Gaskelliana, C. labiata (autumn-flowering), C. exoniensis, C. Percivalliana, and C. speciosissima; also the long-bulbed varieties, C. Harrisoni, C. amethystoglossa, C. Leopoldi, C. Schofieldiana, and the many beautiful forms of Lælia elegans. For a few weeks after these plants have been repotted, the materials should be kept rather on the dry side, affording no more water than is absolutely necessary to keep the bulbs and leaves plump. It is very necessary that those who are inexperienced in Orchid culture should bear this direction well in mind, more Cattleyas and Lælias being killed by over-watering at this juncture than from any other cause. I would, therefore, recommend all beginners to study their requirements in regard to moisture in the air and at the roots. The cultivator is often tempted, if he be without much experience, to afford the freshly-potted Cattleyas a thorough watering whenever the compost appears dry on the surface, an act which is very likely to cause the old roots to decay, and reduce thereby the back pseudobulbs to a shrivelled condition. Until each plant is thoroughly established my practice is to allow no water to touch the bulbs or rhizomes of any Orchid, but to simply moisten the compost around the edge of the pot, so as to entice, as it were, the roots to lengthen out and attach themselves to the side of the pot; and when that has occurred the amount of moisture may be gradually increased. Until growth is well advanced and the

roots are in full activity, the plants should be kept well shaded from strong sunshine. Cattleya Bowringiana is now at rest, and for the present or till new growth commences, it should be placed at the less warm part of the house, water being afforded it at long intervals of time. The same will apply to the beautiful and distinct C. Lawrenceana, a species which after it has flowered should have a long rest, so far as the reduction of the amount of moisture afforded at the root is concerned, care still being exercised in preventing the pseudobulbs from shrivelling. C. Mossiæ, C. Mendeli, C. Schilleriana, and the different forms of Lælia purpurata, L. tenebrosa, Lælio-Cattleya Arnoldæ, L.-C. Canhamiana, and others that are pushing their flower-spikes up through the sheaths, will require a little more water at the root till such time as the flower-buds fully expand. Plants of Cattleya superba may, when commencing to grow, be repotted if necessary, planting them in shallow pans and suspending them near the roof in the East Indian-house. C. superba requires abundance of water at the root whilst growth is being made. The thin pseudobulbed Lælia harpophylla and the dwarf-growing Lælia Dayana, L. marginata, and L. præstans will require less water at this season than at any other. After the flowers of L. harpophylla fade, the plants should, with the other varieties enumerated, be placed in the least warm part of the intermediate-house, and as the nights become warmer they may be removed to a light position in the Odontoglossum-house. Cattleya Walkeriana and its varieties, C. dolosa, C. nobilior, and C Schroderiana, should be suspended near to the roof-glass of the Mexican-house, where they may receive almost uninterrupted sunlight throughout the growing-season.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

WORK IN THE STOVE.—Maintain a moist atmosphere, and syringe the plants well underneath the foliage twice a day. If this is done thoroughly it will prevent thrip and red-spider, but if these pests have already made their appearance, fumigate night and morning with tobacco or some compound when the wind is still. Plants of Crotons, Dracænas, Palms, Aralias, &c., whose pots are full of roots, should receive occasional waterings with a weak natural or chemical manure-water. Palms will be much benefited with a watering once a week with soot-water, this tending to keep the leaves green and healthy. Allamandas, Stephanotis, and other stove climbers in active growth, will require plenty of water and a top-dressing with an artificial fertilizer occasionally. Stephanotis should be syringed twice a day, in order to keep down mealy-bug; if the plant is already infested, give it a good syringing with Gishurst Compound or a little paraffin and water, as advised on p. 74. Of course, this syringing should be done after the open flowers are cut. Pot-on any small Palms, Crotons, Dracænas, &c., that may require it, and put in a good batch of slips of Tradescantia and Panicum variegatum. Plants from which these are taken may be thrown away, or planted underneath the stage to cover any bare places.

GESNERAS, TYDEAS, AND SIMILAR PLANTS.—The tubers of these useful plants should now be started. Carefully shake them from the old soil, and place the tubers of the smaller species of these, to the number of three, in large 60-pots. Use turfy peat, also loam, leaf-soil, plenty of sand, and some broken charcoal; stand them in a moist position in the stove, and do not afford water till they have commenced to grow, but syringe occasionally between the pots and overhead. When they have commenced to move, afford a thorough soaking of water, and plenty of it will be necessary during the growing season. As soon as they have filled their pots with roots, move them into 6-inch pots, and place them in a light position. A little well-decayed cow-manure in their final potting will be beneficial. As soon as they commence to flower, syringing should be discontinued, and the plants afforded a drier atmosphere. In the case of Gesnera zebrina and its varieties, it is better practice not to syringe the foliage, as doing so causes blotching.

ACHIMENES growing strongly now, should be taken from the stove and placed in a little cooler temperature. A warm greenhouse will suit them well. Give plenty of water, and occasionally weak manure-water. If these are grown in pots, they should be neatly staked before the shoots become long; and if not required to flower until later in the summer, they should be stopped at once, moved into a size larger pot, and be kept in the stove until fresh growth has commenced. Achimenes growing in baskets should receive abundance of water, and be turned round once a week to insure evenness of growth. When commencing to flower they may be taken to the conservatory, which will considerably prolong their flowering period.

FERNS now require abundance of water at the roots, and the syringe to be used well between the pots three or four times a day, and a light dewing overhead about midday. Throw plenty of water about the paths to maintain a moist atmosphere. The plants that were placed thickly together after potting should be thinned out before they become crowded. If thrip or green-fly have appeared, fumigate the house lightly. Adiantum Farleyense should be neatly staked, care being taken that each frond hides the stake of the other. Plants that have filled the pots with roots should be given manure-water once a week, especially those that were not repotted.

INDIAN AZALEAS.—As soon as these plants cease flowering, the seed-vessels should be removed, and those which need larger pots, or whose drainage is believed to be defective, should be repotted. Any which may not need repotting should be supplied with some safe kind of artificial manure in a much diluted state. These plants in gardens with limited house accommodation have sometimes to be placed in the forcing-house at the time that they are making new growth, and when this has to be done, a good fumigation of the plants in the evening and morning following, should precede their removal to the growing quarters.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PEACHES AND NECTARINES.—The protection of the trees from the winds that blow from the colder points of the compass, so prevalent at this season of the year, must be guarded against, as they cause blister of the leaves and injure the tender shoots, and these are then readily infested by aphides. Therefore syringe the trees with tobacco-juice diluted with six parts of soft water; quassia extract, or other approved insecticide, directly the fruits have set. If this be not done before the insects have gained foothold, curling of the foliage will occur, when dislodgement is much more difficult and the consequences more serious. If mildew be detected, if ever so slightly, at once dust the affected parts with flowers-of-sulphur, or syringe the entire tree with a mixture of soft soap 1 lb., flowers-of-sulphur ½ lb., thoroughly dissolved and mixed in 10 gallons of warm water. It is more effective when applied in the evening; it is useful also in keeping red-spider in check.

CATERPILLAR AND RED SPIDER ON GOOSEBERRY BUSHES.—Keep a sharp look-out for the Gooseberry saw-fly caterpillar, and on the first appearance of the pest, dust the bushes with freshly ground White Hellebore, using a dredger for the purpose, and choosing the early morning hours for doing it, the foliage being then damp with dew, or syringe the trees with a strong solution of the same. It is important that this should be seen to in good time, for if neglected the bushes will be quickly stripped of their leaves by successive swarms of the caterpillars, and not only will the present crop be lost, but the trees crippled for years. Red-spider is also at times very troublesome, more especially in a warm, dry spring; this may be kept in check by two or three good syringings of warm soapy water applied with considerable force by means of the garden-engine, taking care that every leaf is wetted. A small quantity of flowers-of-sulphur may be added to the water with advantage. A good syringing with clear water occasionally during warm weather will do much to keep the trees healthy, and free from insects.

APHIDES ON CURRANT BUSHES.—Red and White Currant-bushes should be examined, and if traces of aphides are observed, the bushes should be syringed with quassia-water twice or three times at intervals of a day or two; afterwards washing the bushes with clear water by means of the garden engine.

LIQUID MANURE.—Where practicable, a good quantity of liquid-manure should now be applied to the soil, where bush fruits and Raspberries are growing preferably applying it while the ground is moist, and afterwards stir the surface with a draw-hoe, as a means of killing weeds and affording a crumbly surface that will render evaporation less copious. The liquid should be weak at this season of the year, and it may then be afforded frequently.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

EVERGREEN GARDEN HEDGES.—Some of the most suitable plants for garden hedges are the common Yew and Lawson's Cypress; [and Thuia sibirica and the variety T. s. plicata should not be forgotten. Ed.] In most parts of the country, Lawson's Cypress has withstood the severity of the past winter without injury—better, indeed, than Yews, which are browned at the tips. The clipping of established hedges should now be finished, and the planting of new ones begun. The soil for a space of 4 feet wide where the new hedge will come should be deeply trenched, with plenty of rotten manure put in at various levels, so as to give the plants a good start. The plants employed should be strong, young, all of the same age and size, and they should be planted at 8 inches apart, well mulching the soil with short manure or half-rotten leaves, affording water occasionally till the Yews get established. The season's pruning of Laurels of all kinds, and of evergreen shrubs generally, should be completed, excepting those which are early flowerers, and these must be left till later.

ROSES.—Hybrid perpetuals and pillar Roses may now be pruned, and a thorough watering afforded the plants after mulching the soil over the roots, more particularly the newly-planted Roses of all kinds.

HARDY AQUATIC PLANTS, ETC.—The replanting of Nymphæas should now be done, taking care that the white variety, N. alba, is not placed too contiguous to the more robust-growing variety, Nymphæa lutea, or it will be overgrown by it. Bog plants of any description that are cultivated in baskets or tubs should now be examined, and fresh rich loam and manure given as a top-dressing, and re-tubbing such of them as may stand in need of these operations. New plantations of Pampas-grass may be made by the sides of lakes and water-courses, and in other situations which are not too dry, some in sheltered places, others in those that are exposed. The soil for this species of Grass should be a deep rich loam, mixed with leaf-soil and rotten manure. The past winter made terrible havoc with the Pampas Grasses out of doors, but any strong stock-plants which may have been wintered in pots under glass, if planted out at this date will flower well in the autumn. Seeds may now be sown of this species, growing the seedlings on in pots, wintering them under glass, and planting them out next spring.

ANNUAL SUNFLOWERS, HELIANTHUS ANNUUS.—These flowers are thought much of when cut, for filling vases, and the seeds may now be sown on a border, which should be one that is sheltered from the rougher winds. If the seeds are sown in drills 18 inches apart, the plants can be thinned out at the end of the month of May, the thinnings being useful for planting in the herbaceous borders or shrubberies. Sunflowers, when raised out-of-doors, are always more satisfactory than those which are raised under glass. All of the double and single perennial varieties are excellent for decorative purposes in the autumn, and there are few flowers that are more suitable for brightening up gloomy rooms.

SWEET SULTAN.—Beds of these favourite sweet-scented flowers should be sown at once, the purple, white, and yellow—all are useful. Sow in drills drawn at 1 foot apart, and miss every fifth row, so as to form a path; mix some rough sand with the seeds before sowing, as is done with Carrot seed, thinning out the plants when they have grown a few inches high. Beds of the different varieties of Cornflower, Centaurea cyanus, should be sown in the same way—also varieties of Poppy, the dwarf French, with double flowers; Pæony-flowered, Shirley, and P. umbrosum, are all of them pretty species of Poppy. Seeds of Dianthus chinensis are excellent in beds; the finest varieties are D. Heddewigi, D. diadematus, and D. laciniatus. Do not forget to sow Gypsophila elegans and G. muralis.

BEDDING-PLANTS.—Care and forethought will now be required in managing the various plants that will be required at the end of next month, and the beginning of June. This will involve a continual moving about of the plants, so as to place them in the best positions, where they will gradually get hardened-off, in readiness for planting out. In the North generally, the shelter of walls on the north and east, or roughly-made frames, will be required by the plants till, at the earliest, May 20. In Yorkshire we are not safe until after June 1 with Dahlias and such-like tender plants, and from May 8 to the 20th the weather is often very rough and stormy, requiring everyone to be on his guard, in so far as the bedding-out plants are concerned.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, April 27—Royal Botanic Society.
THURSDAY, May 2—Linnean Society.
FRIDAY, May 3—Royal Botanic Society: Lecture.

SHOW.

SATURDAY, April 27 { Spring Show in the Gardens of the Manchester Botanic Society, at Old Trafford.

SALES.

MONDAY, April 29 { Roses, Ferns, Begonias, &c., at Protheroe & Morris' Rooms.
TUESDAY, April 30 { Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, May 1 { Tuberoses, Roses, Continental Plants, Burmese and Japanese Lilies and Palm Seeds, at Protheroe & Morris' Rooms.
FRIDAY, May 3 { Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—51°.1.

Pine-apple Culture.

The culture of Pine-apples, to all appearances, is fast going into the hands of the foreigner, because we, in spite of our abundant coal, cannot, forsooth, grow them at a profit! The thing is absurd; but whilst the notion continues to find believers in this country, fine-flavoured fruits are, and will be, bad to get at any shop. It cannot well be otherwise, with fruits cut ten or twelve days before they reach the consumer. What would be thought of the "intelligent gardener" who, before he sent a Pine to his employer's table, kept it in the cut state in his fruit-room for so long a time?

The commercial cultivation of the fruit should be carried on in grand style in the colliery districts, where fuel fit for heating a hot-water apparatus can be purchased for 3*d.* to 6*d.* per cwt.; and as fruit of The Queen variety is easily obtainable in a year, or year and a-quarter, and that of Charlotte Rothschild, Black Jamaica, Antiguas, and Enville's, in two years at the outside, the influx of foreign Pine-apples would meet with a severe check—at least for the best markets; the connoisseur would be able to obtain well-flavoured, juicy fruit, leaving the imported fruits to the barrow-men and low-class trade.

As for private garden culture, it can be greatly cheapened by using ordinary garden-frames placed over a thick hot-bed of tree leaves, or tan and stable manure, or tanner's bark, where that material is to be obtained cheaply. There is no need for brick-lined holes; a simple excavation sufficiently wide to admit of a thick lining being built up round the frames on the margin of the hotbed that projects beyond the sides. These frames can be used for the whole of the young stock from March to October, and if they were fitted up with detachable piping fixed to a portable boiler, they could be so employed even during the winter season, if coverings were used to utilise the heat to the uttermost. These frames grow excellent stocky plants, which being close to the glass, never get drawn. A fruiting-house or pit, and pits for successions, provided they are well furnished with top and bottom-heat by means of hot-water, should be available for winter use. There is no absolute necessity to use pots for the "fruiters," although it is handy to have the successions in them, the planting out in beds of loamy soil being much the cheaper method. Pot culture is entirely artificial, and consequently expensive, and planting out might be practised instead.

The preservation of the ball of earth intact when shifting a Pine plant, is looked upon as a *sine quâ non*; but is it really so? The older practitioners did not think so, for they shook off the soil from "fruiters" and "successions," cut off the lower end of the stem where the roots were the oldest, and sunk the stem 6 inches or more into the soil, after removing several of the lower leaves, so as to set the roots free. As they did it, it was a time-wasting process, and it was a rare occurrence for a Pine to be cut from a plant in less than two years, and the Providence variety would take three years. By planting out always, and moulding up, instead of sinking the plants, and not interfering with the bottom of the stem at all, but merely setting the upper roots free by the removal of the leaves, there is no check given to growth, and consequently no loss of time.

Some cultivators advocate the fruiting of two or three of the best suckers on a planted-out Pine after the fruit on the mother-plant has been cut; but as a matter of general practice, it is not to be recommended, surrounded as it is with the difficulty of conveniently earthing-up these suckers, owing to their point of origin being so much higher than the level of the bed of soil—and as the lower leaves have to be removed, as in the mother-plants, the heap of soil required to cover the part of the stem where the roots emerge would have to be at least 12 inches high; and to be able to keep this mass of soil moist, it must have a level surface, which is only obtainable by surrounding it with pieces of board, or a wall of sods. To a certain extent the sucker draws nutriment from the mother-plant, and will exist without making use of its own roots, but the fruit would in consequence be small—hence the need of moulding-up.

The daily routine of culture was well described by Mr. Ward in a recent issue, therefore there is no utility in going into that subject on this occasion.

Linnean Society.—An evening meeting will be held on Thursday, May 2, 1895, at 8 P.M., when a paper by the late John Ball, M.A., F.R.S., with an introduction by W. T. Thiselton Dyer, C.M.G., F.R.S., &c., will be read on "The Distribution of Plants on the Southern side of the Alps."

Kew. — Cycnoches Egertonianum is in bloom just now at Kew. The display of bulbous plants is very beautiful also.

Scarborough Horticultural Society.—The annual meeting of the subscribers to the Scalby and Newby (Scarborough) Floral and Horticultural Society was held on the 22nd at the Rosette Inn, Newby. The President (Lieutenant-Colonel Strelley, J.P.), who presided over the meeting, said the interest taken in the show both by the exhibitors and the general public showed no sign of abatement. The value of the prizes offered amounted to the same sum as last year—£270. The entries (1500 in both departments) showed a slight decrease. It was decided to hold the show on August 16.

Darlington Spring Flower Show.—The spring flower show of the Darlington Horticultural Society was held on the 19th inst., in the Central Hall. The show of flowers was fairly good, but in certain departments they showed the effects of the late severe season. Some splendid exhibits of groups of foliage and flowering plants, from the gardens of Mr. J. B. Hodgkin and Mr. Hillas, appeared, the former being adjudged the 1st prize. There were also shown magnificent collections of Narcissi, sent by Mr. Ware, of London, and Messrs. Barr & Son.

Children's Geranium (Pelargonium) Club.—Miss Edith Heather-Bigg writes from 14, Radnor Place, Hyde Park, to appeal on behalf of the Children's Pelargonium Club, which was started last year among the children attending two of the poorest Shoreditch Board-schools. Plants are distributed in the early summer, and at the end of the season an exhibition is held and prizes awarded, the flowers in the meantime having brightened the homes from which the children come. Miss Heather-Bigg will be glad to receive contributions for the purchase of plants and in aid of the expenses of the exhibition.

The Flowers in Hyde Park.—I have travelled much, says Mr. Plimsoll in the *Standard*, in the last twenty-five years, and have seen with great delight, *inter alia*, the flowers of many countries. In Madeira, for instance, you may see great masses of Bougainvilleas (three colours), of Bignonias, of Wistarias, Lantanas, high hedges of close-clipped Pelargoniums, immense bushes of Heliotrope, and trees 20 to 30 feet high of Camellias, as full of bloom as an Apple-tree in Devonshire, and Gladioli of lovely tints; in Mesopotamia, extensive plains of lovely Ericas [?]; in Switzerland, Azaleas; in Darjeeling, and also in Ceylon, Rhododendron trees as large as Scotch Firs, loaded with immense trusses of flowers of all glorious colours, &c. These are all growing wild and untended. I have seen, also, the lovely Public Garden in Bordeaux, that of Brussels, and also that of Bombay, the Gardens at Versailles, of the Tuileries, of the Champs Elysées, and of Fontainebleau, and Kew and Hampton Court nearer home; in fine, I have made a point of letting my eyes banquet on floral beauty wherever I could. But nowhere in all the earth have I seen such refulgency of beauty as may now be seen by everyone, poor as well as rich, in Hyde Park, between Stanhope Gate and Grosvenor Gate; and this most lovely sight may be seen without money and without price. It is worth travelling 100 miles to see, and I have ere now travelled (to and fro) more than 140 to do so. For persons wishing to see this unequalled loveliness, it may assist if I inform them (if they travel by omnibus) that the Marble Arch on one side, and Hyde Park Corner on the other, are the points to make for.

Brighton and Sussex Horticultural Society and Mutual Improvement Association.—At a meeting of this Society, held on the 18th inst., prizes were offered for bunches of twelve blooms of cut Daffodils, shown in a vase, open, and a specimen Auricula shown by amateurs, there being a very good competition in both cases. It was, however, admitted that, while the Auriculas were well grown and bloomed, there was still room for improvement in the quality of the bloom. Subsequently, Mr. R. Dean, Ealing, read a paper on "The Carnation, its history, types, and culture," illustrating very fully the various classes, with illustrations in colours. A spring, summer, and

evil, the root

FIG. 74.—MAGNOLIA SOULANGEANA ×, AT KEW. (SEE P. 516.)

Chrysanthemum exhibitions are to be held. Mr. J. S. Johnson, formerly with Messrs. Hurst & Son, seed merchants, Houndsditch, London, is the Hon. Secretary, and Mr. Rupert Miller, the acting Secretary.

A Children's Flower Show at Whitechapel.—There is in connection with St. Mary's Church and Schools at Whitechapel a Floricultural Society, the object of which is "the encouragement of the cultivation of plants among the children attending the day and Sunday schools." Each child pays a small entrance-fee to exhibit, and the Society provided the plants, bulbs, seeds, and soils, and sell them to the children below cost price. The spring show of flowering-plants—Hyacinths, Tulips, Narcissi, Crocus, &c.—took place on the evening of the 18th inst. in the Davenant Schools, Mile End Road, and a considerable number of plants were staged, though many had gone out of flower, though they were seen to advantage at the recent exhibition at the People's Palace. When it is remembered that the children cultivate their plants in many instances in close, darksome localities, the results are certainly satisfactory. After the awards were made, Mr. Dean, who acted as judge, gave an address to the children, laying down simple rules for their guidance in the management of spring-flowering bulbs and other plants. A short time ago, an address on this topic was given by Mr. F. A. Peaty, the energetic secretary of the Society, and then papers were given to the children, containing a dozen or so questions based upon the address, to which answers had to be given. About forty of these papers were returned, and the replies in most instances were praiseworthy. As an exhibition is held in the summer, at the close of the address on the 18th, a number of plants provided by the Society—Ferns, Pelargoniums, Cytisus, Spiræa, Calceolaria, Musk, Creeping Jenny, Fuchsias, &c.—were sold to the children at one penny apiece, and 155 were so disposed of. These plants have to be grown and exhibited at the summer show, each plant being duly sealed and registered. This method of teaching and encouraging the youngsters to cultivate plants is one well worthy of imitation. A quantity of seeds of annual flowers are also supplied to the children. As the Whitechapel Society is affiliated to the People's Palace Horticultural Society, each member has the privilege of exhibiting at the Palace shows also.

"Chapman's Magazine."—A monthly journal of this name will shortly be published by Messrs. Chapman & Hall. The pages are to be devoted to short stories and "fiction pieces" by well-known and popular authors, and an occasional poem will also be included therein. The editor is Mr. Oswald Crawfurd, Her Majesty's late Consul at Oporto, and the list of contributors working in co-operation with him is such as to give promise of good entertainment to all lovers of high-class fiction. The price of the magazine is 6*d*. a part, and the first number will be ready on May 1.

"Dictionary of Orchid Hybrids."—This new publication contains a list of all artificial and natural hybrids known up to January 1, 1895, the names of their raiser or introducer, the date of their appearance, as well as accurate tables indicating the seedlings obtained from each species, their synonyms, &c. It will, therefore, be seen that this work treats not merely of a very large subject, but also of one by no means easy or simple. Orchid-growers, whether professionals or amateurs, feel the need that exists for such a handbook, and will do well to consult it on many occasions, as when desirous of information concerning old hybrids, or of hints for the perpetuation of new varieties. The *Dictionary* is compiled by E. Bohnhof, and the publisher is Octave Doin, 8, Place de L'Odéon, Paris.

Shirley Gardeners' and Amateurs' Mutual Improvement Association. — The first meeting this session was held at the Parish Rooms, Shirley, Southampton, on Monday, the 22nd inst., the President, Mr. W. F. G. Spranges presiding over a fair attendance. "Seeds, their Composition, Growth, Structure, and Germination," formed the subject of an interesting lecture by Mr. W. F. Perkins; "Curiosities of Seed-life" was also dealt with, and enabled the lecturer to exhibit some of the various devices by which seeds are distributed in places. Mr. Perkins and Messrs. Toogood & Sons exhibited a number of seeds in illustration of the subject; and a curious pod, name unknown, was shown by Mr. W. H. Rogers, containing hundreds of beautiful winged seeds, each about 1 inch square. There was a show of spring plants, Narcissus, &c., by Mr. B. Ladhams and others.

Pine-apples in Old Calabar.—I think it may interest some of your readers to learn, writes Mr. Horace W. L. Billington, Curator of the Botanical Gardens, Old Calabar, that I have received information from my assistant that one of the Pine-apples, a stock of which came from Her Majesty's Royal Gardens, Windsor, has just been cut, measuring 21 inches in circumference. It was grown in the Botanical Gardens, Old Calabar, and I also learn that the flavour was considered very fine, as well as the proportion. These gardens were only started by Sir Claude MacDonald, Commissioner of the Niger Coast Protectorate, two years since, so it shows that a good result may be expected in Old Calabar from the experience gained in the botanical gardens.

Saintpaulia ionantha.—Mr. Ernst Benary sends us flowers of this pretty little Gesnerad, showing considerable range of colour, viz., light blue, dark blue, and purple. There is also some difference in the size of the flowers. This pretty little plant was shown first by Dr. Wendland, at the last Ghent Quinquennial, and its history was referred to in our columns so lately as April 13, p. 461. It was figured in the *Botanical Magazine*, April, t. 7408. In the *Illustration Horticole*, April 15, p. 109, our good friend, M. Rodigas, refers the plant to the genus Petrocosmea of Oliver; and certainly the analysis of the flowers sent us by M. Benary shows considerable resemblance with that of Petrocosmea sinensis of Oliver, *Icones Plantarum* (1887), t. 1716. There are, however, points of difference between the Chinese and the East African plant, which should make us hesitate in putting the two plants into the same genus—at any rate, until we had seen the ripe fruit. So much had we written when the President of the Linnean Society favoured us with a letter stating his opinion on the matter, an opinion which derives exceptional value, as Mr. Clarke is the monographer and acknowledged authority on the Cyrtandreæ. For reasons, which need not be given here, Mr. Clarke thinks it not advisable, at present, to abandon the genus Saintpaulia, but to await the issue of further investigations into the rapidly-increasing number of new forms which are accumulating in herbaria.

Men and Women of the Time: A Dictionary of Contemporaries.—A fourteenth edition of this useful publication has been issued by Messrs. George Routledge & Sons. A book like this must always include some names that might as well have been omitted, and must always omit others that it would have been better to have inserted. These defects are not to be laid to the charge of the editor; and the utility of the book is so great that a few imperfections of this kind are lost amid the mass. We find no mention of Professor Michael Foster; nor, in the obituary list, of the late President of the College of Surgeons, Mr. J. W. Hulke. On the other hand, the discovery of "Argon" finds a place under the names of Lord Rayleigh and Prof. Ramsay.

Publications Received.—*A Lecture on Fungi*, by Dr. W. C. Sturgis (Massachusetts Horticultural Society).—*The Aims and Methods of Botanical Work at our Experiment Stations*, by Dr. W. C. Sturgis, dealing chiefly with the parasitic fungi affecting plants, and the best remedies for such pests. (From the Report of the Secretary of the Board of Agriculture, 1893.)—*Conditions Favouring Inception and Spread of Fungous Diseases*, by Dr. W. C. Sturgis, of New Haven. (From the Report of the Secretary of the Connecticut State Board of Agriculture, 1894.)—*The Connecticut Agricultural Experiment Station, Eighteenth Annual Report for* 1894, Part II.—*Papers on Fungous Diseases and their Treatment*, including Fire Blight (Micrococcus amylovorus), Experiments on the Prevention of Potato Scab, Scab upon Turnips, the Early Blight of Potatos, Experiments on the Treatment of Pear Scab (Fusicladium pirinum), Miscellaneous Notes on Fungi, and Some Injurious Insects, all by Dr. W. C. Sturgis.—*Vermont Agricultural Experiment Station Bulletin*, No. 44, December, 1894, on *Spraying Orchards and Potato Fields*, and considering the Relation of the Weather of 1894 to Plant Diseases, Apple and Pear Scab, and Why do Apples or Pears Scab and Crack? Results of Spraying Potatos in 1894, Observations upon the Date of Planting Potatos, Potato Scab and its Prevention.—*United States Department of Agriculture, Division of Vegetable Pathology, Washington Bulletin*, No. 6.—*Bordeaux Mixture as a Fungicide*, by D. G. Fairchild. A careful report of the origin, composition and preparation of "copper mixture of Gironde," and of its effects on the parasites infesting certain plants.—*Dictionnaire des Orchidées Hybrides*, par E. Bohnhof (Paris, O. Doin, 8, Place de l'Odéon).

Home Correspondence.

Height of some trees at Compton Basset.—It may be interesting to some of your readers to learn the height of some of the trees in the grounds at this place. The soil is very shallow, in some parts not more than 9 inches to 1 foot in depth, the substratum chalk, which was formerly used locally for building purposes, and some of it has stood for upwards of 300 years. It is very durable if kept dry. The undermentioned trees were measured on last Easter Monday, and the height being taken with the sextant:—Cedrus deodara, 70 feet, planted in 1841; Cedrus Libani 77 feet, planted in 1841; Scotch Pine, 82 feet; Lime tree, 97 feet 6 inches; Ash, 84 feet 10 inches; several common Spruce, 86 feet; Beech, 122 feet, girth 5 feet from the ground, 11 feet 6 inches; ditto, 112 feet, girth 4 feet from the ground, 17 feet 6 inches; Oak, 84 feet, girth 4 feet from the ground, 16 feet 9 inches; ditto, 62 feet, girth 4 feet from the ground, 21 feet 10 inches; Elm, 110 feet, girth 4 feet from the ground, 16 feet 9 inches; ditto, 107 feet, girth 4 feet from the ground, 17 feet 8 inches. There are other very fine specimens in the park, but these are enough to show what fine trees there are at Compton Basset; it is really surprising that such fine trees should grow so well in the chalk rock, but the manner the roots find their way amongst the crevices is wonderful. *W. A. Cook, Compton Basset, Wilts.*

Gardeners and Education.—Mr. Burrows' suggestion does not, in my opinion, go far enough. I have supplied my head gardener with a copy of *Nicholson's Dictionary* (4 vols.), and several other works on special subjects, all of which are in constant use for reference, and he has the *Gardeners' Chronicle* weekly after I have read it. We do not exhibit, but he attends all local shows, and makes an annual visit to Kew. Excluding the first cost of the books, the total cost does not reach £3 per annum, and it is the most satisfactory and profitable method of spending £3 I have yet discovered. Unless something of the kind is done, the best man degenerates, and gets rusty, his knowledge of improvements becomes second-rate hearsay, and his Latin and opinions become more curious than satisfactory. A gardener's head is of far more practical use than his hands. *T. F.*

The Wild Primrose.—A few days since when riding about the beautiful rural lanes near Dropmore, I could but notice that on either bank, or so far as could be seen in wood and field, not a Primrose was visible. Only when the gates of Dropmore were entered were any of the flowers seen. Is not that the general condition of banks and open woods for many miles round London? What is the Selborne

Society doing that it cannot help to protect a beautiful hardy wild flower from this form of extermination at the hands of dealers! As to cultivating it, the best form of such culture is found in sowing seed in enclosed woods and protecting them. Common Primroses will do far better under such natural conditions than in cultivated gardens. The spade, fork, and hoe are their abomination, whilst they like shade and to be let rigidly alone. *A.*

THE PROMISE OF THE APPLE AND PEAR CROPS.—I have but a few Apple and Pear trees, but the liberal promise of blossom they display appears to dispose of the notion that a moist and sunless season is antagonistic to the production of ripened wood and fruiting spurs. Lord Suffield, the Mother Apple, and Warner's King, in particular, are unusually promising; Cox's Orange Pippin, Cellini, and Hawthornden follow suit. Jargonelle Pears, which I have had in bloom at the end of February in past years, and Bon Chrétien, promise a profuse crop. From what I see and hear, the promise of crops is good all round. *R. Dean, Ealing.*

PINE-APPLE GROWING.—I very much regret the comparative discontinuance of Pine-apple growing in this country; for I firmly believe that with suitable houses and pits they are not nearly so expensive to grow as many persons imagine. Mr. Gleeson some few years ago grew Pine-apples very well at Clumber; and in the same houses as the Pines, excellent crops of early Strawberries, pot Melons, and the finest possible plants of Calanthes were grown, many other plants being accommodated from time to time, which materially reduced the cost of producing the Pine fruits. I have seen Queen Pine-apples from 4 to 5 lb. in weight, and smooth Cayennes from 9 to 11 lb. and over, which were produced at a cost not so very great when all things were considered; besides, what fruit can compare with the best grown English hot-house produce? I wish Mr. Ward, and a few more capable growers would try and revive what is, I fear, a fast decaying art in this country. *J. Shaw, Deepdene, Dorking.*

THE FLOWERING OF LATE VARIETIES OF PEACHES.—The first to open its blossoms this spring was Sea Eagle, the tree trained on a south wall; next came Dymond; then Waterloo, Goshawk, Royal George, in order of their names. All these varieties give promise of a fine crop of fruit. I may mention that Waterloo has never once failed since the tree was planted. *W. A. Cook, Compton Basset.*

SHELTER IN GARDENING.—The value of shelter in gardening (no protection other than the situation), although well understood by our best practical gardeners, is not, I think, generally recognised and acted on by the thousands who take an interest in gardening. Among the many lessons taught us by the late severe winter, none probably is more conspicuous than the value of shelter, and the evidence afforded in favour of it offered by the evergreens drawn from our branch nursery at Loughton in Essex, and exhibited before the Royal Horticultural Society last Tuesday, may, I think, prove of interest to the readers of the *Gardeners' Chronicle*. That nursery occupies a depression of pie-dish shape, on the top of a hill, the longer sides sloping S.E. and N.W. It is on the borders of Epping Forest, eleven miles east of London. It is open to the S. and S.W., and sheltered on other sides by the forest and village of Loughton. Open to the S.W. means, I apprehend, going to bed warm and dry by the influence of the setting sun; and this probably operates favourably. Many of our most valuable evergreens have there passed unharmed through the recent severe ordeal, as demonstrated by the specimens exhibited, while they have been seriously damaged, and even killed in less sheltered situations in the same district. And this is not due to difference in the temperature, as that and the depth of the snow on the ground were practically the same in all instances I have noted. I append a list of species and varieties exhibited, and could have added many more if required.

Phillyrea decora (Vilmoriniana)	Juniperus chinensis aurea
Osmanthus ilicifolius	,, stricta
Cerasus prunus	,, virginiana glauca
,, rotundifolia	Cedrus deodara
,, lusitanica azorica	,, atlantica glauca
Thujopsis Standishii (= Thuya japonica)	Abies grandis
,, borealis variegata (= Cupressus Nootkatensis)	,, Lowii
	,, concolor violacea
	,, Pinsapo
Picea ajanensis	Cupressus Lawsoniana
,, pungens	,, ,, lutea
,, Douglasii glauca	,, ,, erecto-viridis
Retinospora (cupressus) squarrosa	Aucuba japonica
	,, ,, vera
,, plumosa aurea	Araucaria imbricata
,, ericoides	Thuia Vervaeniana
,, filifera	Ligustrum coriaceum
,, plumosa	Viburnum Tinus
	Skimmia japonica
	Three Dwarf Roses

The only evergreens grown in this nursery that appear killed to the ground are Sweet Bays, Veronica Traversii, and small Pinus insignis. Roses are uninjured. One object in establishing this nursery was to have a reserve against severe winters, and now and previously it has proved all that was expected of it. The leaves of Laurels, Aucubas, Araucarias, Laurustinus, and Portugal Laurels, are more or less browned in places, but the wood apparently uninjured. *Wm. Paul, Paul's Nurseries, Waltham Cross.*

SPINACH BEET.—I have (like "W. G," p. 495), found that the Spinach Beet is very useful, and when well cooked scarcely any difference is observed. In season when ordinary Spinach is killed by frost, it is a good substitute, and one that is much liked. *W. A. Cook.*

CHISWICK VEGETABLE SHOW.—The Royal Horticultural Society, according to "A. D." (see last week's issue), is to be condoled with in the unfortunate and deplorable position in which it finds itself over the Chiswick vegetable show and schedule. I cannot understand what the council have been thinking about in not calling in the aid of "A. D," when a really heroic and beautiful schedule would have appeared, and not as at present an "exhibition schedule," which it seems "A. D." does not want. The Royal Horticultural Society will be sustained and comforted by the thought that it is now at work drawing up rules and regulations for judging vegetables, and drawing up schedules for the same. The pity of the thing it seems to me is, that this show was not deferred until "A D.'s" labours in this direction had ended. Indeed, even now I shall not be surprised at the council postponing the show to another year, in order to avail itself of the aid of "A. D." in schedule-making. *Kitchen Gardener.*

PRUNUS PISSARDI.—This shrub, with its purple leaves just unfolding, and its delicate white blossoms, is a beautiful object now in the shrubbery. *W. A. Cook.*

THE WINTER IN DEVON.—What a trying winter that was which we have experienced, and how destructive to almost every kind of shrub, the common Laurel and Rhododendron ponticum being greatly injured, even more so than hybrids. Laurustinus, Portugal Laurels, Sweet Bay, Escallonia, Euonymus, &c., are browned as though they had been scorched by fire. I notice that Camellias, Azalea amœna, Olearia Haasti, with Hollies, and some Yews are amongst the best things at present in the beds and borders. I, of course, refer to evergreens. *W. S.*

FORSYTHIA SUSPENSA.—This plant is just finely in flower, forming a picture of much beauty trained on the walls of some dwellings which have a southern aspect; but it is fully a month later than last year. *W. A. Cook.*

DARWIN TULIPS.—Mr. Pope's contention in a recent issue of the *Gardeners' Chronicle*, in reference to the flamed varieties of Darwin Tulips, shown at the Haarlem exhibition, will strike many people as

Fig. 75.—A FLOWER, NATURAL SIZE, OF MAGNOLIA SOULANGEANA ×; WHITE, FLUSHED WITH RICH PURPLE. (SEE P. 516.)

uncalled for. Because these exceedingly fine and decorative plants were not broken in accordance with the rules laid down by the old florists they are to be thrown on the rubbish-heap! If we were to be bound by all of the mischievous rules which the old florists formulated, there would be nothing natural about flowers. The lover of flowers will always appreciate true beauty in every flower, whether it conforms to the geometrical lines of the wiseacres of a happily long-past generation, or whether it entirely upsets these calculations. The old florists, like the old poets, have had their day, and no amount of resurrecting will infuse life into them. *W. R.*

BUSBECQ'S TRAVELS.—Mr. Burbidge's capital article in the *Gardeners' Chronicle* of the 15th inst. was highly interesting and seasonable. I ought to draw attention to a much-neglected book of travels. No less an authority than Gibbon describes Busbecq as his "old and familiar acquaintance; a frequent companion in my post-chaise." Many others besides Gibbon have found the language of this early traveller eloquent, his manner lively, and his remarks judicious. A very exhaustive series of extracts from this work is given in the *Retrospective Review*, vol. xiii., pp. 55 to 87, which will satisfy the majority of readers. The first edition of the work was published by the Elzevirs, at Leyden (Lugdunum Batavorum) in 1633, in which year two editions appeared, the heading of the letters in the first reads "Epistole," and in the second, "Epistolæ." In 1660 another edition was published, this time at Amsterdam; also ex officina Elzeviriana. The first English edition appeared in London, in Latin, in 1660. The first translation was published in 1694, and another in 1744. *W. Roberts.*

EARLY PEACHES.—I gathered six very fine Peaches of the variety Early Alexander on Friday, April 19, which were sent to Mr. Geo. Monro, Covent Garden, whose return for them is 3*s.* each. The trees were at no time hard forced, the forcing being begun on January 1. Beyond one of Rochford's 9 feet long boilers, I have no other means whatever of heating the house, which is 240 feet long, 24 feet wide, and 12 feet high, and span-roofed. The temperature very rarely reached 60° at night until within the last few weeks. *Wm. Armstrong, Toddington Orchard Co, Winchcombe.*

MAIN CROP AND LATE PEAS.—To grow Peas well on some kinds of soil requires special attention; moreover, the seasons vary to such an extent as to have a great influence on their growth. From careful observation I find that it is best on our cold retentive soil to sow the seed thinly at short intervals of time, for although the haulm remains greener for a much longer time than on shallow soil, owing to the superabundance of moisture, when the flowers decay on expanding; but if sown thinly, so that the sunlight penetrates the rows, the results are satisfactory, the flowers getting dry soon after rain, and the pods grow rapidly. In cultivating the Pea, not only the height and strength of the haulm and size of the foliage should be taken into account, but the constitution of the varieties themselves, for where some varieties grow and crop freely, others, unless some special care be bestowed on their cultivation, fail to grow at all. It is with these more delicate varieties that I desire to say a few words. Seed sown about the middle of April will usually produce good crops of well-filled pods towards the end of July; but should the weather become warm and dry whilst they are in flower, so as to cause flagging, it is seldom that satisfactory results are obtained, the pods not growing with the same freedom as they would if the plants had not received a check to growth. It is known in how short a space of time the ground along the rows gets dry, which we cannot be surprised at when the amount of moisture necessary to support the plant is taken into consideration, to say nothing of that evaporated by sun-heat, which factors act with greater force when the plants are crowded together in the rows. Peas require much moisture, hence the necessity for deep cultivation. Where the good land is not sufficiently deep to admit of trenching, the soil where the rows will be should be taken out, and well-decayed manure put into the trenches. In gardens where sowing in trenches thus prepared must be resorted to instead of taking the soil out one spade wide, as is customary, it should be twice that width. This may seem to some a lot of trouble merely to grow a crop of Peas, and to those who have to work a garden with but few men it is a serious task; but when the amount of labour saved during the hot weather in watering is taken into consideration, it is time and labour well expended. Where the Pea ground is fallow during the winter, there should be no difficulty in getting the trenches thrown out and manure wheeled in. It is a mistake to dig up ground in hot dry weather and sow again immediately, for this allows the escape of more moisture. If it is necessary to dig the land when it is dry, it should be made firm again directly afterwards by trampling it regularly all over, the roots of plants having no hold of a loose soil. Where trenches have been taken out, the soil should be made firm, and the seeds dibbled in a double line, allowing 3 inches between them each way. Watering must be resorted to in hot weather, both at the root and over the haulm—and mulching is indispensable; indeed, where water is a scarce commodity, mulching both sides of a row, if done before dry weather sets in, is a great help to the plants. If blood-manure or farmyard-drainings can be afforded before mulching, the effects will be greater and more permanent. During hot weather aphides congregate on the points of the shoots, and do much harm, but syringeing with soft-soap water will destroy them. Dwarf Peas are more difficult to grow than the tall varieties, on account of their leaves unfolding slower, but a fair amount of success may be attained with these if pains be taken to look after their needs. Varieties of Peas are now very numerous, and some of the best are Veitch's Main Crop, Sutton's Late Queen, Invincible, Exhibition, Windsor Castle, Censor, Superabundant, Ambassador, Magnum Bonum, Autocrat, and Perfection. The sticking of all tall varieties of Peas needs careful attention, placing small twigs of deciduous trees (Birch by preference), as soon as they are up, and when the haulm has topped these, putting the tall sticks to them in height, in accordance with the height the Peas attain to. Do not let the tops of the Pea-sticks meet over the rows, or even intercross each other, but keep them separated by about 9 inches to 1 foot; and if the situation be exposed, thread tarred-string in and out, so as to afford support to each side, and make all neat and trim. Reduce the sticks to a uniform height with a pair of hedge shears. In no case should the line of sticks be farther than 8 inches distant from the plants. *H. C. Prinsep.*

SOCIETIES.

ROYAL HORTICULTURAL.

April 23.—In connection with the ordinary meeting of the committees on Tuesday last in the Drill Hall, James Street, Westminster, was held the annual exhibition of the National Auricula and Primula Society, and owing largely to this circumstance, and to a further important feature in the shape of large and excellent exhibits of Daffodils, the Hall was inconveniently full, and it was with difficulty that room was found for many of the collections. The Orchid and Floral Committees had an abundance of material before them, including a magnificent display of Roses in pots and as cut blossoms from many exhibitors. The display generally was an unusually good one, and an interesting meeting was the result. The number of visitors to the Hall was likewise unusually large, and a good audience was present at the conference on Primulas and Auriculas which took place in the afternoon.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, H. J. Jones, O. Thomas, G. Paul, C. T. Druery, H. Herbst, H. B. May, J. H. Fitt, E. Molyneux, J. Walker, G. Stevens, R. B. Lowe, J. D. Pawle, J. Jennings, C. Jeffries, W. Bain, G. Gordon, C. Blick, E. Beckett, C. E. Pearson, C. E. Shea, H. S. Lee, H. Turner, H. Selfe Leonard, N. J. Grant, and Geo. Nicholson.

A remarkable exhibit of Primula obconica in pots was made by the Messrs. de Rothschild, Gunnersbury Park, Acton, W. (gr., Mr. Geo. Reynolds). The group contained about four dozen plants in 5-inch pots, all of them being exceptionally vigorous, foliage good and healthy, flowers abundant, large, and of full colour (Banksian Medal).

A very pretty group of flowers of Polyanthus Primroses was exhibited on moss-covered boards by Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. Bain), and a few extra large flowers of Daffodils Sir Watkin, Emperor, and Horsefieldii (Bronze Banksian Medal).

Dowager Lady Bowman, Joldwynds, Dorking (gr., Mr. F. Cornish), showed a few pots of Epigæa repens, bearing their small white flowers. They were Culturally Commended.

Miss Mason, Morton Hall, Retford, Notts, exhibited a collection of Primulas and Soldanellas, including several interesting species. Also a bloom of Tulipa Florentina (Vote of Thanks).

Mr. Geo. Stanton, gr. to Mrs. Noble, Park Place, Henley-on-Thames, staged some flowering sprays of Bougainvillea speciosa, and also a charming variety of this species, very rich in colour, and named superba. An Award of Merit was granted to the variety. This species is one of the earliest to flower in the spring, and the young wood should not be cut out, as is usual in the case of B. glabra.

A basket of splendidly-grown and flowered plants of Primula elatior cærulea was exhibited by J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr., Mr. Downes). The plant is seldom so successfully grown.

Messrs. W. Paul & Son, Waltham Cross, exhibited a new fimbriated Camellia Bathazar, a white double flower marked with scarlet.

Messrs. H. Cannell & Sons, Swanley, Kent, staged a fine lot of gold and silver-laced Polyanthus, some excellent sprays of Canna Queen Charlotte, and a number of large blooms of Carnation Mrs. H. Cannell, a very useful border variety.

An exhibit of considerable importance was made by the Guildford Hardy Plant Co., Guildford, who staged a very great variety of Primulaceous plants in a natural manner on stone. The yellow blooms of the P. Auricula were the most showy, but smaller and less common species and varieties were also abundant. Of Primulas proper upwards of fifty varieties were included, and amongst these P. marginata, P. rocea, P. viscosa nivalis, P. elatior, P. glaucescens, P. ciliata, P. carniolica, P. farinosa, and others were well represented.

Androsaces in nine distinct forms were shown, including the minute habited A. pyrenaica. Gentiana verna, and G. acaulis, Ranunculi in several of the more popular species, a grand lot of Saxifragas, Anemones, a few Trilliums, Haberlea rhodopensis, in flower, &c., constituted a very attractive exhibit (Silver Flora Medal).

Roses in pots from Messrs. Paul & Son, The Old Nurseries, Cheshunt, and Mr. Rumsey, Joyning's Nursery, Waltham Cross, Herts, created an exceptionally bright display.

Mr. Rumsey had upwards of two dozen plants, well grown, and richly flowered, amongst which were excellent examples of Magna Charta, General Jacqueminot, Beauty of Waltham, Madame de Castellane, Duke of Wellington, Madame L. Gabrielle, &c. From this nursery were also shown seven large boxes of cut Tea Roses, three of which were filled with very commendable blooms of Niphetos; another with alternate blooms of The Queen (white), and Souvenir d'un Ami (pink) a sport from the latter, and many other Roses of interest were included (Silver-gilt Flora Medal).

Messrs. Paul & Son's exhibit was very bright, the plants being covered with fresh bright flowers. A vigorous plant in a 9 or 10-inch pot with three good blooms of H.P., Paul's Early Blush, several plants of Paul's Carmine Pillar (a very large single variety), Gustave Piganeau, and Jeannie Dickson were very noticeable. An Award of Merit was recommended to H.P. Marchioness of Londonderry, an excellent broad-petalled white Rose, with a pale flesh centre, exhibited for the first time last season. The plant shown had one expanded bloom, and four strong buds; also to Tea Rose Bridesmaid, a deep flower, of warm, attractive pink colour, in shape like Catherine Mermet; the plant exhibited carried six blooms. Messrs. Paul exhibited also a capital collection of the newer varieties of Canna. Among latter were Antoine Barton, yellow, thickly spotted with the scarlet; Progressive, a very similar variety, but of taller habit as shown; Cheshunt Yellow, a very charming variety, sepals and petals rich yellow, centre of flower blood-red; Tom Thumb, dwarf, very vivid scarlet, with narrow margin of yellow; Mrs. Tasker, a suffused yellow and scarlet flower; President Chandre, apricot yellow, with faint spotting; M. Forgeof, &c. (Silver Flora Medal).

G. C. Tasker, Esq., Middleton Hall, Brentwood (gr., Mr. P. Perry), exhibited a group of Roses of much merit, surrounded by some capital and well-flowered plants of Azalea mollis (Silver Banksian Medal).

Mr. J. Walker, Thame Nursery, Oxon, exhibited upwards of five dozen good blooms of Maréchal Niel Roses, a quantity of Niphetos, and a number of garden and Noisette varieties (Silver Banksian Medal).

Mr. Frank Cant, of Braiswick, Colchester, again exhibited a magnificent lot of cut Roses in great variety and excellence, the colour and size being remarkable (Silver Banksian Medal).

Another collection was from Mr. Geo. Mount, Exotic and Rose Nurseries, Canterbury, who had a number of blooms of Catherine Mermet, The Bride, Maréchal Niel, Niphetos, and single blooms of others (Silver Flora Medal).

Messrs. B. S. Williams & Son, London, N., exhibited a nice collection of Hippeastrums, which was awarded a Bronze Banksian Medal. Also a few well-grown plants of Leschenaultia biloba major were shown by this firm.

Andromeda formosa, exhibited by Mrs. Ramsden, Guildford, was recommended an Award of Merit.

A pretty and seasonable display of Androsaces and Primulas in bloom came from the Royal Gardens, Kew. The Primulas the more showy plants, included P. calycina, P. Sendtneri, P. ciliata, P. farinosa, P. Heeri, P. bellunensis (two forms of this species), P. Palinuri, P. longiflora, P. norica, P. dentiata, P. Auricula, P. obovata, &c. From the same garden came a flower-spray of the beautiful crimson-coloured Amherstia nobilis.

A plant of Cineraria cruenta, 4 feet high, and upwards of 2 feet through, thickly covered with pale mauve-coloured flowers, three-quarters of an inch wide, with deep purple disc, was exhibited from the Royal Gardens, Kew. This species is supposed to be one of the parents of the garden varieties, and, apart from this interesting circumstance, the plant would be very valuable for ordinary conservatory decoration. A vote of thanks was awarded for the entire exhibit.

From Mrs. Robb, Goldenfield, Liphook, Hants, came the

pretty Salix lanata, a species of Willow, with short woolly catkins, which at first globular, afterwards elongate; the habit is dense and compact.

Messrs J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed a collection of the varieties of the so-called blue Primulas, of which Alice Wilson is a type. These consisted of John Gibson, Mary Erskine, Covenanter, Elizabeth Brodie, James Nimmo, the bluest of them all; and R. Nimmo, another that is similar but brighter in colour. These were all true Primroses, and had been grown in the open ground. The same firm showed a pretty lemon-coloured Alyssum saxatile, very useful as a variety. They also exhibited neat examples of Epiphyllum Russellianum Makoyanum, and E. R. Gaertneri, the plants 2 feet high and well-bloomed.

G. F. Wilson, Esq., Weybridge and Wisley, received an Award of Merit for Polyanthus Hermann, a flower of a rich plum colour, and yellow eye. An acquisition, certainly.

From Messrs. W. Paul & Son, Waltham Cross, came a group of evergreen trees and shrubs, shown to illustrate the benefit afforded to plants by natural shelter. It taught a useful lesson in that important matter. The subject is dealt with in another column in the present issue by Mr. W. Paul himself.

Mr. H. R. May, Dyson's Lane, Upper Edmonton, staged a good group of Ferns, chiefly Pteris cretica varieties, Adiantums, and Davallias, Pteris cretica var. Wimsetti, a plant of a cheerful tint of green, and prettily divided and tasselled fronds. The plant shown was about 2 feet in height, and it received an Award of Merit. The various Ferns were set off by the introduction of Dracæna, Reineckia carnea variegata, Agapanthus umbellatus variegatus, a yellow variegated Cineraria maritima, Turner's Crimson Rambler Rose, &c. Mr. May exhibited a showy Nasturtium named Coolgardie, the flowers of which are of good size, and of a soft yellow hue (An Award of Merit). A Silver Flora Medal was also awarded to the group.

Messrs. G. Jackman & Sons, nurserymen, Woking, had a floriferous group, consisting of cut Roses, double and single-flowered species and varieties of Primula, among the latter being Grace Darling, a flower showing two distinct shades of blue (purple), P. viscosa major, &c. The other plants consisted of Frittilaria Meleagris and F. M. alba, nice plants of Andromeda floribunda, well-flowered; Myosotis rupicola, Aubrietia Leichtlini, Alyssum podolium, and Violas in great variety, &c. These and similar plants have only recently been taken in hand by this firm, but the vigour and health of that which was shown bespoke good and careful cultivation (Bronze Flora Medal).

Mr. Milne Redhead exhibited a Primrose from the Pyrenees, of tufted habit, entire, green, rather thick leaves, and copious lilac flowers, with narrow petals. It is supposed to be a natural hybrid between P. integrifolia and some other species.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), De B. Crawshay, H. M. Pollett, H. Ballantine, W. H. White, H. J. Chapman, F. Sander, W. H. Protheroe, J. Jaques, E. Hill, W. Cobb, Thos. Statter, T. B. Haywood, S. Courtauld, G. Shirland Ball, and Dr. M. T. Masters.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), sent a small group of charming rare Orchids, of compact growth, two of the specimens of Masdevallia Arminii, covered with their pretty purple flowers, being delightful objects, well earning the Cultural Commendation awarded for them. Other pretty plants in the same group, and which each secured a Botanical Certificate, were Polystachya Ottoniana, a cushion-like mass of pseudobulbs, covered with sprays of pretty white flowers; and the singular yellow and purple Masdevallia fragrans. Also in the collection were the graceful Eria ceridostachya, E. stellata (?), and Dendrobium cretaceum.

Baron Sir H. Schröder, The Dell, Egham (gr., Mr. H. Ballantine), showed a splendid specimen of Dendrobium Hildebrandii, which resembles a yellowish D. tortile (Award of Merit), and flowers of Dendrobium Bensoniæ, D. B. xanthinum, and the beautiful Lælio-Cattleya × Digbyana-Mossiæ.

Major Joicey, Sunningdale Park, Sunningdale, Berks (gr., Mr. Fred. J. Thorne), showed three beautiful Orchids, two of which were remarkable examples of good culture, and which received Cultural Commendations accordingly, the plants having previously received the highest awards; they were Dendrobium atro-violaceum (figured in our columns, Jan. 27, 1894), with five spikes, bearing together twenty-four fine white-and-violet flowers, the plant being one of the early importations by Messrs. Veitch, and when acquired, a very small one; and Cypripedium Rothschildianum, Elliottianum, with two grand spikes, the one of four, and the other of three, flowers. The other plant shown by Major Joicey was Phaius Blumei var. assamicus.

Lord Rothschild, Tring Park, Tring (gr., Mr. E. Hill), showed the pretty Cirrhopetalum Cumingii, with an umbel of bright dark-rose flowers (Botanical Certificate); and the rare Bulbophyllum (Sarcopodium) Sillenianum, with large bright yellow flowers of singular structure.

The Prince di Venosa, Rome (gr., M. Raggioneri), sent a hybrid Cypripedium (Lowii × villosum), which is identical with that known as C. × lucidum.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), staged a group of varieties of Vanda tricolor and V. suavis, in which about eighteen forms were represented. With them were Angræcum modestum, Oncidium sessile, &c. (Silver Banksian Medal).

H. T. Pitt, Esq., Roselyn, Stamford Hill (gr., Mr. Aldous), staged a very pretty and interesting group of Orchids, for which he received a Silver Flora Medal. In the group were several fine specimens of Dendrobium thyrsiflorum, Lycaste Lawrenceana, Ada aurantiaca, Cattleya Lawrenceana, and other Cattleyas, Ornithocephalus grandiflorus, Cymbidium tigrinum, Dendrobium aggregatum majus, and other Dendrobiums; Odontoglossum nebulosum candidulum, and a grand variety of O. × excellens, which is specially interesting, as it is the first home-raised plant by Messrs. Jas. Veitch & Sons, and it appears far finer than any of the imported varieties.

Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), sent Odontoglossum Andersonianum Mrs. F. Hardy, a splendid variety, and very distinctly marked; O. nebulosum candidulum, and Cypripedium × Gowerii magnificum (Lawrenceanum × Curtisii), a fine hybrid, closely following C. Lawrenceanum (Award of Merit).

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed Odontoglossum nubes, Rosefield var., with segments longer and narrower than in the old form.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, staged a very effective group of rare Orchids, the finest of which was their Lælio-Cattleya × Epicasta (C. Warscewiczii ♂, L. pumila ♀), which secured a First-class Certificate. The comparatively small plant bore a flower as large as that of Cattleya labiata, with sepals purplish lilac, the lower ones nearly white at the tips; the broad petals were bright rose-purple, the circular, crimped-edged lip light purple at the base; the middle area cream-white, and the front portion rich light purple—a very charming and distinct hybrid. In Messrs. Veitch's group also were the fine Indian yellow Lælia × Latona, Cypripedium × Euryale, some fine varieties of Cattleya Mendeli, Trianæi, Lawrenceana, and Schroderæ; Lælio-Cattleya × Schilleriana, fine specimens of L. purpurata, Dendrobium Phalænopsis Schroderiana, Dendrobium crepidatum, D. × Aspasia (aureum ♂, Wardianum ♀), Odontoglossum hastilabium, O. cirrosum, O. crispum, Cypripedium Rothschildianum, Oncidium concolor, O. ampliatum majus, Cymbidium Lowianum, &c. (Silver Flora Medal).

Messrs. F. Sander & Co., St. Albans, were awarded a Silver Flora Medal for an excellent group of Orchids, the central figure of which was a grand plant of their Dendrobium veratrifolium, Lindl., with six tall, erect spikes of its handsome white and purple flowers, and which secured for the firm a Cultural Commendation. A very fine hybrid in Messrs. Sanders' group was the Lælio-Cattleya × Frederick Boyle, illustrated in the *Gardeners' Chronicle* last year, and which has much improved; and remarkable were Cypripedium × macrochilum, C. × macropterum, Oncidium sarcodes, the rare and handsome O. Forbesii Borwickianum; the singular salmon-coloured Coelogyne tomentosa; C. Dayana, Thunia Brymeriana, some fine forms of Odontoglossum crispum, and other Odontoglossums; Cattleya Schroderæ, and other fine Cattleyas, &c., and the singular Habenaria Bonatea (Botanical Certificate).

Messrs. W. L. Lewis & Co., Chase Side, Southgate, were awarded a Silver Flora Medal for a compact and well-arranged group, composed of really fine varieties, of most of the showy Orchids of the season, the forms of Lælia purpurata, Cattleya Mendeli, and C. Lawrenceana, being specially fine. An Award of Merit was given to Lycaste trifoliata, Lehmann, a pretty plant, allied to L. lanipes, and with white flowers, the sepals slightly tinged with green; a well-marked peculiarity is in the reflexed white petals, which arrange well with the fringed ivory-white lip. Messrs. Lewis also showed Odontoglossum Pescatorei Lewisii, Rolfe, a fine flower with a consistent triangular marking on the lip; Cirrhopetalum picturatum, Bifrenaria inodora, &c.

Messrs. Heath & Son, Cheltenham, staged a group of good varieties of Cattleya Schroderæ, some of the plants having over twenty flowers, and among them was C. S. alba. Messrs. Heath also showed Phalænopsis Aphrodite grandiflora, and a very beautifully-spotted form of Odontoglossum crispum, resembling O. c. Trianæi, but with larger and darker spots (the group received a Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, staged a group comprising Cymbidium Lowianum, a very dark-leaved Lælio-Cattleya Schilleriana, Dendrobium cariniferum, Odontoglossum excellens, and other good Odontoglossums; Cattleya Schilleriana, C. Mossiæ, C. Mendeli, &c. (Silver Banksian Medal).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., showed a group of Orchids, in which were excellent examples of Cypripedium Rothschildianum, C. exul, C. × vexillarium superbum, C. × Schroderæ, C. × grande, C. Chamberlainianum, C. callosum magnificum, Chysis bractescens, Trichocentrum tigrinum, Odontoglossum Alexandræ, O. Halli, O. triumphans, Miltonia Roezlii alba, Cattleya Schroderæ, Cymbidium Devonianum, Cœlogyne Massangeana, Dendrobium superbum, D. Wardianum, Leptotes bicolor, &c. (Silver Banksian Medal).

Thos. McMeekin, Esq., Falkland Park, South Norwood (gr., Mr. Alex. Wright), showed Odontoglossum Andersonianum, Falkland Park var., a very large and handsome form; and cut spikes of O. Halli, O. triumphans, and O. Wilckeanum.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, (gr., Mr. R. Johnson), showed Cattleya × Prince of Wales, a fine white hybrid which was first shown by Messrs. F. Sander & Co., at the Temple Show in 1891.

H. Grimsby, Esq., Harrow Weald House, Harrow Weald (gr., Mr. Rapley), showed a fine form of Cattleya citrina, which (as the species had never been Certificated), received a First-class Certificate.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. W. Murray), sent Odontoglossum triumphans, Oakwood var.; a good form with dark spotting.

Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), staged a small group of Orchids in which were six good forms of Cattleya Mendeli, C. M. var. Walkeriana being very richly coloured. Also Lycaste gigantea (Botanical Certificate), Dendrobium McCarthiæ, Odontoglossum Halli, and a spike of Vanda Amesiana, with twenty-flowers (Vote of Thanks).

Geo. Marshall, Esq., Claremont House, Grimsby (gr., Mr. Johnson), showed Odontoglossum Marshalli, a very pretty variation of the O. lanceanum, Rchb. f. group, and with cream-coloured flowers, spotted with violet. Also Odontoglossum haphicanthum, O. Andersonianum Victoriæ, a very fine variety; Dendrobium chrysotoxum, D. fimbriatum (Award of Merit), Cattleya Loddigesii, C. intermedia, &c. (Vote of Thanks).

W. M. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, showed a grand variety of Cattleya Schilleriana, two fine Odontoglossum Andersonianum, Cypripedium niveum, and Epidendrum atro-purpureum album.

Narcissi.

After an indifferent early promise, owing to the long frost, and, in many districts, drought also, these flowers are now in full force, and in quality above the average. It often happens that on the day of the chief Auricula show Daffodils are also at their best, and on Tuesday the display of both was a feature of the meeting. Of the trade exhibits of Narcissi it is scarcely necessary to say that the ample contribution of Messrs. Barr & Son was foremost. The flowers were clean and bright, though, we think, scarcely so large as we have sometimes seen them. That new and remarkably fine Trumpet Daffodil, Weardale Perfection, was noticeable even among the largest Ajax kinds, and was flanked by Glory of Leyden and Madame de Graaff. Messrs. Barr's table also contained a superabundant variety of the shorter-crowned forms, among which Princess Mary struck us as an unusually fine sample (Silver Flora Medal).

Mr. T. S. Ware had incorporated a considerable number of the choicer Narcissi in his great bank of hardy spring flowers (Silver Flora Medal).

The efforts of amateur fanciers of the Narcissus were stimulated by the competition for Mr. Barr's handsome Silver Cup, entries for which may be made, under certain restrictions, at any Royal Horticultural Society's meeting during the Daffodil season. The 1st prize fell, as usual, to the Rev. S. R. Bourne, who brought from Lincoln, in wonderful condition, 107 varieties. His vases of Madame de Graaff, Glory of Leyden, Duchess of Westminster, John Nelson, Queen Sophie, and others of the cream of the Daffodils in cultivation, were quite perfect in size and finish; Mr. J. T. Bennett Poë was 2nd, with a much smaller collection, in which the White Trumpet sorts were very good. Messrs. M. Cammell and W. J. Grant had a nice selection in their exhibits, which were 3rd and 4th respectively.

Of great interest was the Rev. G. H. Engleheart's stand of his own seedlings and hybrids, which drew constant attention throughout the day. A magnificent new Ajax, named Miss Willmott, must now undoubtedly head the list of all known Daffodils. It is 2½ inches across the widely-expanded, deep golden corona; the perianth-segments are pure white, broad, solid, and overlapping. The whole flower is extremely substantial. A collection of hybrids of N. triandrus was staged in pots; these are flowers of great beauty and refinement. Many of the seedlings showed a great advance in depth of red colouring, noticeably a bunch of the new incomparabilis, Dorothy Yorke, in the way of Lulworth, but with a more broadly open cup of glowing colour. A large gathering of Ajax Golden Bell was shown, and a great number of selected seedlings, accompanied by notes as to their parentage, &c. Mr. Engleheart's collection gained a Silver Banksian Medal.

National Auricula and Primula Society.

The extent of the display of Auriculas set forth in the Drill Hall came as a great surprise. That they were late in coming into bloom as a consequence of the severe winter will be readily understood; the fact that the plants were frozen hard for several weeks, and the frost being prolonged made the flowers late, and the probability of a good bloom uncertain. The Rev. F. D. Horner said that at Burton-in-Lonsdale snow was still upon the hills, and his plants were not yet in bloom. The southern growers, however, came up well; and Mr. Patterson, of Sunderland, was again to the fore, so the north was not without a representative.

Show Auriculas.

There were four exhibitors of twelve show varieties, Mr. T. E. Henwood, Reading, the Hon. Treasurer of the Society, taking the 1st prize with Green-edge Prince of Greens, having ten pips; the Rev. F. D. Horner, nine pips; Abbé Liszt, with eleven pips; and the new green-edge James Hannaford, decidedly inferior, having too much body colour, while the pips were large to coarseness; Green edges Lancashire Hero, George Rudd, and Richard Headley, very fine indeed, it being a late bloomer; White-edges Acme and John Simonite; selfs Mrs. Potts, Black Bess, and Heroine. Mr. A. J. Sanders, gr. to Viscountess Chewton, Brocham, a cultivator who bids fair to take a leading position as a grower and exhibitor, was 2nd; he had much the same varieties as the foregoing.

With six varieties, Mr. A. J. Sanders was 1st, having green-edge The Rev. F. D. Horner, grey-edges Geo. Lightbody

and Geo. Rudd, white-edge Acme, and selfs Heroine and Mrs. Potts. Mr. T. E. HENWOOD was 2nd.

There were several collections of four plants. Mr. J. SARGENT, Cobham, Surrey, was placed 1st, with very fine examples of Green-edge The Rev. F. D. Horner, Green-edge Rachel, White-edge Acme, self Heroine. Mr. C. PHILLIPS, Bracknell, Berks, was 2nd, having Mrs. Potts self, differing from the foregoing. There were nine pairs of Auriculas, Mr. SARGENT being again 1st with Grey-edge Lancashire Hero, and White-edge Rachel; Mr. SMITH was 2nd, with Green-edge The Rev. F. D. Horner, and self Mrs. Potts.

In the classes for single plants, many were staged, and the awards of the judges went as follows: Green-edges, 1st, Abbé Lizst, from Mr. J. DOUGLAS; 2nd Mr. A. J. SANDERS, with The Rev F. D. Horner. Grey-edges, 1st, Mr. COLLINS, with George Lightbody, very fine; 2nd, Mr. J. T. BENNETT-POË, with the same. White-edges, 1st, an unnamed exhibitor with Marmion; 2nd, Mr. J. DOUGLAS, with Acme.

With Selfs, Mr. J. DOUGLAS, gr. to Mrs. Whitbourn, Great Gearies, was 1st with Cherub, a good dark variety; 2nd, Mr. C. PHILLIPS, with Miss Barnett, a smooth and promising dark self.

Of collections of fifty Auriculas, there was the unusual number of five, Mr. J. DOUGLAS being placed 1st, with a general collection of show varieties containing a few yellow selfs, one in particular being full of promise; and such varieties as Dr. Hardy, Green-edge; Lancashire Hero, Acme, George Rudd, Mrs. Moore, Frank Simonite, &c. Mr. A. J. SANDERS was 2nd, also with a representative group.

ALPINE AURICULAS.

The Alpine varieties were also bright and pleasing, and being earlier to flower than the show types, were seen in their best form. With twelve varieties, Mr. C. PHILLIPS, Bracknell, was 1st, with seedlings of his own raising, the named ones being Little Gem, Mrs. Gorton, Dragon Fly, Mrs. Martin Smith, Clara Dot, Sophie, the others unnamed—but all highly refined; 2nd, Mr. J. DOUGLAS, with Dean Hole, very fine and bright; Miss Moore, Chastity, Novelty, and seedlings.

There were eleven collections of six varieties, and here Mr. J. DOUGLAS was placed 1st with Miss Moore, Miss Mollie, Charles Turner, Novelty, Dean Hole, and a seedling; 2nd, Mr. C. PHILLIPS with Evelyn Phillips, Dragon Fly, Bronze Queen, Pluto, Mrs. M. Smith, and a seedling. With four varieties, Mr. W. L. WALKER was 1st, having John Keen, Mrs. Lawrence, Freda, and John Lawrence—all his own seedlings and like those of Mr. Phillips, showing a good deal of refinement; 2nd, Mr. J. T. BENNETT-PÖE, with John Ball, Nellie Hibberd, Toujours Gai, and Edith.

The best specimen gold-centred Alpine was Dreadnought, from Mr. C. PHILLIPS, and he was 2nd with Evelyn Phillips. The best white centred alpine was Winnifred, from the Slough collection, a charming light flower, but apt to die off rapidly; 2nd, Mr. C. PHILLIPS, with Mrs. Burnett.

POLYANTHUS, GOLD-LACED.

The representatives of this type, shown on this occasion, seemed to indicate that no progress is being made in the work of improvement as far as the south is concerned, and the unnamed seedlings which constituted the bulk were poor in quality.

The best six came from Mr. WESTON, Balham; Mr. R. DEAN being 2nd. With three plants, Mr. J. DOUGLAS was 1st; and Mr. R. DEAN 2nd. In the class for one plant only no award was made. It may be added, that there is no lack of seedlings raised, the great difficulty appears to be to secure refinement and the presence of the properties which make up the standard of the florist.

FANCY POLYANTHUSES AND PRIMROSES.

These, as is usual, provided brilliant masses of colour, which are needed in order to impart some life to the somewhat sombre show Auriculas. There were several collections of twelve plants, Mr. R. DEAN being placed 1st, with very bright varieties of high quality; Mr. A. J. SANDERS was 2nd, with larger plants, but dull varieties.

With twelve pots of single Primroses, Mr. R. DEAN was again 1st, rich dark colours being predominant; Mr. J. DOUGLAS taking the 2nd prize. While the sum of 25*s.* is given as a 1st prize for four show Auriculas, only 20*s.* is offered as a 1st prize for twelve large pots of Fancy Polyanthus or Primroses, which are far more attractive and useful, and require ten times the space in which to stage them.

No double Primroses were shown in competition, but Mr. DOUGLAS had a few pots of the old double crimson, freely bloomed, and seldom seen in such good character.

Two baskets of Primroses were staged. Mr. J. DOUGLAS was placed 1st, and Mr. R. DEAN 2nd. It is perhaps to be regretted that the distinction made in the previous classes between Polyanthus and Primrose is not more strictly observed in this class.

SPECIES OF PRIMULAS.

Mr. J. DOUGLAS was the only exhibitor of twelve pans or pots of these, but the collection was a very good one, though the representative of P. Sieboldi var. laciniata was very poor; but the type is very late in flowering this season. Mr. Douglas also had japonica, obconica, verticillata (very fine), floribunda, Auricula denticulata, intermedia, Forbesii (very distinct, and in fine condition), mollis, decora, and rosea. The class for six did not bring an entry.

In the class for a group of species and varieties of Primula or Auricula tastefully arranged, Mr. J. DOUGLAS was again the only exhibitor, but the group was excellent. Set up in the form of natural rockwork, with pretty Auriculas, Double Primroses, &c., forming the foreground. This, and the charming arrangement set up by the Guildford Hardy Plant Nursery Company, should induce some who are interested in these plants to attempt their culture under such conditions.

SPECIAL PRIZES FOR NEW AURICULAS.

Most of the classes were represented, but as far as could be learned, awards were made only to the selfs. The Rev. F. D. HORNER, Burton-in-Lonsdale, was 1st, with Favourite, a superb flower, of a deep bluish-plum colour, fine tube and paste, the pit stout, and beautifully smooth. A 2nd prize was awarded to Mr. C. PHILLIPS for dark self Mrs. Barnett, having good tube und paste, edged with maroon. Favourite also gained Mr. WILLIAM SMITH'S Special Prize for a new seedling Show Auriculas—if an improvement on existing varieties. First-class Certificates of Merit were also awarded to these two, and to a very fine alpine raised and shown by Mr. C. PHILLIPS under the name of A. R. Brown's Golden Centre, with a black ground, shaded to bright pinkish-salmon.

Mr. J. J. Keen's special prize for four seedling show Auriculas brought an exhibit from Mr. J. DOUGLAS, who had Peri, white-edge, a promising variety, and a seedling grey-green and self, all three unnamed.

The premier Auricula was George Lightbody, grey-edge, shown by Mr. Collins, gr. to Mrs. KYRKE-PENSON, Denham, Ludlow.

In the way of miscellaneous contributions, Messrs. JAMES VEITCH & SONS, Chelsea, had several baskets of Mr. G. Wilson's strain of blue Primroses; Mr. Bain, gr. to Sir TREVOR LAWRENCE, Burford Lodge, bunches of Fancy Polyanthus and Primroses; Mr. J. T. BENNETT-POË had a pretty basket of plants of the same; and a basket of the old blue Polyanthus was staged by an exhibitor whose name was not stated.

Fruit Committee.

Present: T. F. Rivers, Esq., chairman; and Messrs. G. Reynolds, F. Q. Lane, H. Balderson, Geo. Wythes, J. Hudson, W. Farr, C. Herrin, A. Dean, J. Wright, Dr. R. Hogg, Geo. Bunyard, J. Cheal, and G. H. Sage.

Mr. GEO. WYTHES, gr. to Earl Percy, Syon House, Brentford, exhibited a nice dish of Sharpe's Victor Potatos, which had been produced in ten weeks from time of planting. Also a bundle of purple Seakale from the open ground, and some Foster's Seedling Grapes, each of which was culturally commended.

Mr. W. Farr, gr. to ANDREW PEARS, Esq., Spring Grove, Isleworth, obtained a First-class Certificate for his Tomato All the Year Round. It is a wonderful cropper, and had seven trusses of fruit, ripe and unripe, on a moderately-long stem. Each cluster contained eight or nine fruits, which are small and rather long in shape; colour red.

Messrs. B. S WILLIAMS & SON, Upper Holloway, London, N., exhibited a dish of a Seedling French Bean; and A. HENDERSON, Esq., Bascot Park, near Farningham (gr., Mr. W. Meads), had two very fine Countess Melons, beautifully coloured (Cultural Commendation).

Mr. A. J. SIMPSON, gr. to the Horticultural College, Swanley, Kent, had Strawberries Royal Sovereign and Sir Joseph Paxton (Cultural Commendation).

An interesting collection of Radishes came from Messrs. SUTTON & SONS, seed merchants, Reading. These were divided into forcing varieties and those fit for ordinary cultivation in the open ground.

Of forcing varieties, note may be taken of some very short-topped oval-shaped red and carmine-coloured Turnip-roots, and also two white-tipped red French and English varieties, about equal in point of size, Sutton's Crimson forcing Red. Their red forcing and white forcing also round-rooted with very small tops. A so-called Fern-leaved Turnip Radish was shown; it would look pretty if served at table with the leaves attached, as it is very dwarf. The Radishes for general cropping consisted of spindle and Turnip-rooted varieties, chiefly the latter. There were red, crimson, white, purple, and red with white lip, &c. The various forms showed what a careful seedsman can do who carefully selects and keeps his stocks true to kind. The firm showed a number of variegated Kales, such as are used for planting in the flower garden for winter and spring display, and whose leaves might, on occasion, find a use in table garnishing. Sutton's Favourite is a green, sprouting variety, which produces tender sprouts of 6 inches in length. It must be a hardy variety to be shown in such good form after the late winter. Their Hearting Kale is apparently a hardy variety, with compact crisp heads, which form hearts that are closer than Kales usually are. An Award of Merit was given for this last exhibit.

Messrs. B. S. WILLIAMS & SON, Upper Holloway, sent a plant and pods of a seedling Kidney Bean, described as excellent for forcing. The variety had no name, and it was resolved to send it to Chiswick for trial. The Apple Burfield was again shown by Mr. T. GOLDSMITH, Leonardslee, and a desire was expressed by the committee to test the cooking qualities of this apparently very useful and well-coloured variety.

Primula Conference.

In the afternoon a Conference on Primulas and Auriculas was held under the presidency of Professor MICHAEL FOSTER, Secretary, F.R.S., who in opening the proceedings remarked that the Conference had been arranged with a view to increasing the amount of pleasure to be obtained from the culture of Primulas. There were three ways of obtaining this result, (1) by procuring new plants from remote regions which had not yet been introduced, (2) by practising the most successful culture that could be adopted, (3) from assisting Nature by the hand of man in the matter of hybridisation.

Professor Foster confessed a love for the whole family, from the common Primrose to the most civilised Auricula, and expressed a hope that cultivators of one or a few species would not treat others contemptuously which appeared to be less attractive to their individual taste. In calling upon Mr. J. G. Baker, F.R.S. to deliver his address upon "New Primulas," the chairman very happily remarked upon the fact that among all Botanists, Mr. Baker was essentially a gardener's botanist, and as such was always most ready to impart information, which, from his great knowledge, was so frequently sought from him.

Mr. Baker's Lecture.

In commencing his address, Mr. BAKER said that the last conference on Primulas under the auspices of the Royal Horticultural Society was held in 1886, and the amount of work that had been done in that time in connection with the genus, and the number of new species which had been described, was marvellous. In Bentham and Hooker's *Genera Plantarum* there were only about 75 species, but the number known at the present day was about 150 species. Not only had the number of new introductions been large, but the species had been important ones, so that in many cases they represented entirely new groups, and the genus had necessarily been quite re-arranged. In the case of Primulas, groups had been based upon external characters such as the folding of the leaves, some of which were found to fold inwards, others outwards. This difference divided the genus into two great groups. Bracts were variable, and the corolla also. About ten years ago it was discovered that a great difference in regard to the structure of the stem was to be seen in the different species. In some as in the Auricula there were several "steles" or cylinders in the stem, whilst in the majority of species there was but one central cylinder of vascular tissue. Mr. Baker, however, did not attach much value to internal structure for purposes of classification.

In 1886 two thoroughly good works on Primulaceæ were issued in German. Dr. Pax, of Berlin, one of the rising school of Systematic Botany in Germany, published a monograph of the genus. Dr. Pax described twenty groups, all of which were good and natural sections, and especially important to cultivators from the fact that the culture of all the species in any one group would probably be identical. Included were 135 species, there was a key under each of the groups, and a list of synonyms, and the work was a thorough and careful review of the whole genus. Dr. Ditmarr, of Munich, treated more of the European species, and of the hybrids and their origin. These species were not more than 25 in number, and occurred only in three groups out of the twenty arranged by Dr. Pax. Mr. Baker then mentioned numerous periodicals in which the description of the newer species had been published.

The lecturer then commenced to review the groups according to Dr. Pax, and said that the 1st group, Sinensis, contained the well known P. sinensis, P. obconica, and P. cortusoides; 2nd group, Fallaces, including four known species, none of which are in cultivation; 3rd group, Monocarpeæ, the flowers of which are not very showy, and the plants entirely annual; 4th group, Floribundæ, of which P. verticillata is the type; 5th group, Petiolares, including three species; 6th group, Bullatæ, including four species, all from China, somewhat similar to the Primrose. The plants of this group produce umbels of bright-coloured flowers; they are interesting, and it would be well could they be introduced to this country; 7th group, Vernales, including the Primrose, Cowslip, &c.; 8th group, Soldanelloides, including eight species, three of which are in China, and the remainder in the West Himalayas. These were not likely to come into cultivation, they being too small and too delicate. 9th, 10th, and 11th groups, Auriculatæ, Capitatæ, and Farinosæ were well-known, and similar to each other. Each group is named after the type species. 12th group, Minutissimæ, including three new species from the West Himalayas, differing from others by having a stolon similar to that of the Strawberry, but the flowers are too small; 13th group, Tenellæ, including six species, also small; 14th group, Nivales, the type being P. nivalis, and including thirteen species, some of which might be good; 15th group, Barbatæ, type P. vinciflora, and including seven species. These would no doubt be very popular, and if introduced they may be relied upon to cause a "veritable sensation." 16th group, Macrocarpæ, type P. macrocarpa, includes seven species; 17th group, Callicinthæ, type P. obtusifolia, and ten other species. These are allied to the Auriculas, and if introduced would have a future before them, they would probably hybridise with the garden Auriculas. 18th group, Cortusoliæ type, comprising P. reticulata and five other species; 19th group, Proliferæ type, P. japonica and eight other species, all of which ought to be introduced as soon as possible; 20th group, Auricula type, P. Auricula. The number of known species in this group is constantly increasing, and they are numerous.

In conclusion, Mr. Baker said that there was a great future yet in regard to Primulas, and an immense amount of material yet to be obtained. In regard to cultivation, if he (Mr. Baker) had to deal with a species he had never seen before, he should, as a first step, adopt the method of culture generally given to known members of the same group.

Paper by Mr. H. Selfe Leonard.

Mr. SELFE LEONARD commenced his paper on "The Culture, Classification, Exhibition and Nomenclature of Primulas," by remarking that the European hardy alpine species were only seen under cultivation to a small extent. Auriculas were seen

more frequently, yet the Primula species required no protection and were very pretty. The group had never been "boomed" sufficiently to make them very popular, and while the majority of the species were of easy culture, there were a few of a reverse character, and these had greatly discredited the whole of them. The chaotic condition of the nomenclature of the genus had also largely told against their popularity. He would advise anyone who intended to commence the study and cultivation of these Primula species to learn first the typical species, and afterwards the subordinate ones. Again, Mr. Selfe Leonard thought that part of the apathy in respect to the species was the consequence of the unnatural way in which they were exhibited. Even the florists' varieties of Auriculas were not excepted from this remark; and in respect to the species themselves, Mr. Selfe Leonard said that the present method hardly admitted of any defence. The different classes of Primulas should be kept apart, and exhibited in classes by themselves, such as the following three:—1, greenhouse Primulas; 2, larger-habited and coarser species from outside, including such as P. japonica, &c., which, however beautiful they may be, associated ill with the greenhouse species, and less favourably still with the 3rd class, which should include the choicer and dwarfer species from high elevations and mountains. P. farinosa was the only species of this group found in England, and P. scotica the only one in Scotland.

The culture of the species, omitting a very few, was simple, and similar to that required by the Auricula, but requiring rather less rest in winter. The value of glass protection to them was that it served to protect them from oblivion, neglect, and wet. A good loam was best for nearly all of them; no peat was essential or desirable. Complete drainage and no stagnant moisture, however, were absolutely requisite. Full exposure in summer, and as much air as possible at all times, should be given. The lecturer remarked that the cooler part of northern Europe was better suited to their culture than the south. Though many of the species were natural to soil containing chalk and calcareous matter, Mr. Selfe Leonard had proved that the same plants grew very well in loam without any such ingredient. Further, if this was supplied to some of the species, no change was remarked; but in the case of others, the lime acted as an absolute poison. P. viscosa was so much injured by lime that the lecturer had to grow his plants in pots to escape that contained in the ordinary soil of his neighbourhood.

A very good dozen species or varieties for persons commencing a collection was P. Auricula, P. viscosa nivalis, P. rosea, the colour and habit of P. rosea grandiflora, and P. rosea splendens being unique. P. viscosa major, P. ciliata and P. ciliata purpurata, P. Balfouriana, P. Lindleyana, P. spectabilis, varieties P. calycina, a smooth-leaved specimen and P. marginata.

There was not much discussion, and Professor Foster, in proposing a Vote of Thanks to the lecturers, suggested that the Royal Horticultural Society might bring the list issued by the last Conference up to date. Mr. Baker, however, said that there remained practically little to do in regard to the botanical work of the genus. It was urgently desirable, however, that the books he had referred to should be translated into English.

The third paper by Mr. Jas. Douglas on the Garden Auriculas was taken as read, owing to the circumstance that Mr. Douglas found it impossible to be present at the Conference. All of the papers will be published at length in the Society's Journal.

ROYAL BOTANIC.

April 24.—On Wednesday last was held the second of the exhibitions arranged for the season by the Royal Botanic Society at Regent's Park. The exhibition or display was quite of average merit, though many of the collections having been staged at the Drill Hall on the previous day, appeared rather less fresh than they might have done.

Roses in pots were best exhibited by Messrs. Paul & Sons, Cheshunt; the 2nd collection from Messrs. Wm. Rumsey, Joyning's Nursery, Waltham Cross being rather past their best.

Herbaceous Plants were exhibited only by Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, but the collection was very meritorious, and the specimens were clean and fresh looking.

Greenhouse Azaleas were capital from Mr. Barrett, gr. to Mrs. Thornton, The Hoo, Sydenham Hill, and two of the specimens included were rather larger than have been lately shown. Mr. R. Scott, gr. to Miss Foster, The Holme, Regent's Park, was 2nd.

Hardy Primulas in a collection were good from Mr. Jas. Douglas.

Hippeastrums were well shown by Messrs. Paul & Son, Cheshunt, and by Mr. Douglas, who was 2nd.

Cinerarias were only shown by Mr. Jas. Douglas, and

Pelargoniums by Mr. C. Turner, Royal Nurseries, Slough, who had a very excellent collection, and extremely fresh looking.

Auriculas were best shown by Mr. Douglas, and Mr. C. Turner was 2nd, each collection possessed considerable merit.

Begonias, Single and Double, in a group, were only contributed by Mr. T. S. Ware, and this exhibitor staged a large and brilliant collection. We were most struck with an intense crimson single variety, named Murillo, but there were many good ones.

Imatophyllums, or Clivelas, as they ought to be scheduled, were shown only by Mr. R. Scott, gr. to Miss Foster, the plants were large but the variety poor. Spiræas (Astilbe) japonica were also from the same exhibitor.

Miscellaneous.—Among a fairly large quantity of non-competitive exhibits was one from Messrs. Hugh Low & Co., Clapton Nursery, London, N., consisting of an excellent group of hard-wooded greenhouse plants in flower, including Acacias, Genistas, Pimeleas, Ericas, Boronias, Epacris, Leptospermum heterophyllum and others, also Orchids, Cannas, and a few plants of the Mignonette, Bush Hill white.

Messrs. Jno. Laing & Sons, Forest Hill, London, S.E., also contributed an attractive group of plants, consisting of Caladiums, Palms, Bertolonias, Begonias single and double flowered Clivelas, and many other good things.

Mr. F. Cant, Colchester, Mr. Walker, Thame, Oxon, and Mr. W. Rumsey staged cut Roses.

Messrs. Jas. Veitch & Sons exhibited blue Primroses, a fine plant of Psychotria (Gionera) jasminiflora, and a few other things noticed at the Drill Hall meeting.

Mr. W. Barrett had a group of Mignonette in pots.

Messrs. J. Peed & Sons, Roupell Park Nursery, Norwood Road, London, S.E., had a group of miscellaneous plants, rather dull in appearance; and Mr. Perry, gr. to G. C. Tasker, Esq., Middleton Hall, Brentwood, a group of Roses and Azaleas.

Messrs. Paul & Sons exhibited Cannas, and Mr. R. Scott a group of Dielytras in pots.

Messrs. B. S. Williams & Son exhibited a group of Orchids and Hippeastrums, and Mr. W. Mease, gr. to A. Henderson, Esq., Faringdon, staged two excellent fruits of Melon The Countess.

Extensive exhibits of Narcissi and other hardy flowers were made by Messrs. P. Barr & Son, King Street, Covent Garden, and Mr. Thos. S. Ware.

NARCISSUS EXHIBITION AT THE BOTANIC GARDENS, BIRMINGHAM.

April 9, 10.—Fine as was the display of Daffodils held here about a week later, last year, it is eclipsed by the recent grand exhibition, which may safely be designated as the finest show of Daffodils ever brought together in the kingdom.

In the cut bloom section there was a strong contest between Messrs. Pearson & Sons, Chilwell, Notts, and the Rev. S. Eugène Bourne (the latter a new competitor here, we believe), Dunstan Vicarage, Lincoln, for the Society's Silver-gilt medal, for a collection of Daffodils exhibited respectively on 15 feet of table in five tiers—eventuating in an equal award, the chief distinction between the two collections being the fresher condition, and more perfect arrangement in Messrs. Pearson's collection, and the greater variety of, and choiceness of, Mr. Bourne's.

Notable in Messrs. Pearson's lot, mention may be made of Sir Watkin, Emperor, Mary Anderson (fine), Golden Spur, J. B. M. Camm, Katherine Spurrell, and a single bloom of the splendid new variety, Weardale Perfection; whilst the Dunstan complement was remarkable for such as the superb Lulworth (new), Captain Nelson, Gloria Mundi, Duchess of Westminster, Flora Wilson, C. J. Backhouse, Glory of Leyden (very beautiful), Madame de Graaff (splendid), Queen Sophia, and the new Mary Magdalene de Graaff. The 3rd prize, a Bronze Medal, was awarded to Mr. Wilson, South Cove, East Yorkshire, for a creditable lot.

For twelve distinct varieties in the Magni-coronati section, there was a strong competition for the five prizes in the order named: Rev. S. E. Bourne, Messrs. Pope & Sons, Birmingham, Rev. J. Jacob, Whitchurch, Salop, Mr. G. M. Crawford, and Mr. J. W. Wilson.

For six varieties, also a well-contested class: Mr. W. J. Grant, Newport, Salop, was 1st; the 2nd prize not awarded.

In the Nonsuch, Peerless or Chalice crowned section of 12 distinct varieties, the Rev. S. E. Bourne was awarded 1st prize for a beautiful display.

In the same class for six varieties, Mr. W. J. Grant, Messrs. Pope & Son, Rev. S. P. Haydon and Mr. G. M. Crawford stood in the order named with good flowers.

The Parvi-coronati or saucer-crowned section for six varieties was not strongly represented, the winners being the Rev. S. E. Bourne and the Rev. J. Jacobs as 1st and 2nd.

For four distinct varieties of double Daffodils, Mr. J. W. Wilson secured the 1st prize; Messrs. Pope, 2nd.

Narcissus in Pots.—In the section of six pots of Narcissus plants, there was but one exhibit, and the 2nd prize only was awarded to Mr. G. H. Kenrick (gr., Mr. G. Newall).

For three pots, Mr. J. A. Kenrick (gr., Mr. Cryer), and Mr. Lawley Parker, exhibited very good plants.

In the table decoration class, open to ladies, members of the Society, there was but one competitor, viz., Miss L. Ashby Bolton, and who exhibited much taste in an elegant arrangement of yellow and other shades of Daffodils, mixed with sprays of Asparagus plumosus.

In the honorary class of exhibits, the Silver Medal was awarded to Messrs. Barr & Sons for a splendid collection of Daffodils; and similar Medals to Messrs. Jas. Veitch & Son, of Chelsea, and Mr. T. S. Ware, of Tottenham.

Mr. R. Sydenham made an attractive display with a collection of Daffodils and a beautiful collection of Streptocarpus (the latter in pots), also cut flowers of the famous Uriah Pike Carnation, and for the whole of which a Silver Medal was awarded.

Crossbred Daffodils.—The Rev. G. H. Engleheart's collection of hybrid Daffodils formed a most interesting and attractive feature in the show, and his Narcissus "Ellen Willmott" deservedly gained the Silver Medal for the best flower in the show.

Miscellaneous.—Messrs. J. Veitch & Sons gained distinction for their attractive collection of Blue Primroses, and a fine pot of Alyssum saxatile citrinum, a special Certificate being awarded.

Messrs. Pope & Son exhibited an elegant "showy bouquet" composed of yellow Daffodils and varieties of the Asparagus procumbens. Mr. Kenrick (gr., Mr. Newell) being a good 2nd with a similar exhibit.

Messrs. De Graaff Bros., of Leyden, Holland, were represented by a nice collection of hardy Daffodils, including F. W. Moore and other fine seedlings.

A Cultural Certificate of Merit was awarded to Professor Hillhouse for a collection of Narcissi in pots.

Votes of Thanks to Messrs. Pope & Sons, for a collection of Japanese Maples; and to Mr. J. de Groot, of Noordwijk, Holland, for seedling Daffodils; also a like testimony to Mr. R. O. Backhouse, Sutton Court, near Hereford, for a group of seedling Daffodils.

EDINBURGH BOTANICAL.

April 11.—The monthly meeting of this society was held on the above date, at the offices, St. Andrew Square; Mr. Symington Grieve in the chair. After the reading of the report of the proceedings of the council, several exhibits were shown from the Royal Botanic Garden.

Mr. Burrage, B.A., exhibited part of a stem of Pandanus tenuifolius attacked by the fungus, Melanchonium Pandani, part of a fine specimen which had succumbed to the rapid spread of this fungus through its tissues. The different stages in the development of this fungus was fully described by Mr. Burrage; the first outward sign of decay upon the plant being the falling away of the crown of leaves. Prof. Balfour, remarked that probably the Royal Botanic Gardens, Edinburgh, was the latest locality in the kingdom in which this fungus had made its appearance, mentioning, at the same time, its previous appearance in the gardens at Kew and Glasnevin. Specimens of thick stems of Horse Chestnut, Yew, and Cedrus Deodara were shown by Dr. Smith, Ph.D, illustrating the formation of callus; in the first named, a distinct callus was visible, while in the latter two none had formed. Mr. J. Terras, B.Sc., gave some exhaustive notes on the Morphology of two genera of British Leguminosæ, viz., Melilotus and Astragalus. In Mr. R. Lindsay's report on the vegetation in the garden, he stated that the injury done to the various shrubs was now more apparent, and exceeded what was at first supposed, hardly any perceptible change in the development of the leaf-buds of the trees and shrubs being noticeable. Of the meteorological report, taken at the Royal Botanic Garden by Mr. A. D. Richardson, the following are a few extracts:—The mean of barometer-readings at 9 A.M. = 29·541, being 0·280 inch below the average of four previous years. Self-registering thermometers in screen, maximum, 55·1° on the 21st; minimum, 27·2° on the 3rd; the mean of month 41·4°, being 1·4° above the average for March for four previous years. Frost occurred on four days. Hygrometer, at 9 A.M., mean of dry bulb, 40·9°; mean of wet bulb, 39·6°. Maximum reading of radiation thermometers: in the sun, 101·3° on the 17th; minimum, on the grass, 21·0°, on the 3rd. Frost occurred on the grass on 19 days. Total amount of sunshine recorded was 53 hours 15 minutes, the highest reading occurring on the 17th, when 8 hours were recorded. Rainfall: rain fell on 21 days, the total fall being 2·295 inches; the greatest fall in 24 hours, 0·650 inch, on the 27th. Mr. R. L. Harrow gave his notes on Plants in the plant-houses, and exhibited specimens of the following: Shortia galacifolia, Crotalaria longerostrata, Cystacanthus turgida, the inflorescence of Astrocaryum Ayri, and Tillandsia pulchra. The chairman, in adjourning the meeting, announced the holding of the next meeting on May 9, the members meeting in the gardens.

FLORISTS' FLOWERS.

MALMAISON CARNATIONS.

I am sometimes asked the very reasonable question "whether it is better to propagate these by layers or by cuttings?" My answer to it is: "It is best to propagate them both ways." If good strong plants are to be obtained for flowering early next year, now is the time to put in cuttings. They should be taken off from a part of the plant where they cannot be easily layered. Many growths are produced a good way up the stem. These may be removed and planted in fine sandy soil, four or five of them in small 60-sized flower-pots. They form roots very freely in a frame with bottom heat, inside the forcing-house, or any house, even if it be not heated; what is essential is a little bottom heat and a close frame. As soon as they are rooted, remove them from the frame and inure them to the atmosphere of the house. Pot off each rooted slip singly into small

pots, and these, if rooted in May, produce really splendid plants by the end of the season. All the lower growths produced near the base of the plants should be layered into fine sandy soil in July. The plants are mostly in flower in June and July, the layers being usually far enough advanced to be put down before the ordinary border varieties are ready Exposure to hot sunshine under glass is injurious to Malmaisons. They like slight shade, even when not in flower. *J. Douglas.*

The Bulb Garden.

THE HIPPEASTRUM.

We have had a very fine lot of bloom from these showy hothouse flowers this season, but it is now nearly over, after two months continuous display from two small houses. I write a few notes at this time to warn cultivators not to withdraw their attention from the plants. When in flower they make a brave show in the greenhouse or conservatory, and we send plants in bloom to furnish the entrance hall, &c. They take no harm in a cool place for a few days, or as long as ten days, but when the bloom is over, the plant proceeds to make good its losses. The shrunken bulbs have to be plumped up to more than their previous size, and the flowers have to be formed in embryo. This they will not do in a greenhouse, or turned out of doors after the last week in May, as I once saw a collection.

The plants certainly do best in a tan-bed, with a bottom-heat of about 85° to 90°. We are, as I write these lines, replunging the pots in which the plants are growing well over the rims. The roots push up into the tan and over the rims, until the tan-bed is quite filled with them. The leaves must be kept healthy and clean until they die naturally, and the house must be lightly shaded until growth has been fully developed, when they may be gradually exposed to the sun, but not until after the middle of August. I find, if anything happens to the leaves, so that they die off before their time, not above half of the plants will flower next season. The formation of the embryo flowers must take place in August—at least, I believe it does; consequently, let us be careful that the plants are well-attended to at that time.

Some young gardeners may say "How can you tell when the plants require water, if the flower-pots are covered up out of sight?" This is a very reasonable question, and it is easily answered. The moist tan prevents any evaporation, and very soon the roots push out of the potting soil, so that the plant is almost independent of it. Nevertheless, it is as well that the soil in the pots does not become over dry, although it is better to err on the dry side. As to the routine of watering, the tan-bed is watered once a week, and if any plants are unusually vigorous, and it is known that they are not overpotted, such plants may be occasionally examined to see what is the state of the roots, and if they need an extra watering they get it, between the times of the general watering. The parasites which attack the leaves and the crown of the bulbs, are mealy-bug and thrips. The bug is at work all the year round, whether the plants are dormant or in full growth. In winter it works under the skin of the bulbs, doing much damage. As the season advances, if it is not checked it works upwards, and its effect is to cause the lower part of the leaves to become yellowish. This stops the upward flow of sap, and the leaves die before their time. When this pest once gets on to any plants, it must be removed, and the only chance to be successful is to hunt it up until not a trace remains. My plan is to appoint one day in the week for such work as this, say Friday; one man has orders to look over the plants every Friday for this insect, and very soon the plants will be clean but if no day is mentioned, the pressure of other work causes the day to be put off, and soon it is forgotten. It cannot stand the effects of tobacco-powder; this, if applied to the crown of the bulbs kills it; but the powder cannot reach the insects unless the skin is removed, and this must be done without injuring the fleshy part of the bulbs with the finger-nail.

Thrips are very difficult to kill. Tobacco-smoke usually settles them, but in this case they drop down into the tan, and most of them seem to escape for the leaves swarm with them again in a day or two; so that two or three fumigations are necessary. Those who have good varieties, and wish to increase them, should raise seedlings. No flower is more easily cross-fertilised, and seed is abundantly produced. As soon as it ripens, about June or July, let it be sown in any forcing-house in bottom-heat. The seeds soon vegetate, and the young plants, if pricked out a dozen or so in a 6-inch pot, will make good growth by the end of the season. *J. Douglas.*

Nursery Notes.

CINERARIAS AT FARNHAM ROYAL.

Whilst the winter furnishes a fine show of Chinese Primulas and Cyclamens in the long and admirable span-houses which Mr. James has at this outlying Bucks village, in the early spring Cinerarias are full of beauty, making remarkably attractive features and the Calceolarias follow in natural order in May. The great feature of these four respective florists' flowers is, that they are always of the very best. Not only is there no deterioration, but there is ever advance, though it must of necessity be but slow. Still, the true florist finds advance where the untrained onlooker sees only the same things. Just now the Primulas make a brave show of seed-pods. It is appalling to learn that the stock includes some twenty-two diverse grown single and semi-double of various colours. Seed of these flowers is invariably sown in the month of May. Cyclamens, too, are nearly all in a seeding stage. A big batch of the blood-crimson and maroon-crimson forms; they give wonderfully rich colour, and the flowers are of the very finest. The giant whites and roses, Persicums with coloured bases, Pinks, &c., are carrying heavy crops of seed, but there are flowers enough on old plants, as well as young ones, to show the splendid quality of the strains. As for Cinerarias in such vast quantities they make a marvellous show, especially when, as now, the seeding process has commenced, they are arranged in blocks of colours. Dwarf habit and compactness are most marked features of the strain, for the plants are in full bloom at heights ranging from 6 to 12 inches, and all in 7-inch or large 32's. The rule is to make sowings in July and August, thus by having plenty of seedlings making sure. Very cool treatment is the rule; enough fire-heat to keep out frost is given; but when dispensed with, the plants are kept very cool, and in the daytime have ample air. It is this cool treatment which so largely constitutes the secret of the remarkable dwarfness of the plants, and the fine forms found in the large blooms. Too much heat to force into bloom early in the winter, the common practice with gardeners, conduces to gross leafage always, an undesirable element, and to very often demoralised flowers. Those who wish to have Cineraria blooms of the finer form and quality, should neither employ too rich compost, which invariably creates coarse leafage, always obtained at the expense of bloom; or too much heat, which compels the plants to draw up unduly. Just now, blocks of colours comprise pure white, pale blue tips, heavy blue tips, blue selfs, magenta selfs, magenta tips, heavy red and crimson tips, red and crimson selfs, purple ditto, and purple tips. One house full of blues is indeed a mass of colour. Of other hues, perhaps the most attractive is the heavy-tipped reds, for these are exceedingly bright and effective. The huge blooms, broad petals, and fine form of flowers, characterise the strain in every case. The plants are also very clean throughout, though just recently much of the larger leafage has been removed to check damping, and also enable more strength to be thrown into seed-production. Not less clean, and as all know, most difficult of plants in pots to keep clean, are the large number of Calceolarias. These comprise many old plants in 10-inch pots, that promise to make a splendid show at the Temple on May 22; and far more of others in 7-inch pots. Remarkable is it to notice how comparatively dry they are kept, but the grower is very chary of the use of water, almost preferring to let the plants flag a little first; or, to use his words, "letting them ask for it." Seed is sown from the middle to the end of July. Mr. James speaks enthusiastically of the new fumigator, XL, as the finest and most innocuous instrument of aphis destruction on herbaceous Calceolarias he has ever used. *A. D.*

Obituary.

Mr. Andrew Ker.—We regret to announce the death on Sunday, April 14, of Mr. A. Ker, nursery manager to Messrs. Stuart & Mein, of Kelso, N.B., at the age of sixty years. The deceased was a native of Kelso, and served his apprenticeship as a gardener with Messrs. Stuart & Mein. He afterwards was gardener at several places in the border district and other parts of Scotland, and for seven years was manager of the winter garden at Messrs. Downie, Laird & Sons, Edinburgh. About twenty years ago he returned to Kelso as nursery manager to Messrs. Stuart & Mein. He was a well-read and intelligent man, and a frequent contributor of articles on horticultural subjects in the local newspapers and in the now non-existent *Gardener*.

The Weather.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 20.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1895.	Accumulated. Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1895.	Rainfall. Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	41	13	— 39	+ 305	5 —	73	12·5	48	28
1	1 —	39	21	— 89	+ 435	4 —	57	7·1	42	30
2	0 aver	35	13	— 43	+ 299	3 —	63	7·8	33	29
3	1 +	51	11	— 41	+ 306	3 —	59	6·1	44	33
4	2 +	56	11	— 64	+ 393	1 —	50	6·1	50	29
5	2 +	51	3	— 98	+ 342	2 —	47	5·4	51	30
6	2 +	49	10	— 64	+ 382	4 —	60	8·0	45	28
7	1 +	47	8	— 69	+ 322	1 —	55	7·6	49	29
8	2 +	47	3	— 105	+ 345	2 —	53	9·0	43	36
9	2 +	49	4	— 106	+ 285	2 —	68	8·7	42	28
10	1 +	47	0	— 146	+ 202	1 —	57	10·4	39	30
*	0 aver	45	0	— 137	+ 248	0 aver	64	8·2	43	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending April 20, is furnished from the Meteorological Office:—

"The *weather* during this period was generally fine and bright, but during the latter part of the week some slight falls of rain were experienced in most districts, and a considerable fall in the south and west of Ireland.

"The *temperature* was a little above the mean over the Kingdom as a whole, but was rather below it in 'Scotland, E.,' and just equal to it in 'England, N.E. and the Channel Islands.' The highest of the maxima occurred during the latter half of the week, when the thermometer rose to between 61° and 66° in 'Scotland,' to between 62° and 68° over 'Ireland,' and to between 63° and 67° over 'England.' The lowest of the minima were recorded during the earlier days of the period, and ranged from 25° in 'Scotland, E.,' and 27° in 'Scotland, W. and over central and eastern England,' to 36° in 'Ireland, S.,' and to 4[illegible]° in the 'Channel Islands.'

"The *rainfall* just equalled the mean in the 'Channel Islands,' but was less in all other parts of the Kingdom, the fall being especially slight in the northern and eastern districts.

"The *bright sunshine* exceeded the mean in all districts, excepting 'Ireland, S.' The percentage of the possible duration ranged from 51 in 'England, S.' 50 in the 'Midland Counties,' and 49 in 'England, N.W.,' to 59 in 'Ireland, S.,' and to 33 in 'England, N.E.'"

MARKETS.

COVENT GARDEN, *April* 25.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per dozen blooms	3 0	4 0	Narcissus, Pheasant-eyed, 12 bun.	5 0	6 0
Azaleas, per dozen sprays	0 6	1 0	— Paper-white, p. 12 bun. ...	8 0	10 0
Bouvardias, p. bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	1 6	3 0	Cattleya, 12 blms.	6 0	12 0
Daffodils, double, dozen bunches ...	2 0	3 0	Odontoglossum crispum, 12 blm.	3 0	6 0
— single, doz. bun.	3 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
Eucharis, per dozen	4 0	6 0	Roses, Tea, per doz.	1 0	2 0
Gardenias, per doz.	3 0	4 0	— coloured, p. dz.	2 0	4 0
Hyacinths (Roman), doz. sprays ...	0 10	1 0	— yellow (Maréchals), per dozen	6 0	9 0
Lapageria, 12 blms.	1 0	2 0	— red, per dozen	6 0	8 0
Lilac (French), per bunch	4 0	5 0	— (French), red, per dozen... ...	1 6	2 6
Lilies of the Valley, doz. sprays ...	1 0	2 0	— (French), yellow, per dozen ...	1 0	2 0
Lilium Harrisii, per dozen	4 0	6 0	Snowdrops, 12 bun.	1 0	1 6
Maidenhair Fern, per 12 bunches ...	6 0	9 0	Stephanotis, dozen sprays	6 0	9 0
Marguerites, 12 bun.	1 0	3 0	Tuberoses, 12 blms.	0 4	0 6
Mignonette, 12 bun.	2 0	4 0	Violets, Parma (French), p. bch.	2 6	3 6
Mimosa (French), per bunch ...	0 9	1 0	— Czar (French), per bunch ...	1 9	2 0
Pelargoniums, scarlet, per 12 bunches	8 0	12 0	— doz. bunches	2 6	3 0
— 12 sprays ...	0 8	1 0	— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, various, doz.	5 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	Foliage plants, doz.	9 0	24 0
Azaleas, per doz. ...	30 0	48 0	Fuchsias, per doz. ..	9 0	12 0
Cinerarias, per doz.	8 0	12 0	Genistas, per doz.	9 0	12 0
Cyperus, per dozen	4 0	10 0	Heliotrope, per doz.	9 0	12 0
Dracæna, each ...	1 0	7 6	Hyacinths, per doz.	9 0	12 0
Erica hyemalis, dz.	12 0	18 0	Marguerites, p. doz.	6 0	12 0
— various, doz.	9 0	12 0	Mignonette, p. doz.	0 0	6 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0	Palms, various, ea.	2 0	10 0
			— specimens, ea.	10 6	84 0
Ferns, small, doz....	4 0	12 0	Primulas, per dozen	4 0	6 0
			Spiræas, per doz. ...	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cobs, per 100 lb. ...	18 0	20 0	Peaches, per dozen.	12 0	24 0
Figs, per dozen ...	6 0	8 0	Pine-apples, St. Michael, each ...	2 0	6 0
Grapes, 1st quality, black, English, per lb.	4 0	5 0	Strawberries, morning gathered, lb.	3 0	4 0
Melons, each	3 0	4 0	,, ,, 2nds., lb.	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 heads	2 0	2 6	Onions, per bushel	2 0	2 6
Beans, per lb. ...	9	—	Potatos, Channel Islands, per lb. ...	0 6	0 7
Cauliflowers, p. doz.	1 0	—	Seakale, p. punnet	0 9	—
Cucumbers, per doz.	3 0	4 0	Tomatos, Canary Islands, per lb. ...	0 3	0 6
Mint, per doz. bun.	6 0	9 0	— Home-grown, lb.	1 0	1 3
Mushrooms, per lb.	0 6	0 8			

POTATOS.

Markets quiet. Prices about same as last reported.

NEW POTATOS.

Demand fairly brisk, at advanced prices. *J. B. Thomas.*

SEEDS.

LONDON: *April* 24.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a brisk sowing demand for Clover and grass seeds. Quotations generally continue at the moderate level which proves so acceptable to buyers. Meantime, stocks all round are far from excessive. English Sanfoin is dearer, but French samples are exceedingly cheap. For spring Tares of good quality low rates obtain. There is a continued scarcity of Haricot Beans. Blue Peas show no change. Birdseeds for the moment attract but little interest. Scarlet Runners move off freely. Mangel seeds are offering on most reasonable terms. Rapeseed is firm. Mustard without alteration.

FRUITS AND VEGETABLES.

BOROUGH: *April* 23.—Quotations:—Cauliflowers, 1*s.* per dozen; Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 2*s.* to 2*s.* 6*d.*; Parsnips, 2*s.* 6*d.* to 3*s.*; Turnip-tops, 1*s.*; Sprouting Broccoli, 2*s.* to 2*s.* 6*d.* per bag; Rhubarb, 1*s.* 6*d.* to 1*s.* 9*d.* per dozen bundles; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Onions, English, 4*s.* to 5*s.* 6*d.* per cwt.; Apples, 3*s.* to 9*s.* per bushel; do. Canadian, 12*s.* to 18*s.* per barrel.

STRATFORD: *April* 23.—There has been a good supply of all kinds of produce at this market during the past week, and with a large attendance of buyers a brisk trade was done as under:—Cabbages, 2*s.* 6*d.* to 3*s.* per bag; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; do., 7*s.* 6*d.* to 8*s.* per tally; Cucumbers, 1*s.* 6*d.* to 3*s.* per dozen; Rhubarb, 2*s.* to 2*s.* 6*d.* per dozen; Salad, 1*s.* 6*d.* per dozen; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; do., 20*s.* to 30*s.* per ton; Carrots, household, 24*s.* to 28*s.* do.; do., Cattle-feeding, 14*s.* do.; Parsnips, 4*d.* to 6*d.* per score; Mangolds, 12*s.* to 15*s.* per ton; Onions, English, 70*s.* to 90*s.* do.; do., Egyptian, 4*s.* 6*d.* to 5*s.* per bag; Apples, English, 3*s.* 6*d.* to 4*s.* 6*d.* per bushel.

FARRINGDON: *April* 25.—Quotations: Broccoli, 1*s.* 6*d.* to 2*s.* per bushel; Greens, 2*s.* to 2*s.* 6*d.* do.; Turnip-tops, 2*s.* to 2*s.* 6*d.* per bag; Rhubarb, 2*s.* to 2*s.* 6*d.* per dozen bundles; Onions, Lisbon Spring, 3*s.* to 4*s.* per dozen; Asparagus, 9*d.* to 1*s.* and 2*s.* 6*d.* per bundle; Leeks, 2*d.* per bunch; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Mint, 10*d.* per bunch; Cucumbers, 3*s.* per dozen; Parsley, 6*s.* per dozen bunches; Apples, Canadian, 15*s.* to 20*s.* per tub; Pears, Californian, 6*s.* to 12*s.* per case.

TRADE NOTICE.

MR. A. J. KEELING has been engaged by Messrs. John Cowan & Co., Limited, to represent them in their Orchid Department. For the past two years Mr. Keeling has been with Messrs. Charlesworth & Co. of Bradford; and previous to that time he was Head Gardener to W. O. Drewett, Esq., of Riding Mill-on-Tyne.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

AURICULA: *Neve Bros.* Nothing unusual.

BIGNONIA VENUSTA: *J. S.* Yes.

CARNATIONS: *R. T. W.* Your plants are badly affected with rust (Helminthosporium echinulatum). Burn all the affected leaves, and wash the others with a weak solution of Gishurst Compound.

CUCUMBERS: *Vitis.* These plants should have had the point pinched out of the stem as soon as it had reached the trellis. If you first let the stem run to the top of the house before stopping it, there will be a difficulty experienced in covering the trellis with fruit-bearing bine. They want a rich soil, but not much at a time. By stopping the stem and main branches, the excess of vigour will be lessened. If the Cucumber plants are grown in close pits and houses with much heat and moisture, no shade is needed; but under lesser conditions of heat and moisture, shade is wanted during the hottest hours. The older leaves of the plant should be cut off a few at a time; also weak shoots, and those likely to cause crowding, doing this twice a week. If great numbers of male blossoms show, nip these off likewise. When the hills or beds are filled with roots, the Cucumber plant will take water twice a week, and in very hot weather oftener than that. Syringe the plants afternoon and morning, at 3 P.M. and 7 A.M., i.e., at closing time and about two hours before affording air generally.

HARDY PALMS: *E., Bitton.* If much injured, and forming an eyesore in the place, it would be advisable to dig them up, if not too large, and tub them. Then trim off the damaged leaves, water the soil a few days afterwards, and place them in a forcing-house or warm greenhouse for two months. At the end of that time the plants, if they have made new leaves, may be stood in a greenhouse for a week, and then be transferred to some warm spot out-of-doors. We should not care to place such plants in the ground again before 1896, for the leaves, having been made late, would not be sufficiently matured when growth is arrested to stand much frost. If you decide to let them remain where they are, there are two courses: either to scrape away the old soil down to the roots and top-dress with some rich sandy loam, or to take out a 2-feet wide trench all round the mass of earth containing the roots, but not touching these, going to a depth of 2½ feet, and to put in a lot of fermenting materials—say, two-thirds Oak and Beech leaves, and one-third stable litter, or partly-spent tanner's bark would answer as well. The leaves and litter must be well compacted by treading it. The soil can be returned over this lining. Early growth should result from this method of applying bottom-heat; but as this will not mature thoroughly, some amount of protection may be desirable the first winter afterwards. The lining should be removed before winter. Cutting the plants to the ground need only be resorted to if the entire plant above the ground-level is dead.

HYACINTHS: *W. J. W.* We do not find any maggots. We have often seen the same appearances, which are due to the fact that the flower-stalk grows faster than the bulb-scales. The scales do not separate to allow of the easy passage of the flower-stalk, and by the pressure they exert, actually nip off the flowers, as in your specimens.

INSECTS DEVOURING VINE FOLIAGE AND FERN FRONDS: *J. Sinclair.* The Vine-weevil, Otiorhynchus sulcatus; see answers to "Aloa" and "F. A. W. R." in last week's issue of the *Gardeners' Chronicle*, and others in numerous earlier issues.

INSECTS: *B. Luck.* Wireworms are not perfect insects, and therefore are without any means of reproduction. All of them are the larvæ of several species of Elater (Click beetle), but they remain in the caterpillar state for three or four, or even five years.

LAPLAND KALE: *H. I. G.* This is probably synonymous with Labrador, Ragged Jack, Cottagers', or some other very hardy variety of Borecole. The "return post card" was without your address.

"M.S.A.": *J. W. W.* We regret that an answer to your question has been so long delayed. We do not know what the letters imply, as the Society of Arts does not encourage its members to use any such initials. The objects of the Society are the promotion of art, science, and commerce generally, and a liberal interpretation is given, even to that wide definition. It is bad taste to use any such initials for commercial purposes only, and some of the societies do what they can to discourage the practice. There is no special honour in belonging to a society, entrance to which is obtained by payment only. The custom of using initials used to be confined to members of societies or colleges who obtained admission by examination, or, as in the case of the Royal Society, by selection. The general public, however, thinks one set of letters as good as another, and so the evil has grown; but it is rather unfair to those who have earned their distinctions by work and intelligence, not by mere payment of subscriptions.

NAMES OF PLANTS: *Tulip.* We cannot undertake to name florists' flowers. Send them to some specialist.—*J. C. S.* Marchantia polymorpha. We cannot name the Moss without fruit.—*W. J. P.* Forsythia suspensa.—*J. S.* Dendrobium aggregatum.—*T. V.* One of the many forms of Phaius Blumei var. assamicus.—*G. F. M.* Dendrobium × Ainsworthii, Cypher's variety.—*R. M., Lytham.* Epidendrum pallidiflorum. Your variety of Dendrobium nobile is very close to D. n. nobilius.—*W. E. B.* 1 and 2, varieties of Bifrenaria Harrisoniæ, more commonly known in gardens as Lycaste Harrisoniæ; 3, Bletia Shepherdi; 4,

Oncidium Wentworthianum.—*F. G. S., Durham.* A very pretty variety of Odontoglossum triumphans.—*N. C.* 1, Azalea, some old variety; 2, Dendrobium fimbriatum; 3, Dendrobium fimbriatum oculatum; 4, Dendrobium Hildebrandi; 5. Begonia metallica.—*Orchid Grower in the North.* Brassavola Perrini.—*E. W.* 1, Adiantum elegans; 2, A. formosum; 3, Fittonia Pearcei; 4, Oplismenus undulatifolius variegatus, generally known in gardens as Panicum varigatum; 5, Pellionea pulchra; 6, Pilea muscosa (Artillery-plant).—*A. G.* 1, Spiræa prunifolia, doubtful; 2, Forsythia suspensa; 3, Berberis empetrifolia; 4, Pernettya mucronata.—*J. S.* Rhododendron dauricum.

Pelargoniums, &c.: *W. S.* Your plants have not thrown out aërial roots as you suppose, but they are badly overrun with the "lesser Dodder," Cuscuta epithymum. Burn every affected plant, or you will have much trouble with all kinds of plants, indoors and out.

Polyanthus Hose in Hose Growing Wild: *Polyanthus Bangor.* The plant is probably an escape from a garden. We never saw or heard of a Polyanthus plant that was 2 feet high, so that the one you have discovered is a giant of its kind.

Roses: *Mrs. H.* We cannot undertake to name varieties of Roses. Send to some nurseryman who grows these plants largely.

Second-hand Army Tent: *D. W. B.* We cannot direct you to a dealer in this kind of article. Why not advertise your requirements?

Tomatos: *Vitis.* It is by no means necessary in getting a crop of fruit from a Tomato plant to reduce it to the bare condition of a mop-stick; but the exigencies of the market cultivator demand it, because he is anxious to have a quantity of large-sized fruits on certain days of the week ready for market, and these he could not obtain in this climate—say, from a fan-trained plant of 6 feet across and 5 feet high. Hence, he grows a great number of plants stops the side shoots at the first leaf, obtaining all his fruits from the one stem, instead of several, which the plant naturally would make. Do not favour plants with two leaders unless the space at command will allow of it being done without crowding them or other plants. The one shoot at top that is reserved may be allowed to progress rapidly till—say, 5 to 6 feet of stem has been reached, when by frequently pinching out the leading point its onward growth is checked, which has the advantage of directing the sap into the leaves and fruits. If much fruit sets or is retained, there should be foliage retained in due proportion. Leaves are only to be cut in half when there are too many, or there is crowding of the foliage. You can afford too much water, and, as a general rule, they get too much. It is safer to err on the side of dryness than the opposite. Do not have much to do with artificial fertilisers before there is a good show of fruit as large as a Walnut, or even bigger, unless the soil is of poor quality, and not much of it. Too much soil is as dangerous as too much water, and richness adds to this.

Vine: *A Constant Reader.* No fruit having shown on this year's wood, there will be no crop; and cutting the shoots back is useless. Buy a manual on the Vine, and study it.

Vine-leaf: *J. S.* The hairs are natural productions; the small warts indicate a too close atmosphere. Give more air.—*H. W. S.* There are signs of a fungus attack, but it is yet early to say what species is causing the mischief. Send specimens when the fungus is more developed.

Young Vines Planted in March: *F. B.* We surmise that you have been employing much top heat too soon after planting; late-planted Vines should not be hurried into growth. Probably they have not pushed roots into the soil, hence the flagging noticed. Keep the vinery by day at 55°, and at night let the warmth descend 10°. At the end of May or June, if on examination new roots have pushed into the soil, you may afford them more heat, and that chiefly by day.

Communications Received.—W. Ponton.—E. H. J.—H. J. H.—J. Cowan.—Royal Botanic Society.—G. B.—W. W.—B. M.—P. B.—A. C. F.—J. J. W.—H. W. W.—G. W.—A. P.—T. Christy & Co.—W. S.—W. H. C.—J. S.—W. M.—D. T. F.—R. D.—R. A. R.—J. W. M.—N. E. Br.—J. S.—W. G.—Our American Correspondent.—H. de V., Paris.—C. B. C.—De Graaf Bros., Leyden.—G. H. E.—W. R.—E. B.—W. J. W.—Q. B.—G. Fulford.—R. & W. Wilson.

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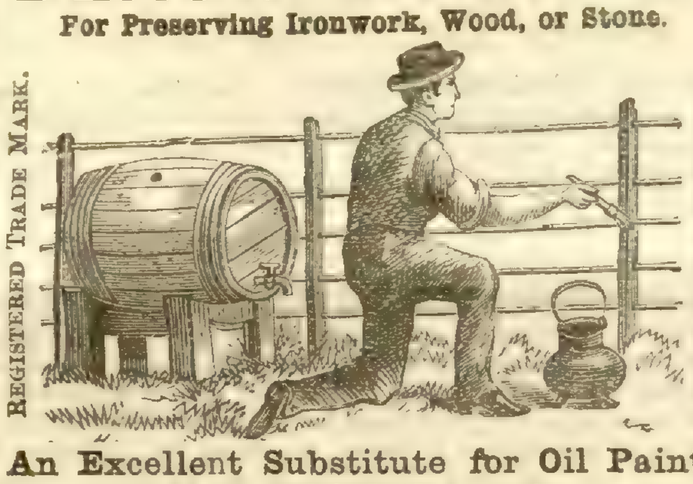

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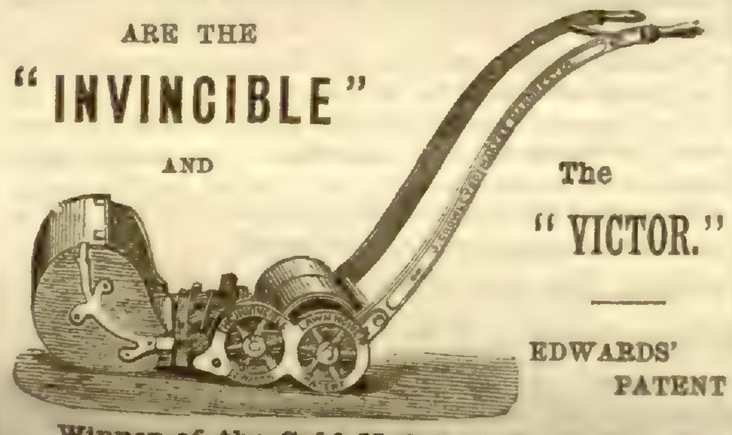

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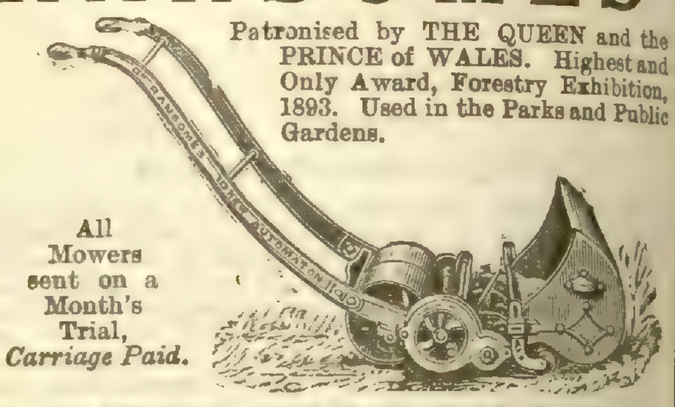

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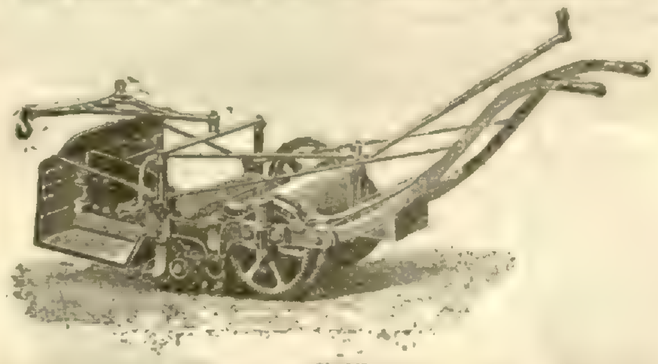

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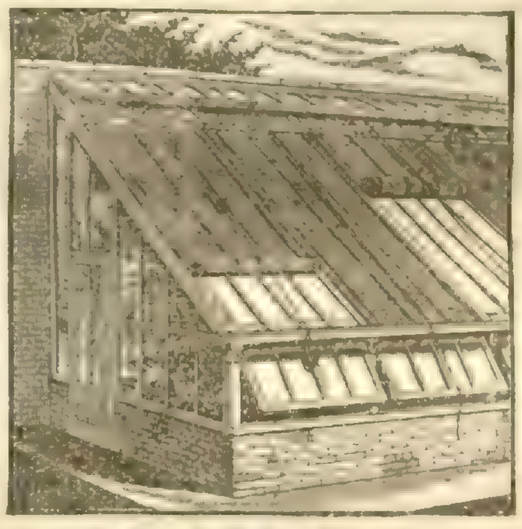

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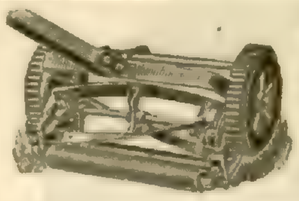

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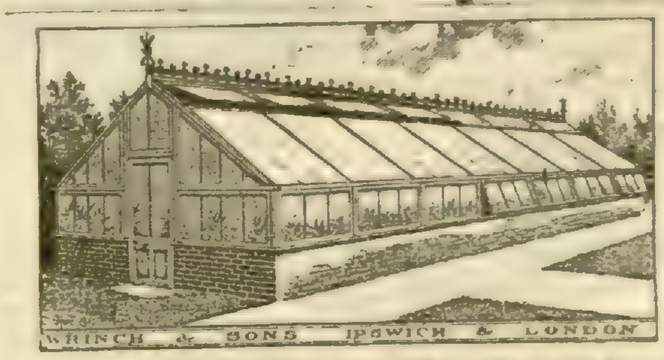

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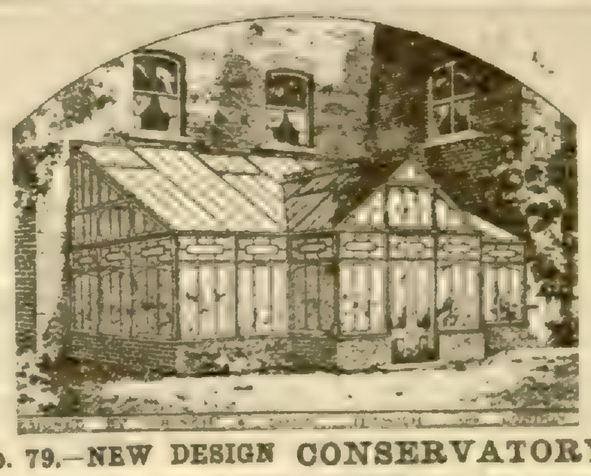

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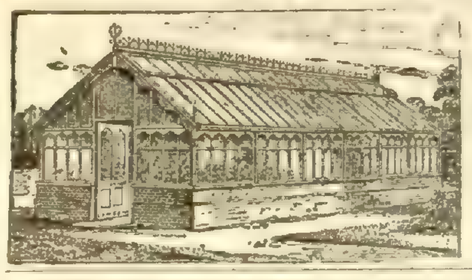

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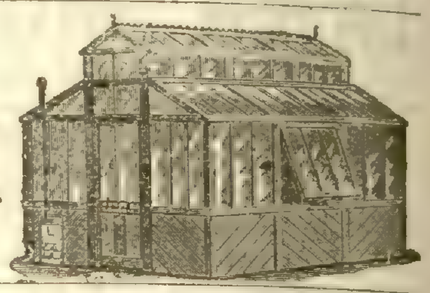

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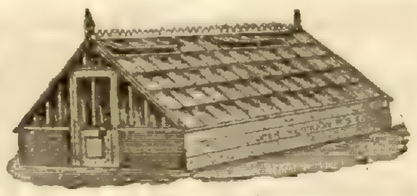

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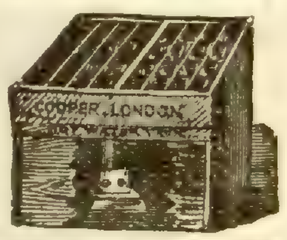

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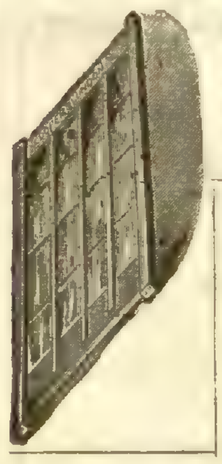
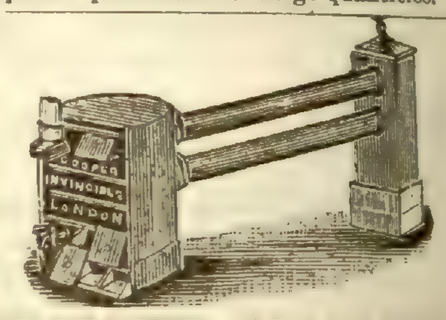




Invincible HOT-WATER APPARATUS.

Most efficient and cheapest in existence.

Cost of Complete Apparatus for Greenhouse, with 4-in. flow and return pipes along one side.

7ft. by 5ft., £2 15s.; 9ft. by 6ft., £3; 12ft. by 8ft., £3 5s.; 15ft. by 10ft., £4 10s.; 20ft. by 10ft., £5 5s.; 25ft. by 10ft., £6 5s.

POULTRY HOUSES.

Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20/-.

5ft. by 4ft.	20/-
6ft. by 4ft.	24/-
7ft. by 5ft.	27/-
9ft. by 6ft.	32/-

GLASS. — GLASS. — GLASS.

EVERY SIZE IN STOCK.

4ths ...	15oz., 200ft., 14/-	...	21oz., 200ft., 20/-
3rds ...	,, ,, 15/-	...	,, ,, 21/-

Large Sizes for cutting up.

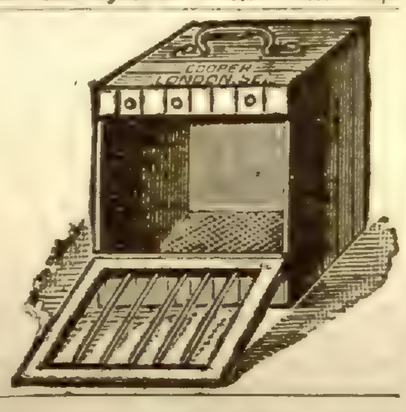
15oz., per case, 300ft., 20/- ... 21oz., per case, 200ft., 20/-

DOVE or PIGEON COTE for WALL.

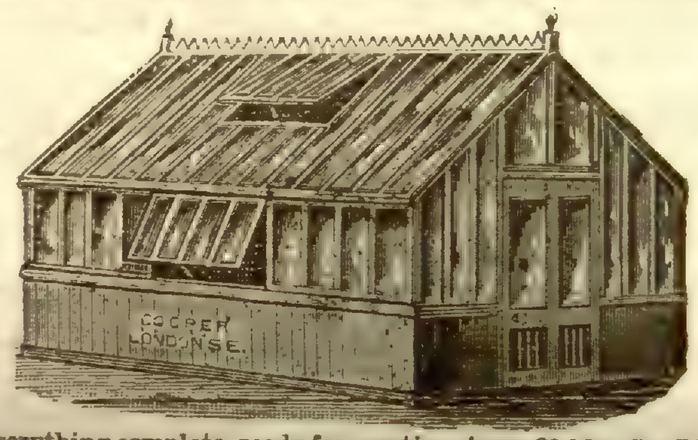
With 5 Holes ...	22/6
,, 7 ,, ...	27/6

NEST BOXES.

Nest box	2/9
,, ...	16/-
12 ,, ...	30/-

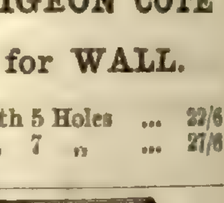


AMATEUR SPAN-ROOF GREENHOUSE.



Everything complete, ready for erecting, from £2 16s. See List.

DOVE or PIGEON COTE
(ON POLE).
For 8 pairs of Birds, £1 15s.



THREE-TIER PIGEON or DOVE COTE. £2.

IRON BUILDINGS

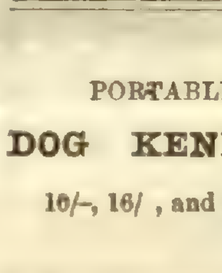
OF EVERY DESCRIPTION.

Churches, Temporary Hospitals, Bungalows.

Packed on rail, or erected in any part of the kingdom.

See Section IV. in List.

Plans and Estimates free.



PORTABLE

DOG KENNEL.

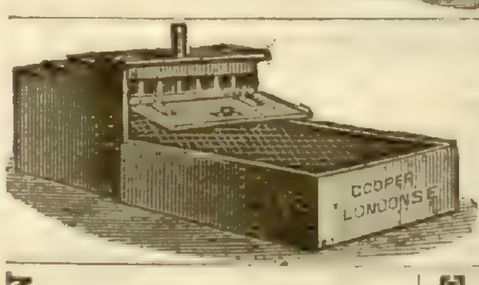
10/-, 16/ , and 25/-.

PORTABLE

STABLE, COACH-HOUSE, and HARNESS-ROOM

COMBINED.

From £7. See No. 203 in List, post-free.



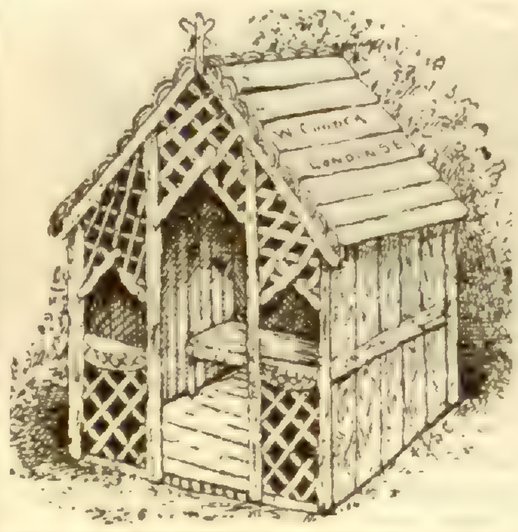
SAFETY CHICKEN COOP.

Coops only 3/9 each, 6 for 21/-, 12 for 38/-. 3ft. Moveable Wire-Run, 2/3 each extra.

RUSTIC WORK FOR LATEST DESIGNS.

See List, post-free.

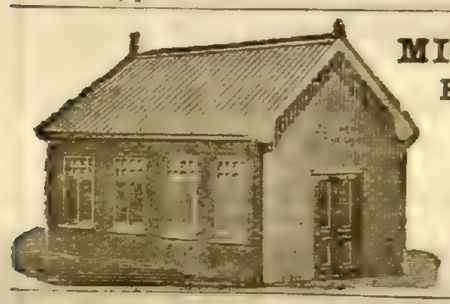
This House £4, complete.



MISSION, SCHOOL, ENTERTAINMENT, or BILLIARD ROOM.

10ft. by 8ft.	£7
14ft. by 10ft.	£11
18ft. by 12ft.	£16
22ft. by 14ft.	£22

See No. 195 in List.



COTTAGE, SCHOOL, STORE-ROOM, or WORKSHOP.

From £7.

See No. 206 in List.

FERNS, ROSES, &c.,

PTERIS CRETICA, TREMULA, SERRULATA MAJOR, SERRULATA CRISTATA, CRETICA, CRISTATA, ALBA LINEATA, LOMARIA GIBBA, &c., bushy, in Thumbs, 6s. 6d. per 100.

Ditto ditto ditto in 60's, bright and bushy, for immediate selling, 9s. per 100, 85s. per 1000.

Ditto ditto ditto from stores, ready for potting, including ADIANTUM, 5s. per 100, 45s. per 1000, £8 10s. per 10,000.

ARALIA SIEBOLDII, in 2½, ready for 5-in. pots, 9s. per 100, 85s. per 1000.

PTERIS TREMULA, large plants, in 5-in. pots, 4s. 6d. per doz., 34s. per 100.

ASPLENIUM BULBIFERUM, in 5-in. pots, 5s. per doz., 38s. per 100.

GREVILLEA ROBUSTA, in 5-in. pots, 4s. per doz., 30s. per 100.

TEA ROSES, in variety, from 12s. per dozen.

MARÉCHAL NIEL, and GLOIRE DE DIJON, fine healthy plants, 10 to 12 feet, 30s. per doz.; 5 to 7 feet, 20s. per dozen.

BICYCLE or TRICYCLE HOUSES.

6ft. long, 4ft. wide, 5ft. high.

£2 5 0

See No. 212 in List.

CUCUMBER FRAMES

One Light.

4ft. by 3ft.	17/-
6ft. by 4ft.	28/-

Two Light.

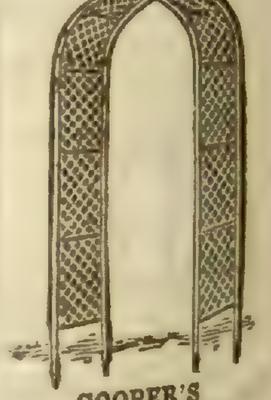
6ft. by 4ft.	30/-
8ft. by 6ft.	50/-

GALVANISED CORRUGATED-IRON ROOFING.

2½-in. wide—

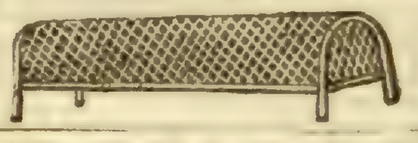
3ft. long ...	9d.
4ft. ,, ...	1/-
5ft. ,, ...	1/3
6ft. ,, ...	1/8
7ft. ,, ...	1/11
8ft. ,, ...	2/1
9ft. ,, ...	2/5
10ft. ,, ...	2/10

Special Quotations for 2-ton lots.



COOPER'S GALVANISED GARDEN ARCHES.

3/6 each.



PEA GUARDS.

3/3 per doz.,

Including two Ends.

W. COOPER, Ltd., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD, LONDON, S.E.

GREENHOUSE BLINDS

MADE UP TO ANY SIZE.

SHADING CANVAS and TICKING.

BAMBOO CANES.

GARDEN STICKS and LABELS.

RUSSIA MATS AND RAFFIA.

TANNED GARDEN NETTING.

TISSUE PAPER. COCOA-FIBRE REFUSE.

ORCHID and OTHER PEATS.

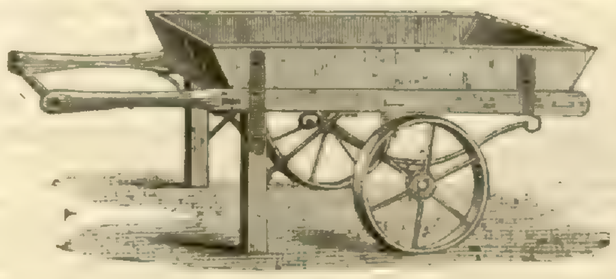
CATALOGUE on application.

JAMES T. ANDERSON,

135 & 137, COMMERCIAL ST., LONDON, E.

H. GLANVILLE.

"WADDESDON" PLANT-TRUCK.



Price, £4 15s.

Horticultural Iron and Wire Works,

6, PEEL PLACE, KENSINGTON, LONDON, W.

THE IMPROVED GARDEN GULLY

Supersedes the ordinary Garden Grating, and is especially suitable for hilly walks and drives.

They are never stopped up by rubbish and sand, and effectually prevent the gravel being washed away in heavy storms.

PRICES:—8-in., 2*s.*; 10-in., 3*s.*; 12-in., 6*s.* 6*d.*

(*The largest size is for Carriage Drives.*)

Full Particulars and Testimonials on application.

Estimates given for Draining and Laying-out Grounds, &c.

VINCE & VINE,

16, Chester Road, Upper Holloway, London, N.

(And at Marden Park Nurseries, Caterham Valley).

WARE & SONS' FLOWER POTS

Telegrams: Pottery, Uckfield.

SUSSEX POTTERY WORKS, *UCKFIELD.*

Estab. 1770

ARE THE BEST.

For Private Gardens.

Hundreds of Testimonials.

Lists on application.

The Trade Supplied.

GLASS! CHEAP GLASS!

In Stock Sizes.

15-oz., per 100 ft., 7*s.* 6*d.* { 12×10, 18×12, 18×14, 24×14

21-oz., ,, 10*s.* 0*d.* { 14×12, 20×12, 18×16, 24×16, 16×12, 16×14, 20×16, 24×18, &c.

1½ × 3 Prepared Sash Bar at 5s. per 100 feet.

Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½*d.* per foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c.

Catalogues free.

THE CHEAP WOOD COMPANY,

72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

WALTERS & CO.'S

IMPROVED

LATH ROLLER BLINDS,

The most Effective

GREENHOUSE SHADING

yet introduced, and the cheapest in the end.

Price on application.

Can be had in various widths up to 15 feet.

Sample piece sent on receipt of 1*s.* 6*d.*

WALTERS & CO.,

ORCHID BASKET MANUFACTURERS,

BOURN HOUSE, LEYTONSTONE, LONDON, E.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING

HEAD LINE CHARGED AS TWO.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	,,	..	0	3	6	16	,,	..	0	9	0
6	,,	..	0	4	0	17	,,	..	0	9	6
7	,,	..	0	4	6	18	,,	..	0	10	0
8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
13	,,	..	0	7	6	24	,,	..	0	13	0
14	,,	..	0	8	0	25	,,	..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

If set across three Columns the lowest charge will be 30*s.*

Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS.

26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion.

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,

41, WELLINGTON STREET, STRAND, W.C.

FRUIT-GROWERS should study their Interests, and use the WOODEN BUSHEL and HALF-BUSHEL BASKET.

COMPARTMENT-CRATES, for STRAWBERRIES, to hold 24 quarts, £7 4*s.* per gross.

For terms, apply to COLBY, HINKLEY AND CO., 10A, Tudor Grove, Well Street, Hackney, London, N.E.

GARDEN NETTING—Very superior, Oiled and Tanned, 7*s.* 9*d.* per piece of 200 square yards, 50×4, or otherwise. Special for Lawn Tennis, &c., 6*s.* per 100. Satisfaction guaranteed. Numerous testimonials.—JOHN ROWE AND CO., Netting Works, Frenchyard, Bristol. Name paper.

NETS—NETS.—Tanned, Oiled, Waterproof, for protecting Strawberry Beds, Fruit Trees, &c., from Birds. Makes excellent Tennis boundaries.

200 yards, 8*s.*; second quality, 5*s.*

SPASHETT AND CO., Net Manufacturers, Lowestoft.

PEAT. EPPS'S PEAT.

Specially selected for Orchids, and all kinds of Plants, by sack, cask, cubic-yard, ton, or truck-load. Rich fibrous LOAM, Coarse and Fine SILVER SAND, superior LEAF-MOULD, C. N. FIBRE REFUSE, SPHAGNUM MOSS, CHARCOAL, &c.

Special through rates to all parts.

The Original Peat Depot, **RINGWOOD, HANTS.**

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.

STOCKS and SHARES purchased and sold.

SAVINGS DEPARTMENT.

For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

MR. BEARD, Champney, Tring, Herts, begs to THANK the APPLICANTS, and to state that the SITUATIONS are NOW FILLED.

GARDENER (SINGLE-HANDED).—Steady, industrious, experienced Table Plant Grower REQUIRED IMMEDIATELY. Also has to look after Pleasure Gardens and Lawns. Assistance given for spring and autumn bedding work, and rolling and mowing lawns. Must be a good Grape Grower. No bothy. State wages and particulars to A. B., 41, Wellington Street, Strand, W.C. Situation is for a Business Establishment.

GARDENER and WIFE, no Family.—WANTED at a Cottage in Surrey, a thorough good WORKING GARDENER, with all-round experience. Large garden, but some assistance is given. Unfurnished rooms at present provided near, but rooms will be built on the property this season. Required to sleep at cottage during absence of the family, wife then taking charge of the place, and also acting as plain cook when only one or two members of the family come from town with one servant. Personal character. Abstainers preferred.—State ages, when disengaged, and wages required.—J. H., 10, Cumberland Terrace, Regent's Park, London.

WANTED, immediately, a thoroughly experienced HEAD WORKING GARDENER, married, no family; must understand Gardening in all its branches and Management of Pasture Land. Five men kept. Good wages and lodge. Must have excellent recommendation. Scotchman preferred.—Apply to DEAN WOOD, Newbury, Berks.

WANTED, a GARDENER and SALESMAN.—Must be smart.—ROBERT GREEN, Bedford Conservatories, Covent Garden, W.C.

WANTED, as UNDER GARDENER, a young Man, about 18 or 20 years, to attend to two Cows, and usual work. Wages according to ability.—Ellenboro House, Roehampton, London.

WANTED, for the North of England, an UNDER GARDENER as Second, where three are kept.—Must be experienced both Inside and Out. Preference will be given to a man that would play the American Organ in a Congregational Church. Please state age and wages required, with copies of testimonials. A good comfortable situation for a suitable man.—VERBENA, 41, Wellington Street, Strand, W.C.

WANTED, an UNDER GARDENER.—Must be thoroughly experienced in all branches of Gardening Inside and Out, have good references, and be single. Wages 18*s.* with lodging.—Apply, stating age, to Mr. WM. HULKS, Bailiff, Rigdehurst, Shenley, Herts.

WANTED, as SECOND, an active, industrious young MAN, well up in Fruit and Plants. Wages, 22*s.* per week.—Apply, stating age and experience, to P. COOKE, The Gardens, Cliff House, Burton-on-Trent.

WANTED, a WORKING FOREMAN for the Glass department, where general Market and Soft-wooded Stuff is grown in quantity.—Z., 41, Wellington Street, Strand, W.C.

WANTED, Outdoor WORKING FOREMAN, for General Nursery. Wages and full particulars to LAXTON BROTHERS, Bedford.

WANTED, a JOURNEYMAN, under Foreman in Houses.—Wages 15*s.* a week. Bothy and usual requisites.—Apply, stating age and experience, to A. TAYLOR, Brougham Hall, Penrith, Cumberland.

WANTED at ONCE, TWO Smart Active Young MEN, about 22, for Palm-houses.—Apply personally to WILLIAM ICETON, Granard Nursery, Putney.

WANTED, TWO good GARDEN LABOURERS, accustomed to Mowing-machine, Kitchen Garden, Pleasure-grounds, and able to use Scythe. Wages, 18*s.* per week.—Apply to GARDENER, Clare Cottage, Mill Hill, N.W.

WANTED, TWO young MEN, well-up in Growing Cucumbers for Market, under Foreman. Wages, 18*s.* per week. Also, TWO sharp, active YOUTHS, as Improvers in general Market routine.—Apply, stating age, experience, and references, to GEO. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

WANTED, SEVERAL MEN, for the Houses. Permanency for steady useful men.—H. DICKINSON, Shardlow, near Derby.

WANTED, for a Trade Nursery in the South of England, a thoroughly experienced GROWER of ORCHIDS and Tree and other CARNATIONS in pots; Begonias, and general nursery stock. None without a long experience of the above in good Nurseries need apply. State age, wages required, and full particulars to GROGAN & RAVENSCROFT, Railway Nurseries, Worthing, Sussex.

WANTED, immediately, for a small Nursery, a WORKING FOREMAN. Used to Market Growing Reference from Market Growers preferred.—4, Elm Tree Road St. John's Wood, N.W.

WANTED, for a Market Nursery, a first-class GROWER of general Market Plants (Soft-wooded). One that has grown for Covent Garden preferred.—Apply, stating age, wages experience, with references, to TURNER BROS., Nurserymen and Florists, Garston, near Liverpool.

WANTED, a good SPADE-HAND.—One used to Training, Planting, and general routine work of Out-door Nursery. Wages 18s. Situation permanent.—References to EDWIN HILLIER, The Nurseries, Winchester.

WANTED, young MAN for the Houses in Market Nursery. Wages 18s. per week.—FOREMAN, Wright's Nursery, Turner Road, Lee.

WANTED, a young MAN, quick at Potting, Tying, and Watering, and a good knowledge of the Treatment of Ferns. Good wages paid to a competent man.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

WANTED at once TWO Young MEN accustomed to inside Nursery Work, must be quick at potting and tying. Wages 20s. per week. State age and experience to G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

WANTED, a young MAN, for Watering, Tying, &c.—VINCE AND VINE, Marden Park Nursery, Caterham Valley, Surrey.

WANTED, a young MAN, for Market Nursery. Permanent hand. ALSO, a good GRAPE THINNER for a month or six weeks.—Apply to S. G. RANDALL, The Nurseries, Skegness, Lincolnshire.

WANTED, a young MAN, for a Market Nursery, to take Charge of the Chrysanthemums, Tomatos, Azaleas, &c.; must be quick at Potting.—State age, wages, experience, with references, to TURNER BROS., Florists, Garston, Liverpool.

WANTED, TWO good MEN, for Cucumber Houses, ONE MAN Tomato Houses.—Apply, stating wages and reference, to Paradise Gardens, Rumney, at Cardiff.

WANTED, a MARKET SALESMAN, and Maker-up of Wreaths, Crosses, Bouquets, &c. Also a young MAN used to Market Growing. Provinces. State wages, age and reference.—BOUQUET, 41, Wellington St., Strand, W.C.

WANTED.—A young LADY for a Flower Shop. First class only. State age and salary, outdoors, to Miss BATES, The Turl, Oxford.

WANTED, a FLORIST'S ASSISTANT.—Lady, smart, of good address. Good buttonhole hand, and to serve through. First-class only need apply to ARTHUR PINKER, Florist and Fruiterer, 55, George Street, Hove.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (HEAD).—Sir WM. PLOUDEN recommends his late Head Gardener (James Molseid).—J. MOLSEID, Aston Rowant Gardens, Tetsworth, Oxon.

GARDENER (HEAD), where three or more are employed.—Age 30; experienced in all branches of Gardening. Highly recommended by late and present employers.—W. A., Mr. G. Hall, Rushton, Kettering, Northants.

GARDENER (HEAD); age 35.—J. MCRONALD, The Nurseries, Chichester, can recommend an exceptionally good all round man, who will be shortly disengaged. Land and Stock if required.

GARDENER (HEAD), and ORCHID GROWER.—Age 38, married; abstainer. Twelve years as above, to A. Borwick, Esq.; six years with Mr. J. Douglas. Highly recommended.—J. GILKS, Oxhill, Kineton.

GARDENER (HEAD), where two or three are kept.—J. CHOWN will be pleased to recommend his Foreman, age 29, to anyone requiring a practical and trustworthy man.—6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD).—Extracts from Certificates. Raby Castle:—"Thoroughly conversant with the duties of a Gardener." Lockinge Park:—"Gave me entire satisfaction." — GRAPES, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD); age 35, married.—A GENTLEMAN wishes to recommend the above. Has been with him five and a half years. Good all-round man. Well up in all the leading branches of Gardening.—S. SMITH, 66, Faulkner Street, Hoole, Chester.

GARDENER (HEAD), where two or three are kept.—Age 31; fourteen years' practical experience in all branches, Inside and Out.—T. SLADE, Shepperton, Middlesex.

GARDENER (HEAD), where two or three are kept.—Age 27, married when suited.—Mr. PENDER, Manager, South Devon Fruit Farm, can highly recommend his Foreman. Thorough experience of both Inside and Outside work. Three years in present situation. Good references.—H. SNELL, Fruit Farm, Torquay.

GARDENER (HEAD).—Age 30, married; practical experience in all branches, large or small establishments. Life abstainer. Five years in present situation. Excellent character.—HOWELL, New Cottage, Bell Bar, Hatfield, Herts.

GARDENER (HEAD), one or two under.—Age 37, married, no family; twenty years' good practical experience. Highly recommended. Good characters. Place sold.—E., The Grange, Elstree, Herts.

GARDENER (HEAD).—Age 41, no incumbrance; thoroughly practical. Life experience. Wife good Dairy, Poultry. Good personal character.—H., The Limes, Vernon Road, Sutton, Surrey.

GARDENER (HEAD WORKING).—Age 39, married, no family; experienced in Flower and Kitchen-garden, Plants and Fruits under glass, &c. Good references.—JAMES HANWELL, Mr. W. Turner, Green Hill Lane, Alfreton, Derbyshire.

GARDENER (HEAD WORKING), where two or more are kept.—Age 23; life experience in all branches, including Orchids. Highest references.—A. F., 35, Tremadoc Road, Clapham.

GARDENER (HEAD WORKING).—Age 34, married, one child, age 8; well up in all branches. Three and a half years in present situation; nine years previously.—BOVINGTON, Fairmile Hatch Lodge, Cobham, Surrey.

GARDENER (HEAD WORKING), where one or more are kept.—Age 33; married, two children. Well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Garden. Good character. Five years in present situation, eight previously.—A. SMITH, Church Hill, Pulborough, Sussex.

GARDENER (HEAD WORKING).—Age 27; married when suited.—JOSH. VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING); age 35, married, no family.—A Gentleman can highly recommend a thoroughly practical man in all branches of the Profession. Leaving through place being sold. — J. W. S., 77, High Street, High Barnet, Herts.

GARDENER (HEAD, or HEAD WORKING), where three or more are kept.—Age 32; married; life experience in all branches Good Grower; excellent character and testimonials.—E. SEYMOUR, The Gardens, Vale Mascal, Hollington Park, Hastings, Sussex.

GARDENER (HEAD, or general FOREMAN), in first-class establishment.—Age 27, single; thirteen years' thorough practical experience in most departments. Specially good knowledge of Orchids, obtained in some of the best collections. Excellent and reliable testimonials. Two and a half years in present situation.—J. F. LEWIS, Castle Hill, Englefield Green, Staines.

GARDENER (HEAD of two, or good SINGLE-HANDED).—Age 27; abstainer. Good character. Understands Vines, Peaches, Tomatos, Cucumbers, Flowers, &c.—GARDENER, 12, Colmer Road, South Streatham.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 37, married; thoroughly experienced with Grapes, Peaches, Tomatos, Cucumbers, Flowers and Vegetables of all kinds. Good character.—GARDENER.—Dragon Street, Petersfield, Hants.

GARDENER (HEAD, or good SINGLE-HANDED).—A Gentleman giving up his place would be pleased to recommend his Gardener to anyone requiring a good man. Single.—A. CHURCH, Anchor Coffee House, Westbourne, Bournemouth.

GARDENER (HEAD, SINGLE-HANDED, or where help given).—Married; age 33; sixteen years' experience inside and out; good characters.—A. WHEATLEY, 4, Augusta Villas, Loughton.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 29, married.—F. R., 19, Garden Cottages, East Street, Epsom, Surrey.

GARDENER (HEAD, or SINGLE-HANDED).—Age 29, single; life experience, Inside and Out. Two years last situation. Good manager. References reliable.—W. BREWSTER, 5, Gloucester Place, Cheltenham.

GARDENER (HEAD, or good SINGLE-HANDED).—Middle-aged; no objection to Stock; Orchids if required. Five and nine years' good characters.—T. WOOLFORD, 3, Belsize Crescent, Hampstead, N.W.

GARDENER (SINGLE-HANDED) in a small place.—Age 25. Good character. Please state wages.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

GARDENER (SINGLE-HANDED).—Married, no family. Life experience in Glass, and Flower and Kitchen Gardening. Wife, Laundress or Caretaker.—PHILIPP, 43, Holywell Hill, St. Albans.

GARDENER (SINGLE-HANDED), or where help is given. Good practical experience.—For particulars, please address GARDENER, 97, High Street, St. John's Wood, N.W.

GARDENER (SECOND, or SINGLE-HANDED).—Age 33, married; seven years' in present situation. Understands Horses, and general all-round Gardening. Abstainer. Well recommended.—SWALLOW, Newsells, Royston, Herts.

GARDENER (SECOND).—Age 21; single; abstainer; good characters.—G. BARNES, Foulis Court, Fair Oak, near Southampton.

GARDENER (SECOND), or JOURNEYMAN (FIRST).—Inside; seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER.—Situation wanted by a married man, no encumbrances; age 25. Four years' good character. Wife as good general, if required.—F. M., The Lodge, Tolworth, Surbiton.

GARDENER, where two or more are kept.—Age 24; ten years' reference. Abstainer. Inside and Out.—A. B., Weston, Turville, Tring.

GARDENER.—Young Man, age 21, seeks situation, Inside and Out. Three years' good recommendation.—F. WEBB, Castle Cross, Stone, Greenhithe.

GARDENER (SECOND), Inside, or Inside and Out; age 24.—H. UNDERWOOD, Head Gardener, Wyndham Lodge, Melton Mowbray, would be pleased to recommend F. Fellows as above.—Apply as above.

GARDENER (SECOND, or SINGLE-HANDED).—Age 27, single; twelve years' experience in the cultivation of Fruit, Flowers, and Vegetables.—R. A., Tandridge Court Gardens, Redhill, Surrey.

GARDENER (SECOND), where three are kept; otherwise under a Foreman; age 25, single.—Mr. BOND, Head Gardener, Manor House, Bathford, Bath, can highly recommend H. Slocombe, as above.

GARDENER (SECOND), where four or more are kept.—Age 25; nine years' experience Inside and Out. Good references.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (SECOND), Inside.—Age 25; experience in all branches. With good references from last and previous situations.—A. S., Glenavon, Saltford, near Bristol.

GARDENER (UNDER), used to Pleasure Grounds and Kitchen Garden; help inside if required.—Age 25; two years' good character. Well recommended by Mr. REED, Broadwater, Oatlands Park, Weybridge, Surrey.

GARDENER (UNDER).—Age 22; good experience, Inside and Out. Five years in present place. Good references. Bothy preferred.—C. HOWARD, The Cottage, Sandgate.

GARDENER (UNDER).—Age 22; experienced in Indoor and Outdoor Work; excellent characters.—WILLIAMS, Stables, 7, Netherhall Gardens, South Hampstead, N.W.

GARDENER (UNDER), Inside and Out.—Age 22, single; five years in present place; good character; bothy preferred.—F. WATTS, The Gardens, Chacombe House, Chacombe, near Banbury.

GARDENER (UNDER), and IMPROVER Inside and Out.—Age 23; three years and a half in present situation. Well recommended by Head Gardener and employer.—TOWNSEND, The Gardens, Coppice, Ross, Herefordshire.

GARDENER (good UNDER).—Age 23; seven years' good experience, Inside and Out. Good characters.—H. SMITHERS, The Gardens, Roydon Hall, Tunbridge, Kent.

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GARDENER (Under), Inside, or Inside and Out; age 19.—A Lady wishes to recommend a young man as above. Three years' character. Strong and willing.—Apply to Miss H. KERRICH, Arnolds, Hayward's Heath, Sussex.

MANAGER.—Situation wanted, as MANAGER or FOREMAN MANAGER by Advertiser. Wide-awake, practical man; fifteen years in English and Continental Indoor Nurseries. Last year's Departmental Foreman in largest London Nursery, knowing What to Grow, How to Grow, and Where to Sell. Good hand for Fruit and Cut Flowers, and General Pot Stuff. Salary, £2 weekly.—M. M., 41, Wellington Street, Strand, W.C.

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TO ROSE GROWERS.—Situation wanted as ROSE GROWER, with knowledge of General Nursery Work. Fourteen years' experience; five years foreman to Mr. Turner, Slough.—F. LEY, Devon Rosery, Torquay.

PROPAGATOR AND GROWER.—Age 35; well up in Cucumbers, Tomatos, Plants and Cut Flowers, Wreaths, Crosses, &c.—R. W. B., 2, Camden Road, George Lane, Wanstead, E.

FOREMAN, PROPAGATOR, and GROWER.—Age 30; life experience. Well up in growing Cucumbers, Tomatos, Carnations, and all Soft-wooded Plants. Good character. Abstainer. Also a Youth (age 17), seeks a situation.—A. JOHNSON, 20, New Castle Street, The Nurseries, Penkhutt, Stoke-on-Trent, Staffs.

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FOREMAN, or JOURNEYMAN (First), Inside.—Age 26; twelve and a half years' experience. Good character.—N. BARTON, Neatishead, near Norwich.

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FOREMAN and GROWER, or Grower of Carnations, Ferns, and Soft-wood Plants, for Market. Twenty years' experience. Good character from last employer.—X. X., 41, Wellington Street, Strand, W.C.

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FOREMAN (Working) wishes situation in a small Outdoor Nursery.—Well up in Roses, Fruit Trees, Trees and Shrubs; good Budder and Grafter; also Cuttings and Layerings. Not afraid of work. Low wages to commence.—B. B., 41, Wellington Street, Strand, W.C.

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JOURNEYMAN (First).—Age 25; twelve years' experience in Fruits, Plants, and Orchids. Good references from past and present places.—HEAD GARDENER, Longfords, Minchinhampton, Gloucester.

JOURNEYMAN (First): age 23.—Mr. Dowding, The Gardens, Farnham Castle, Surrey, wishes to highly recommend A. Hobbs. Over two years in present situation as above.

JOURNEYMAN (Inside), Private or Trade.—Age 22; seven years' experience. Four and a-half years' excellent character from last place. Life abstainer.—C. DUFFITT, Crownhill, R.S.O., Devon.

JOURNEYMAN, in the Houses.—Age 22; Orchids, Stove and Greenhouse Plants, &c. Seven years' experience in good Nurseries and private place.—E. J., 8, Upper Fore Street, Edmonton.

JOURNEYMAN in a large Establishment.—Age 23; experienced both Inside and Out.—Mr. COLLETT, Sudbourn Hall, Wickham Market, Suffolk.

JOURNEYMAN (First), in the Houses.—Age 23; ten and a half years' experience. Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner, near Harlow, Essex.

JOURNEYMAN, Inside, or Inside and Out, in a good establishment.—Age 24; well recommended.—A. ELDRIDGE, 5, Albert Terrace, South Teddington.

JOURNEYMAN (Third).—Age 19; four years' experience; abstainer.—P. ELCOCK, Botley Hill Gardens, Eotley, Hants.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; good general experience; total abstainer.—Address in first instance, C, A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, Inside, or Inside and Out.—age 23; nine years' experience. Good reference.—E. GOULD, 2, Kerrara Terrace, Whitley Road, Eastbourne, Sussex.

JOURNEYMAN (First), in a good Establishment; age 23.—W. Pearson, The Gardens, Carleton Grange, Pontefract, would be pleased to recommend a young man as above.

JOURNEYMAN (First).—Age 22; over six years' experience. Four years in present situation. Excellent character. Bothy preferred.—J. JOHNSTON, Head Gardener, The Gardens, Haigh Hall, Wigan, Lancs.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; four years' experience; eighteen months in present situation. Can be highly recommended.—A. HERBERT, Warfield Hall, Bracknell, Berks.

JOURNEYMAN, age 20, seeks situation as above, in Gentleman's Garden. Good reference. Bothy preferred.—H. PAXTON, Wyck Hill Lodge, Stow-on-the-Wold, Gloucestershire.

JOURNEYMAN, in the Houses; age 21.—S. Lyon can highly recommend F. Harris as above. Five years' experience under Glass. The last eighteen months in Plant Houses.—The Gardens, Cricket St Thomas, Chard, Somerset.

JOURNEYMAN, Inside.—Age 22; six years' experience. Two years in present situation.—The Gardens, Hill House, Saffron Walden, Essex.

JOURNEYMAN (First), or GARDENER (Second).—Age 22; six and a-half years' experience. Abstainer; strong and willing. Good testimonials.—W. HURFORD, Bayfordbury, Hertford.

JOURNEYMAN, under Foreman, Inside, or Second in a smaller establishment, Inside and Out.—L. Thomas, Head Gardener, Wavendon House, Woburn Sands, will be pleased to recommend a young man as above.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; eight years' experience in good gardens. Excellent references; disengaged. Bothy preferred.—ALFRED TYRRELL, 88, Queen's Road, Dalston, N.

JOURNEYMAN.—I can very highly recommend a good Man.—Mr. LEACH, Albury Park Gardens, Guildford.

JOURNEYMAN.—P. Davidson, Gardener to Lord Wolverton, Iwerne, Minster House, Blandford, Dorset, wishes to recommend a good man as above.

JOURNEYMAN, Inside and Out.—Age 20; six years' experience. Left through breaking-up of establishment. Excellent references. Bothy preferred.—GEORGE HEMLEY, Little Billington, Leighton Buzzard, Beds.

JOURNEYMAN, medium place, age 22.—Late at Benham Park, Newbury; previously three years with Mr. Grace, at Bickton, Fordingbridge. Good general experience.—CHAS. HICKS, Avonside, Fordingbridge, Hants.

JOURNEYMAN, in a good establishment.—Age 23; four and a half years' good reference from present situation.—F. SAGE, Chantry Gardens, Ipswich, Suffolk.

IMPROVER, Inside, or Inside and Out; Age 19.—W. JONES, The Gardens, Park Homer, Wimborne, can strongly recommend a young Man as above; four years' experience. Bothy preferred.

IMPROVER.—Young man (age 19), seeks a situation in a Gentleman's Garden. Four years' experience, and can be well recommended.—E. PIKE, Ivy Cottage, Iping, Midhurst.

IMPROVER, Inside, or Inside and Out.—Age 19; five years' good character. Abstainer.—F. WERNHAM, Welhouse, near Newbury, Berks.

IMPROVER, Inside, in a good establishment.—Age 18; abstainer. Four years in present place. Premium given; good references.—A. HOBBS, Langford House Gardens, Lechlade, Glos.

IMPROVER, or GARDENER (Under).—Vicar recommends a youth, with knowledge of the work, as above.—VICAR, Fens, Whitchurch, Salop.

TO GARDENERS.—Situation wanted in the Houses; age 20; total abstainer; bothy preferred; left through death of employer; good reference.—H. S., 15, Stamford Road, Watford.

TO GARDENERS.—£2 offered, if Advertiser can secure situation in the Houses, under a Foreman, where he can IMPROVE. Four years' good character. Can be well recommended. Age 23.—W. COOK, Portmore Park, Weybridge, Surrey.

TO GARDENERS.—Young Man (age 25) requires situation Inside and Out. Willing; three years' good character from present employer. Highgate preferred.—E., 34, Lulot Street, Dartmouth Park Hill.

TO GARDENERS.—Situation wanted by active young man, age 20, as JOURNEYMAN, Inside and Out. Good reference. Left through a death.—DICKENS, 3, Wilton Villas, Chislehurst, Kent.

TO GARDENERS.—Situation wanted in the Houses. Experience in General Work inside. Used to Exhibiting. Good reference. Age 23.—A. MILHAM, Field Green, Hawkhurst, Kent.

TO GARDENERS.—A young Man (age 23, single). Good character from last place. Has been used to Inside and Out. Both Lawn and Kitchen Gardens.—T. R., 4, Elm Terrace, Brookdale Road, Catford.

TO GARDENERS, &c.—Married; well up in Ferns, Chrysanthemums, Carnations, Roses, &c. Long experience.—G. M., 128, Brellenham Road, Upper Edmonton.

TO GARDENERS.—A young Man, age 24, seeks situation in garden where two or three are kept. Seven years in present place.—T. SHAMBROOK, Aston, Stevenage, Herts.

TO GARDENERS.—Lady Louisa Howard will recommend Wm. Buckland, a Youth, age 18, who requires a situation in a large Garden. Three and a half years in present situation.—WM. BUCKLAND, Hazelby, Newbury, Berks.

TO GARDENERS.—F. Myers, Newbold-Revel, Rugby, can highly recommend a young Man, age 26, as FOREMAN. Well-up in Fruit and Plant-growing, House and Table Decoration. No objection to going abroad.

TO NURSERYMEN or FLORISTS.—A. Rix, Rose Cottage, Staines Road, Hounslow, having been FOREMAN GROWER for Robert Green, Crawford Street, W., nine years at his Nursery, where all kinds of Foliage Plants are grown, seeks situation. Excellent references.

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HANDY MAN.—Carpenter by trade. Experienced in large Nursery; Painting, Glazing, Building, Repairing, &c.—J. H., 88, Frith Road, Croydon.

COWMAN, on a Gentleman's place. Tho roughly accustomed to Jersey Cows; over three years good character from present employer.—F. CAPP, Wexham Park Gardens, Slough.

CLERK, or IMPROVER, in Nursery or Gardens.—Age 21; well up in the trade. Four years' good references. Small salary to commence.—G. L., 93, Hereford Road, Bayswater, W.

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TO FLORISTS.—Situation wanted by a young Man who has a thorough knowledge of the Trade, as SHOPMAN or MANAGER.—B. B., 82, Cambridge Road, Kilburn, N.W.

TO FLORISTS.—Young Lady (Viennese), first-class Florist, wants place. Moderate salary. Speaks only little English.—Miss SOMMER, 76, Paignton Road, South Tottenham.

EAT, DRINK, AND BE MERRY.—That is all very well, and, no doubt, in moderation, eating, drinking, and merriment are very good things. But can any one of us—even the best of us—trust himself to be invariably moderate? No, indeed! We are all apt at times to go just a little beyond the mark, and then comes headaches and regrets. At such times we can appreciate a friend—one who will stand by us and put us right; and such a friend we invariably find in HOLLOWAY'S PILLS. They did not fail our fathers at similar crises, and they do not fail us. It is no fiction, but a well-known fact, that Holloway's Pills are a certain cure for headaches, biliousness, and all similar troubles.

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HIS ROYAL HIGHNESS THE PRINCE OF WALES,
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The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,
And most of the NOBILITY, CLERGY, and GENTRY of the United Kingdom.

The Queen's Head Gardener, Mr. OWEN THOMAS, writing from the Royal Gardens, Windsor, to Messrs. GREEN on January 17, 1894, says:—"I have pleasure in saying that both at Chatsworth and at the Royal Gardens my men have constantly had your Lawn Mowers in use for many years—Horse, Pony, and Hand power—and one and all of these Machines have done first-class work, and given every satisfaction. Not only is the workmanship and material in your Machines most excellent, as is proved by the fact of some of the Horse Lawn Mowers having been in use here for upwards of thirty years; but combined with good workmanship is the further important recommendation that they are of very light and easy draught." And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

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SINGLE-HANDED SILENS MESSOR LAWN MOWER,
With Improved Steel Chains, Wheels, and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15	0
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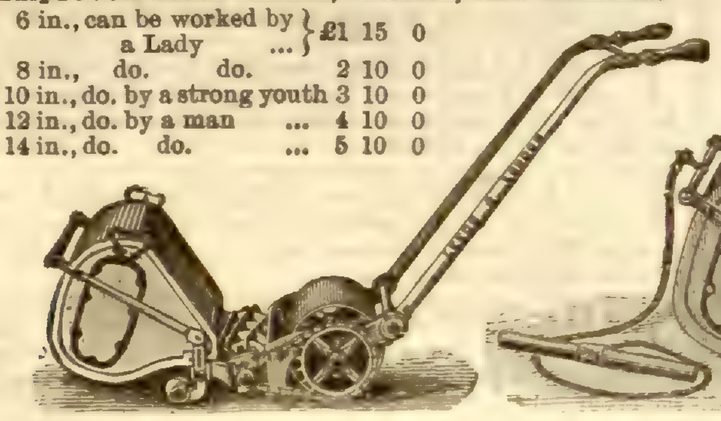
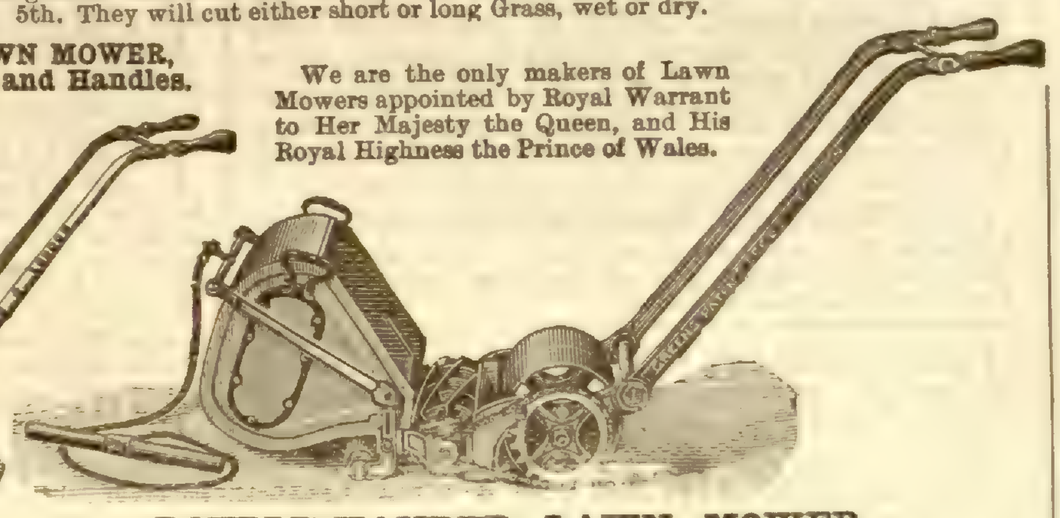
To cut 10 in., do. by a strong youth	3	10	0
To cut 12 in., do. by a man ...	4	10	0
To cut 14 in., do. do. ...	5	10	0



We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



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To cut 16 inches, can be worked by one man on even lawn ...	£6	10	0
To cut 18 inches, do. man and boy...	7	10	0
To cut 20 inches, do. do. ...	8	0	0
*To cut 22 inches, can be worked by two men	£8	10	0
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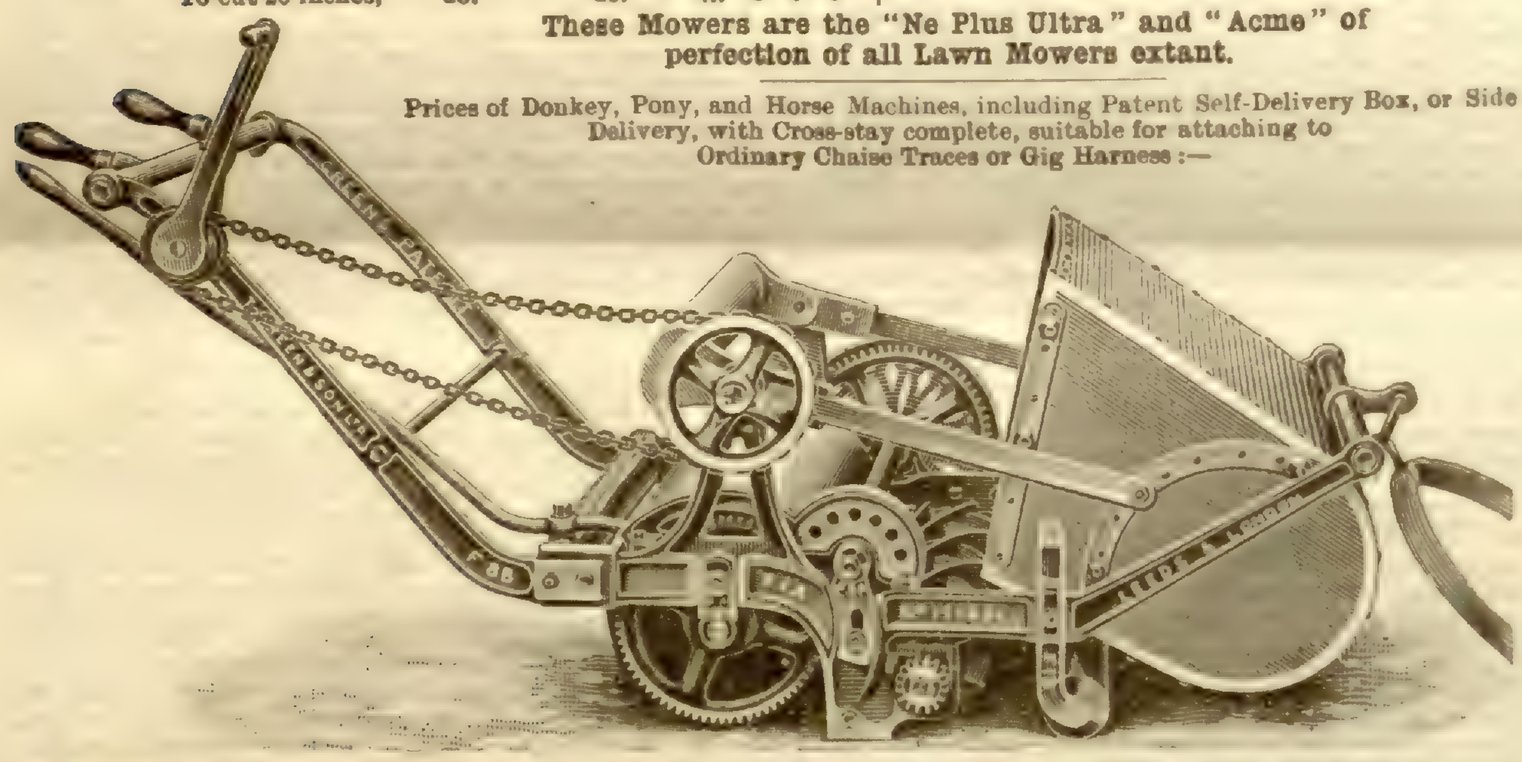
* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



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To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

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To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
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The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

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Prices of Rollers in 2 parts.

Diam. Length	£	s.	d.
16 in. by 17 in.	2	5	0
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24 in. by 26 in.... ...	4	5	0
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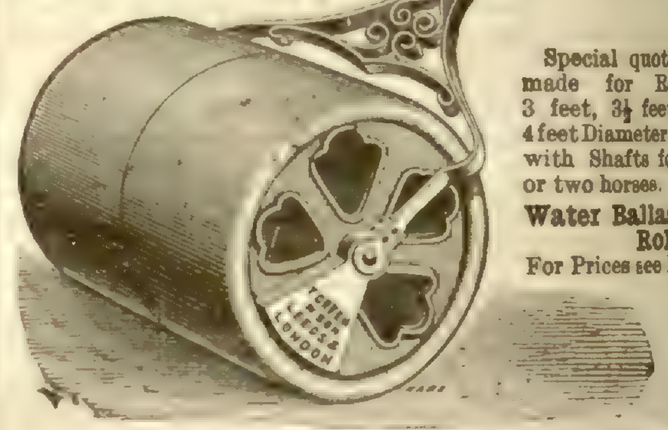

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GREEN'S IMPROVED PATENT GRASS EDGE CLIPPER.

PRICE, 30s.

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GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.

PRICES,
With Grassbox.

To cut 6 in.	£1	5	0
To cut 7 in.	1	13	0
To cut 8 in.	2	5	0
To cut 10 in.	3	0	0

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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Cattleya Mossiæ specimen
,, Skinneri
,, gigas variety
,, labiata
,, Trianæi
,, Mendeli
Dendrobium Dalhousieanum
,, nobile
,, fimbriatum
Epidendrum prismatocarpum
Lælia purpurata alba
,, crispa
,, Perrini
,, anceps
,, ,, Barkerii
Odontoglossum grande
,, Alexandræ

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200 ODONTOGLOSSUM ALEXANDRÆ, extra fine plants
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Sutton, Surrey.

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LILIES in variety, 80 Lots of STOVE and GREENHOUSE FERNS, POT ROSES, &c., IRIS, Double and Single BEGONIAS, GLADIOLI, CALCEOLARIAS, PANSIES, VIOLAS, extending WOODEN TRELLIS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, May 6, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

By order of Mr. A. VAN DER BOGAERDE.

1000 CATTLEYA SKINNERI
1000 ODONTOGLOSSUM GRANDE.

And various other ORCHIDS, particulars of which will be in Catalogue.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 7, at half-past 12 o'Clock.

Wednesday Next.

400 Cases of LILIUM AURATUM, just to hand, to be sold in Cases as received; also, 40 Cases of assorted JAPANESE LILIES in 8 varieties, 400 L. lancefolium roseum, 200 L. l. rubrum, 200 Amaryllis belladona; 500 Spiræa japonica, S. astilboides, S. aurea reticulata, and S. palmata; 6000 BURMESE LILIES, 6000 American PEARL TUBEROSES, 500 CARNATIONS, in variety; 360 TREE CARNATIONS, "Uriah Pike," 200 old Crimson CLOVES, 300 TEA ROSES in pots, IMANTOPHYLLUM MINIATUM, LATANIAS, KENTIAS, CORYPHAS, ARECAS, and ASPIDISTRAS from Belgium; 300 Scarlet BEGONIAS, PANCRATIUM Species, AMARYLLIS Species, Cape BULBS; HYBRID GLADIOLI, including Lemoine's, Kelway's, and brenchleyensis; Vallota purpurea, Japanese IRIS, Hardy BORDER PLANTS, CALCEOLARIAS, &c., together with a Consignment of PALM SEEDS, comprising—

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6,000	,,	RUBRA
2,500	,,	CRINITA

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The plants may be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, the Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

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2 ,, Wagneri
,, Lawrenceana
,, aurea
Cypripedium Leeanum superbum
,, œnanthum superbum
,, microchilum
,, Leucorrhodum
,, purpuratum
,, Wallisii
,, Chas. Canham
,, Savageanum superbum
Cymbidium eburneum
,, affine verum
Dendrobium nobile Cooksonii
,, ,, nobilius
,, ,, Sanderianum
Lælia anceps Dawsonii
,, ,, Williamsii
,, ,, Percivalliana
,, ,, (white)
,, purpurata alba
Masdevallia elephanteceps
,, melanoxantha
,, cucullata [num
Odontoglossum Andersonia-

Also 100 lots of ESTABLISHED ORCHIDS (another Property), including Cypripedinms Schlesingerianum, Morganiæ, Bartetii, tonsum, Calypso, Schroderæ, splendens, orphanum; also Masdevallias, Odontoglossums, and Cattleyas in variety.

Also 25 lots of ANGRÆCUM FALCATUM and IMPORTED ORCHIDS, from Messrs. Charlesworth & Co.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 10, at half-past 12 o'Clock.

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A Collection of well-grown Small Decorative Pl... FERNS, and other STOVE and GREENH... PLANTS; an Importation of 1000 Choice-named [va... ROSES, AZALEA MOLLIS, Ornamental TREE... SHRUBS, &c., from Holland; LILIUM AURATUM ... Japan; BEGONIAS and GLOXINIAS, and DAHL... variety; a fine Collection of BORDER PLANTS, ... many novelties; a small Collection of Choice V... &c.; TREE FERNS, PALM, CARNATION, ... GONIA SEED, &c.

MR. J. C. STEVENS will SELL the ... by AUCTION, at his Great Rooms, 38, King ... Covent Garden, W.C., on WEDNESDAY NEXT, M... half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had

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MR. W. T. D. SUTTON will SE... AUCTION, on the Premises, on TUESDAY ... 1895, at half-past 12 o'Clock, by direction of Mr. Wm ... many thousands of well-grown BEDDING and DEC... PLANTS, the Stock of a new COLEUS, favourably ... the *Gardeners' Chronicle*, and a great variety of othe...

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And following day, if necessary.

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GREENHOUSE, STOVE, and BEDDING-PLANTS,

Also GLASS-HOUSES, HEATING APPLIANCES, ...

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MR. CHARLES S. NEILSON, AUCTION... Falkirk, has been favoured with instructions to ... by PUBLIC ROUP, without the slightest reserve, at ... Park Nurseries, Edinburgh, on WEDNESDAY and TH... DAY, May 8 and 9, and following day if necessary, the ... of the Extensive and Valuable Stock of BEDDING ... PLANTS, GREENHOUSE, STOVE, FOLIAGE, & FL... ING PLANTS, hundreds of the most choice varie... AZALEAS, specially grown for flower-cutting; ... collection of Greenhouse RHODODENDRONS and Ta... PHYLLUMS, three magnificent specimens of STEPHA... largest known stock in the country of PELARGONI... robust health and bursting into gorgeous bloom.

Likewise the whole of the GLASS-HOUSES, HE... APPARATUS, and BUILDINGS will be offered at the ... the Sale, in lots to suit purchasers.

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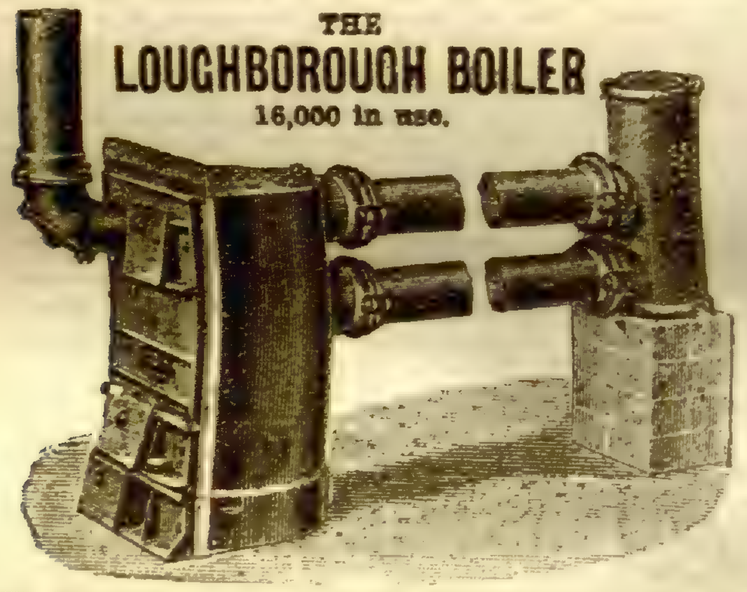

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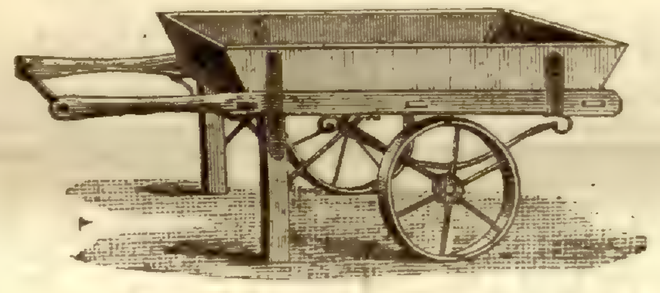

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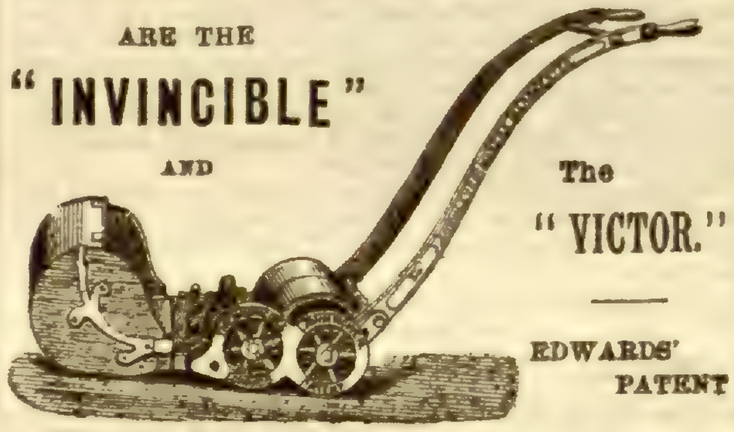

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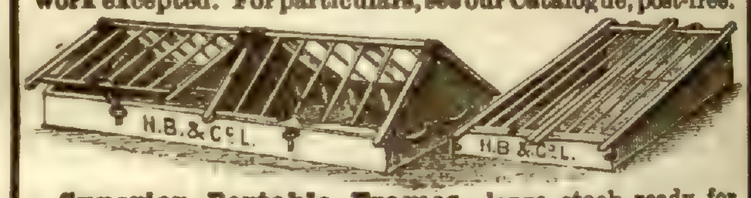

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The Gardens, Ravelston Black Hall, Midlothian, March 5, 1895.

All the three Machines I have had are working still, the first having been purchased seven years ago. I have not used any other for three years, as the men find them light and easy to work, as we have a very large extent of grass to keep, and the "New Easy" are fine running Machines, with rollers in front.

D. JARDINE.

Biggar, August 29, 1894.

GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.

ROBERT BOA.

Churwell, Leeds, August, 1894.

I have a "New Easy" Lawn Mower, pattern 1888, which I got from you in 1889. This is the sixth season, the machine has worked well (18-in.), and has cut ¼ acre lawn weekly by a lad since I got it, and it is good now.—SAMUEL ATKINSON.

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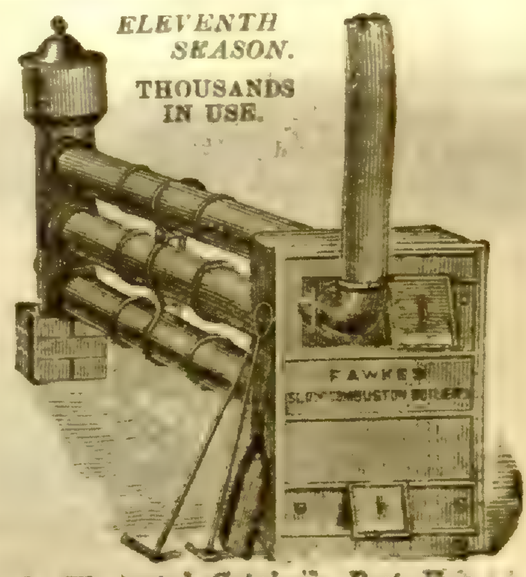

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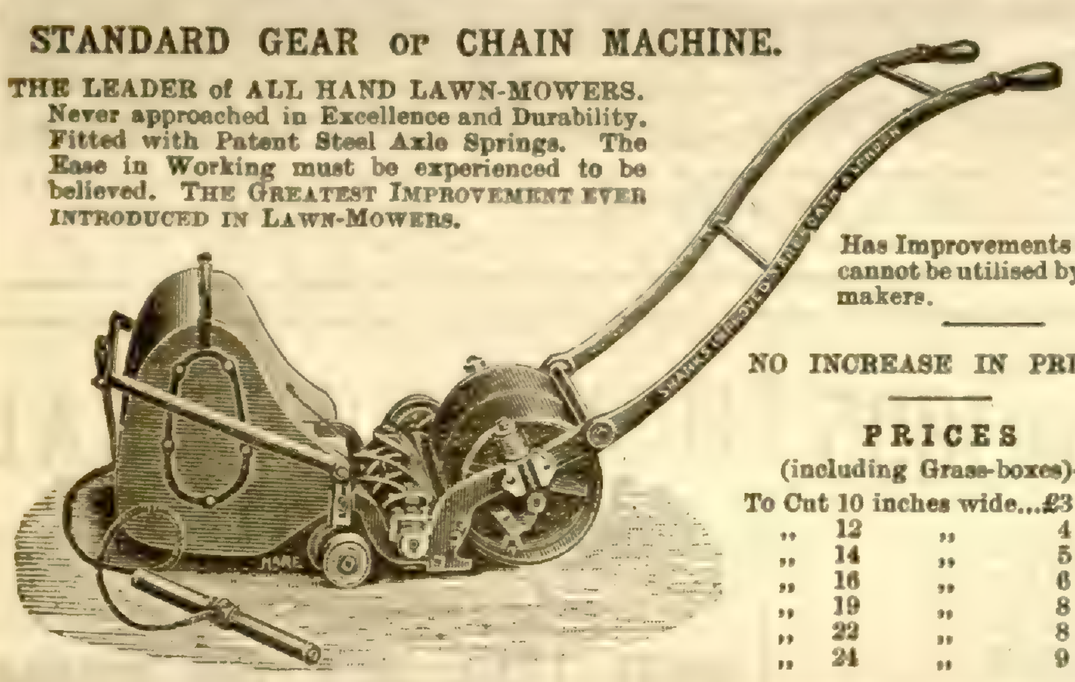

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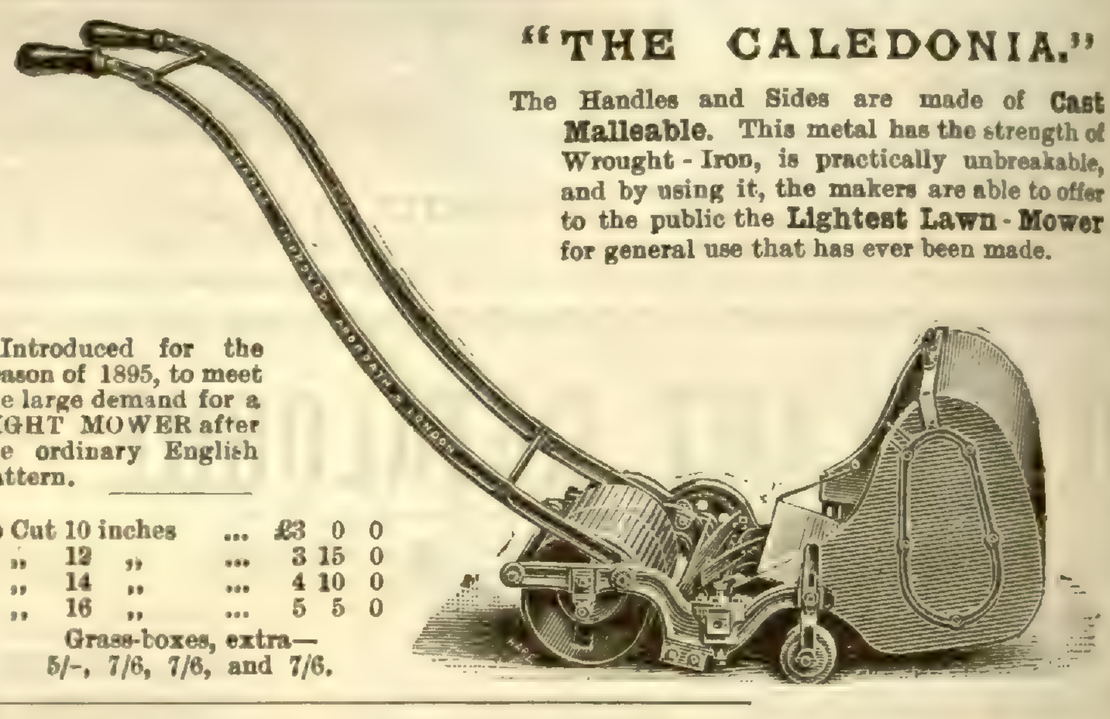

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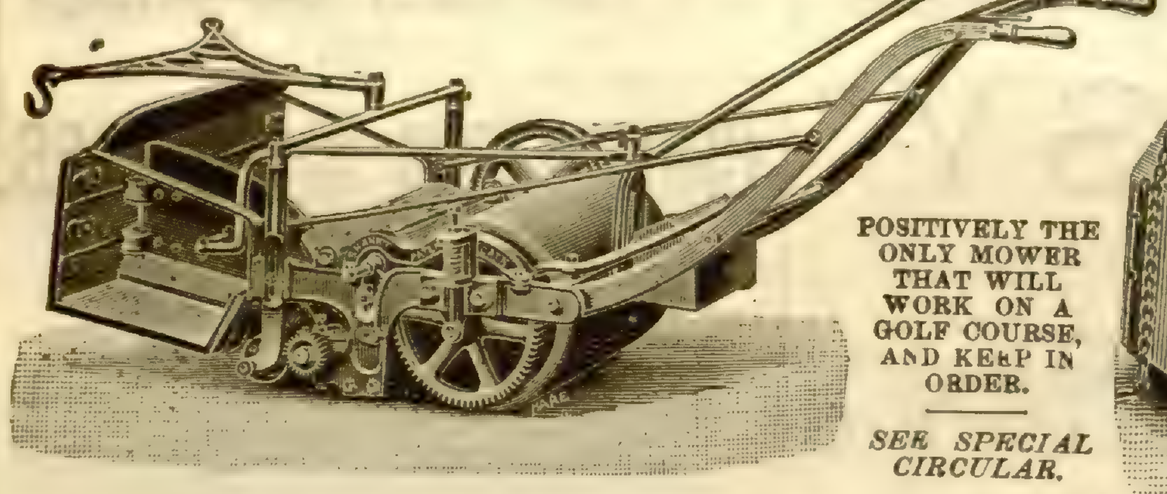

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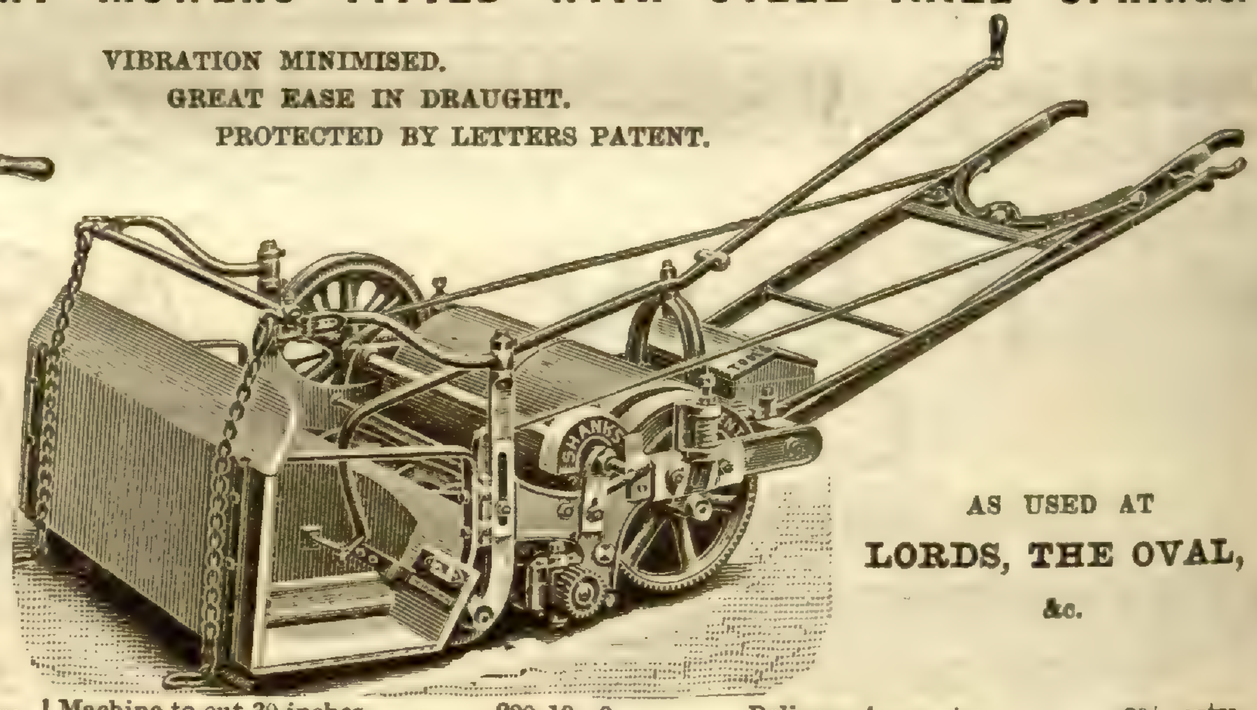

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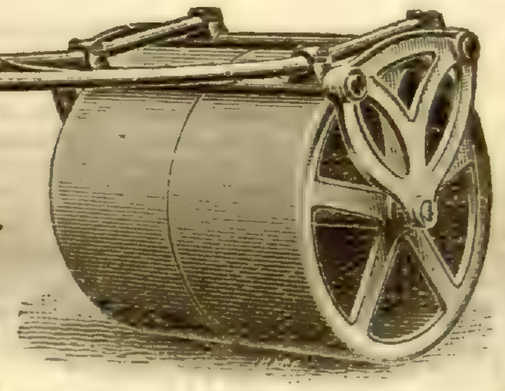

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THE

Gardeners' Chronicle.

SATURDAY, MAY 4, 1895.

FERNS.*

FERNS were at one time the objects of passionate admiration on the part of cultivators, and if at the present the ardour seems to have a little abated, ample compensation is to be found in the fact that zeal is now tempered with knowledge. There is a desire now-a-days to know more about the structure and relationships of these beautiful plants than there used to be, a yearning to know the how, why, and wherefore of the wonderful variation they present.

The life-history of the plants is better understood than it was. The original discovery of the sexual organs of Ferns is quite within the memory of the writer of the book before us, and we can ourselves remember when a good deal of reserve was still felt on the part of botanists in accepting the conclusions of Leszcyo-Suminski, first made known in 1848. Not unnaturally, if the botanists were shy the gardeners were more so, and hesitated still more to accept the new views as to the sexuality of Ferns. Now-a-days, one of the commonest laboratory exercises for tyros is the search for the "antheridia" and the "archegonia" on the "prothallus" of a Fern, and many are the hybrids recognised in gardens.

Ferns present a marked illustration of what is called alternate generation. The Fern plant is the neutral or asexual generation. It bears the spores, and hence is called the "sporophyte." When these spores germinate, they do not immediately reproduce the characteristics of the parent plant, but they develop into those small green plates which are familiar to Fern growers, and which constitute the "prothalli." On the under surface of each prothallus, as a rule, are formed numerous "antheridia," corresponding in function to stamens, and numerous "archegonia," corresponding ,to pistils. The "antheridium" contains "spermatozoids," or antherozoids. The archegonium contains a germ or egg-cell. When the sperm escapes from its case, it makes its way, aided by fine motile cilia to the archegonium, enters it, and impregnates the germ cell, which develops into an embryo plant. This embryo plant ultimately develops into the ordinary or Fern-plant, bearing spores, and so the cycle is completed. The prothallus is sometimes called the "oophyte," or "gametophyte," because it represents the sexual state of the Fern, as the spore-bearing form represents the asexual condition. These facts are now well established, but it is necessary to recall them to non-botanical readers in order that we may the better explain to them the significance of Mr. Lowe's researches.

Of course, as soon as the sexuality of Ferns became an accepted fact, the notion arose that there might be hybrid Ferns. This assumption,

* *Fern Growing.* Fifty years' experience in crossing and cultivation, with a list of the most important varieties, and a history of the discovery of multiple parentage, &c. By E. J. Lowe, F.R.S. &c. With sixty-two illustrations. (J. C. Nimmo.)

however, met with but little encouragement. Sir William Hooker, and other Fern authorities, maintained a prudent reserve; nevertheless, the possibility of such an occurrence as hybridisation in Ferns could hardly be denied, and gradually the notion became accepted as true. Mr. Lowe then advanced further, and asserted the possibility of hybridising Ferns artificially. This notion was met on the part of the cultivators with vigorous denial. The thing was not possible, they said. Still, Mr. Lowe persevered. He could not, indeed, operate with the same directness and precision as the florist who, with due precaution, removes the pollen from one flower and deposits it on the stigma of another flower, but he could effect the commingling of different individuals by indirect means. This was effected by sowing spores taken from various plants thickly, so that the resultant prothalli might be in contact, and every facility thus offered for the transit of the spermatozoids from one prothallus to another. "The microscopic character of these organs was a difficulty to be overcome in crossing Ferns, and the only way to overcome this seemed to be sowing the Fern-spores thickly together, trusting to their close proximity to enable two or more varieties to be self-crossed. The antheridia or male organs" [The author clearly means the antherozoids.] "having been noticed to move about with activity in the moisture on the surface of the prothallus, it was thought possible for them to come in contact with the archegonia on another prothallus, and thus fertilisation would take place on a different plant, and this has been accomplished." Mr. Lowe commenced this part of his work in 1851, and his experiments have been repeated by others. Striking results were obtained, but at first these were attributed to natural variation, or, any cause rather than hybridity or cross-breeding. But as time went on, and the results increased in number, the evidences of crossed parentage became irresistible, and no one now, as we suppose, doubts that hybrid or cross-bred Ferns do occur, and that they can be produced artificially in the way we have mentioned.

The book before us gives the history of the progress that has been made quite clearly and distinctly. The author has reprinted the remarkable paper that he read at the Fern Conference at Chiswick in 1890, when so striking an exhibition of Ferns was held. In the paper alluded to, attention was called to another most singular fact—that of multiple parentage. Botanists are still in the reserve stage as to the possibility of such an occurrence; but as former doubts and reserves have been solved practically, so also may this be.

A further experiment, says Mr. Lowe on this head, was the mixing together the spores of half-a-dozen varieties of the Lady Fern; and, at another trial, half-a-dozen varieties of the Hart's-tongue Fern. This brought out a new fact—there were seedlings that showed the characters of three, or even four, varieties on a single frond, so that the spermatozoids from several varieties had assisted in this act of impregnation. This statement staggered the botanists, who have hitherto believed that only a single spermatozoon enters the archegonium of a Fern. But as in other Cryptogams, and in many of the lower animals, numerous spermatozoa are found in contact with the egg-cell, it is quite possible this may also be the case in Ferns. Some day this may be proved by actual observation; meanwhile, there are the multiform Hart's-tongues raised by Mr. Lowe.

Spores taken from the undulate form, the spiral form, the rugose form, the tasselled form, were in fact, all mingled and sown together, and in the resultant seedlings on the self-same plant—nay, sometimes on the same frond—the characteristics of these four forms may be seen together. The plants were exhibited at Chiswick and elsewhere, and some of them are figured in the present book.

How can the facts be otherwise explained than by what Mr. Lowe calls multiple parentage? There are a few somewhat analogous cases known in the animal world, which are mentioned in Darwin's *Origin of Species*, and in his *Plants and Animals under Domestication*, but it is clear that Mr. Lowe's assertions, supported as they are by the very remarkable evidence he brings forward, need now to be investigated by microscopists. No doubt Mr. Lowe would put some of his experimental prothalli at the disposal of a microscopist, who would probably soon ascertain whether more than one spermatozoon fused with the egg-cell. It is possible also that there may be slight differences in anatomical structure between the several forms, and if these characteristics were re-produced in the seedling form, the evidence of crossing would be greatly strengthened. Mr. Lowe's further experiments in dividing the prothallus so as to isolate the newly-produced seedling, we can only allude to in passing. As there are several archegonia on each prothallus, it is quite conceiveable each might be impregnated by a spermatozoid from a different variety, if in near proximity.

Mr. Lowe, after giving a general sketch of his work during fifty years—a sketch made up, to a large extent, of papers and communications to various societies—then proceeds to give in fuller detail the results of the more important of the 900 experimental sowings that he has made. This part of the work is copiously illustrated with woodcuts, but it is obvious that we cannot follow the author through all this detail. It must suffice to recommend it to the most careful consideration of experts. We must also add that many cultural details are given which will have special value as coming from so old and experienced a cultivator.

The book, which is handsomely got up, ends with brief memoirs of eminent Fern-growers, Col. Jones, G. F. Fox, Major Cowburn, Mr. A. Clapham, and Mr. J. G. Mapplebeck, of whom also portraits are given. All, save the last-mentioned, are dead.

GUNNERSBURY PARK, ACTON.

The Peach-cases at Gunnersbury Park are full of interest at this season of the year. In the earliest parts the fruits are well forward; in later parts, the trees are in full bloom. It is a pleasing study to note the differences in size and colour of the blossoms—some small, others large; some quite rosy in colour, others so pale as to be quite blush. One of the finest heads of bloom is on Grosse Mignonne—a superb sight, on account of its rich colour; for depth of colour in the blossom, Rivers' Orange Nectarine is, perhaps, unequalled. Mr. G. Reynolds speaks very highly of Belle de Doué, which bears handsome, melting fruits; Dymond, Nectarine Peach, Sea Eagle, Grosse Mignonne, and Alexandra Noblesse are all favourites here; Violette Hâtive is one of the earliest. The best late varieties are Sea Eagle, Nectarine Peach, and Princess of Wales. Highly as Goshawk is sometimes spoken of, it does not do well at Gunnersbury under glass. Of Nectarines, Lord Napier, Pine-apple, Dryden, Stanwick Elruge, Rivers' Orange, Elruge, and Violette Hâtive are all very good.

In the management of these cases, Mr. Reynolds endeavours to maintain an equable mean between hot sunny mid-days and the greatly-lowered temperature of morning, evening, and night; the wall at the back is on a northern exposure, while the Peach border is at a lower level than the roadway by the wall. In his early house, there are fine trees of Early Alfred and Grosse Mignonne Peaches, and Lord Napier and Pine-apple Nectarines; but as it occupies an elevation and is much exposed, the crop is not so early as would otherwise be the case. Mr. Reynolds in his Peach-case has a number of trees of Peaches, Nectarines, and Plums in pots, all flowering well. Among the Peaches are Golden Eagle, Lady Palmerston, and Gladstone as a late variety, also the Victoria Nectarine.

Pot Vines of Frontignan and Black Hamburgh are doing well, carrying abundant crops of fruit, both commencing to colour. In the early vinery there is also an excellent show of fruit, while the large range is active, thinning having commenced in the earliest of the four divisions.

The Fig-case, which contains huge trees of the White Marseilles and Brown Turkey, is always interesting, the trees are in the finest condition and cropping well. How liberally Mr. Reynolds feeds them! On the border lies a thick coating of manure, full of a fatty richness, upon which the surface-roots appear to feed greedily.

The Cherry-house here has an abundant setting of fruit. Late Black Bigarreau does not appear to succeed under glass—at any rate, it does not set its fruit well. Late Black St. Margaret is doing better the third year than in the two previous years; Mr. Reynolds thinks it needs to be well established before it can succeed. The night temperature is kept at about 40° until stoning is completed, then the trees are hastened a bit more.

The Plant-houses.—Everything is in the best condition. Odontoglossums are bearing fine spikes, and Masdevallias are vigorous, and full of promise. There is a wonderful house of Eucharis in pots, 10 to 14 inches in diameter, the plants in the very pink of condition. Mr. Reynolds does not pot until they are thoroughly pot-bound, and vigorous as the plants are, they do not appear to root through into the fibre-bed upon which the pots stand. Weak liquid manure and soot-water are frequently given. They are continuous in blooming, and appear to flower in batches.

In one of the mixed plant-houses, Begonia Gloire de Sceaux is a fine feature; under clear skies, and in a dry intermediate temperature, it blooms grandly, the deep pink flowers contrasting well with the bronzy foliage; it makes an effective table plant, attractive alike by day and night, and it is almost a perpetual bloomer. Gunnersbury Park is near enough to the metropolis to catch the London fogs, and they affect this Begonia in mid-winter. Mr. Reynolds points out that in propagating by means of cuttings, a shoot should be selected near the base, in order to ensure a bushy plant.

In one of the frames Primula obconica could be seen to great advantage; a large number of plants from seed display remarkable variation.

Out-of-doors' Fruits.—On every hand there is a great promise of bloom on all outdoor fruit-trees, but all are very late, and with the cold nights but slow progress is made. Gardeners everywhere are earnestly desirous that genial spring weather may set in at this critical period, so that the kindly fruits of the earth may develop under the most favourable conditions, and be fully enjoyed in due season. *R. D.*

ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUM ELLIOTTIANUM.

A splendid flower from the original importation of this plant, has been sent by Joseph Broome, Esq., of Sunny Hill, Llandudno, and it shows the variation from the typical C. Rothschildianum, viz., the ivory-white ground colour of the flower instead of yellowish-white, and the deflected instead of horizontally extended petals, and some difference also in the

staminode. The petals of Mr. Broome's flower measure 11 inches from tip to tip; the broad ivory-white sepals are distinctly veined with chocolate-purple, and the petals spotted and striped with the same colour. The lip is white beneath, mottled and veined with brownish-rose on the face, the upper part being yellow. It is a beautiful flower, cut from a well-cultivated plant.

THE OLD BEECH TREE AT WENTWORTH WOODHOUSE, ROTHERHAM.

Our illustration is that of a magnificent specimen of the common Beech, Fagus sylvatica, standing in Lord Fitzwilliam's pleasure grounds at Wentworth Woodhouse. The height of the trunk is only 5 feet, circumference of the same at 3 feet from the ground, 18 feet; diameter of the crown, 128 feet, and circumference 360 feet.

As will be seen by these measurements the tree is not remarkable for the size of its trunk, but rather for its peculiar form and the enormous spread of its branches. All the main branches spring from one centre, and it might be supposed that its top or leader had been taken out when young, which caused this peculiar form of growth; "but upon a close examination," says Mr. Hughes, Lord Fitzwilliam's gardener, who kindly furnished us with these particulars, "I do not think this is so, but is simply a natural break. Two large branches rest upon the ground, and have taken root. Unfortunately, one of its largest branches was broken off by wind some years ago, which diminished its circumference somewhat."

FLOWER-BEDS IN HYDE PARK.

The note by Mr. S. Plimsoll, which was inserted in the *Gardeners' Chronicle* of last week, pictured such a scene of floral magnificence and profusion, that I was constrained to visit the park for the purpose of verifying and enjoying it. Alas, a Haarlem bulb field yields an infinitely greater and superior display of Hyacinths, Tulips, and Daffodils. What sense of proportion is there in a writer who compares the endeavours of a park gardener to beautify a strip of turf of 20 yards in width, and perhaps 300 yards in length, with those glorious bulb fields above noted, or with the magnificence of the floral beauties of India, Ceylon, Australia, or the Cape? What comparison is there to be found in it with the acres of cultivated Iris lævigata (Kæmpferi), the Pyruses, the Wistarias, and the Camellia-filled woods of Japan, or, say, even the Cherry orchards of Kent, or the display made by the cultivators of American plants in this country in June? The rain has taken the colour out of the Hyacinths, and they will never look so fine as they were a fortnight ago. The Tulips are mostly at their best or about to open their showy chalices, and several choice varieties were noted, viz., Purple Prince, Chrysolora, pure yellow—a beautiful flower; Duchesse de Parme, orange-red, with a yellow edge; Pink Perfection, a dwarf good flower; Proserpine, dark rose; and Austrian Prince, red and yellow. The prettiest bed was a mixed one of early Tulips of all colours, and opening at the same time, with plants of Doronicum austriacum dotted amongst them in sufficient numbers to hide the ground from view, and serve as a setting for the flowers. This bed, the only one of the kind, will look still better when the Doronicums come fully into flower.

Some beds of Hyacinths or Tulips were of one colour and variety, others of the same were dotted over with Narcissus bicolor, or the varieties of it, Horsfieldii, Emperor or Empress, or with the Poet's Narcissus, &c. These latter are preferable to the solid parallelograms of one colour and variety. Pansies are a good deal made use of to hide the ground and form carpets of verdure and blossom, contrasted as regards the colour of the blossoms with the bulbous plants, and sparingly planted amongst them. In this manner also some beds of Dielytra spectabilis with Pansies between will shortly have a charming effect. This Hyde Park flower garden is well worthy of a visit, as showing what bold telling

Fig. 76.—Ancient beech at Wentworth Woodhouse, Rotherham.

effects can be obtained by the lavish use of a few species of bulbous plants in severely restricted variety.

It occurred to the writer that it would not add much to the expense of making the beds if seeds of Poa trivialis, P. pratensis, and Festuca ovina were sown after the bulbs were planted, so as to hide mother earth somewhat by the herbage of these grasses; grass seeds sown in late September or October vegetating sufficiently by the April following to attain this end, and it would greatly enhance the floral effect of each bed. *Pro bono publico.*

DROPMORE.

It is specially satisfactory to learn, that however great may have been the harm done generally, that this fine place and its many noble trees and shrubs passed through the severe winter and the later fierce windstorms almost unscathed. The Coniferæ are untouched excepting Sequoia sempervirens, the well-known Redwood, which is in places much browned by frost, and one or two varieties of Cupressus. Of evergreen trees and shrubs the evergreen Oak is almost alone browned. Many of the fine early Rhododendrons dotted about the grounds were full of bloom at Easter. So also were fine examples of Andromeda floribunda, Kalmias, Rhododendrons—indeed, all other shrubs, doubtless thanks to the abundant tree cover, are all unhurt. Very little change is being made, as all the old favourite features seem to be carefully preserved. Now and then some fresh trees or shrubs are planted, but there is little room for work of that description.

In every sense Dropmore remains one of the most secluded, sheltered, and enjoyable of places, and it seems as if weeks might be spent in walks amidst its woods, and masses of Rhododendrons, and Azaleas, without becoming tired. Whilst there will not be so much of bloom on the Ponticum forms of the former, Azaleas will presently be blooming most profusely, and at Dropmore they are indeed in great masses wondrously beautiful. Whilst wild Primroses are happily plentiful in the woods, some beautiful varieties are blooming finely in the flower gardens. Some pale-hued ones in a semi-wild form, and others of far bolder and richer hues in beds. All sorts of Daffodils and Dog's-tooth Violets, Squills, and similar hardy early flowers bloom here abundantly. The old garden features are still retained as being essentially a part of Dropmore attractions, the quaint Japanese pedestals and vases that look so exceedingly pretty in the summer when filled with plants, are all carefully guarded and retained. But whilst woodland and forest trees seem as if they would grow on for ever, fruit trees are not so enduring, hence Mr. Herrin has wisely provided against such contingencies by planting both in the home kitchen garden and in the large walled-in garden. Near the farm now under his control, large numbers of Apple, Pear, and Plum trees, more especially in the remoter garden, are in the stiffer soil doing wonderfully well; stout, clean, sturdy, yet largely full of fruit-buds, that will soon make each little tree a picture of beauty. These trees are all round the margins of the four large quarters into which the garden is divided, are four years planted, and should give a grand lot of fruit.

Generally, young Pears are less full of bloom than are old ones, but young and old Apple-trees alike are full of bud, and promise an abundance of bloom. Whilst Strawberries usually do well here, it is found best to treat Noble practically as a biennial, for plants taken from ordinary runners are put out on a south border 12 inches apart each way, and a very early and fine crop is produced, thus the same ground is recropped with this variety every other year. Cherries on walls, and as bush or standard trees, do remarkably well, and seem quite at home all about the district. There is in the woods an old wild tree having three or four big branches, and from out of the crutch these form there is growing quite a large Yew that seems to have rooted right down the main stem.

It is needful to have an abundant supply of vegetables, and to help through the winter some 5000 of stout Seakale roots, are obtained from root cuttings each year. Cabbages have stood the winter well, and are just turning in. Even white Broccoli have stood fairly well. Tomatos of the variety Abundance—Mr. Herrin's own raising—are in one of the houses, producing fruit in abundance, and will carry a wonderful crop. *A. D.*

AMERICAN HYBRID CYPRIPEDIUMS.

In our number for February 16 we gave a list compiled by Mr. H. J. Chapman, of the principal hybrid Cypripediums. The names of the parents and of the raisers or introducers were also given. This list is now reprinted in book form, and may be had on application for 2*s.*, the net proceeds to be given to the Gardening Charities. Since the list was published, a similar list of French-raised forms has been issued (p. 370), and we now take from *American Gardening* of March 23 a corresponding enumeration of the more important varieties raised in America, omitting those which have already been mentioned:—

Parents.	Raisers, etc.
Boxalli × barbatum	Pitcher & Manda
,, × Haynaldianum	Graves
,, × Javanicum	Graves
,, roseo-marginata × insigne barbatum × Lawrenceanum	Graves
,, × purpuratum	P. & M.
,, biflorum × Boxalli atratum	P. & M.
,, cœrulescens × Boxalli	Graves
,, Crossii × insigne Kimballianum	Graves
concolor × venustum	P. & M.
Dayanum × Boxalli	Graves
Harrisianum × tonsum	Graves
Hookeriæ × insigne maculatum	Graves
,, × ,, maximum	Graves
,, × Spicerianum	Graves
insigne × Javanico-superbiens	Graves
,, × tonsum	Graves
,, Chantinii × auroreum	P. & M.
,, × hirsutissimum	Graves
,, × Fairieanum	Graves
insigne Amesianum × villosum	Graves
,, ,, × ,,	Graves
,, ,, × ,,	Graves
Maulei × Dayanum	P. & M.
,, ,, × ,,	Graves
maximum × Swanianum	Graves

Offspring.	Raisers, etc.
Harrisianum × lineatum	Graves
Proctus	Graves
vernixiodes	Graves
Schlesingeria	Graves
almum atropurpurato	Graves
barbato-purpuratum	Graves
apiculatum atratum	Graves
,, splendens	Graves
Bartelli augustatum	Graves
Marshallianum	Graves
Scylla	Graves
Modestum	Graves
œnanthum gigantenm	Graves
,, varium	Graves
Eurydice	Graves
Vibilia	Graves
Krishna	Graves
Ephialtes splendens	P. & M.
Alcides Clio	Graves
Arthurianum punctatum	Graves
Sallierii immaculatum	Graves
,, striatum	Graves
,, obscurum	Graves
pellucidum porphyreum	P. & M.
Comus	Graves

Parents.	Raisers, etc.
Lawrenceanum × villosum	Graves
longifolium Hartwegi × Stonei	Graves
Lowii × Boxalli	Graves
,, × Spicerianum	Corning
magnificum × Schlimi albiflorum	P. & M.
,, × leucorrhodum	P. & M.
œnanthum × Boxalli atratum	Graves
Spicerianum × hirsutissimum	P. & M.
,, var. × Fairieanum	Graves
,, × ,,	Manda
,, × ,,	Graves
,, × ,,	Graves
,, × ,,	P. & M.
,, × ,,	P. & M.
,, × niveum	Williams
,, roseum × Boxalli	Graves
tonsum × Fairieanum	Ames
,, × Harrisianum	Graves
,, × venustum	P. & M.
venustum pardinum × concolor	Graves
villosum × ciliolare	Graves
,, × purpuratum	P. & M.
,, nureum × hirsutissimum	Graves
,, var. × venustum	P. & M.
,, × ,,	P. & M.

Offspring.	Raisers, etc.
luridum	Pitcher & Manda
Cunea	Graves
Beatrice nana	Graves
Smithii pretiosa	Graves
tenellum	Corning
Brownii leucoglossum	P. & M.
rubescens atrata	P. & M.
Media superba	Graves
Niobe aureum	P. & M.
,, nigrum	Manda
,, obliganthum	Graves
,, purpureum	Graves
,, Shorthillense	P. & M.
,, superbum	P. & M.
Isabellæ	Williams
Calypso splendens	Graves
Mrs. F. L. Ames	Ames
modestum inversum	Graves
Tonso-venustum	P. & M.
Marshallianum Gravesiæ	Graves
Pygmalion	Graves
concinnum pallens	P. & M.
Germinyanum aureum	Graves
Amesianum grandiflorum	P. & M.
,, atratum	P. & M.

ROTATION OF CROPS.

A comprehensive and valuable pamphlet of some sixty-four pages has lately been issued from the Agricultural Experimental Station at Rothamsted, prepared by Sir John Lawes and Sir Henry Gilbert, on the *Rotation of Crops*. The subject is one of the utmost importance to the agriculturist, and we believe equally to the horticulturist.

The practice of rotation is admitted to be the foundation of the improvements in our own agriculture which have taken place during this and a considerable part of the last century. It is essential, therefore, carefully to consider, both in what the practice itself consists, and how its benefits are to be explained.

If the rotation of crops as followed in England, and over large portions of Europe, were to be defined in the fewest possible words, it might be said that it consists in the alternation of root-crops, and of leguminous crops, with cereals. In the United States, however, it is a graminaceous crop—Maize—which largely takes the place of root-crops in Europe.

The cereals—Wheat, Barley, Oats, &c.—constituting such a very important element of human food, it was natural that they should be grown almost continuously, so long as the land would yield remunerative crops. Hence, the history of agriculture shows that it very generally came to be the custom to grow the cereals for a number of years in succession, and then to have recourse to bare fallow; or, in some cases, to abandon the land to the growth of rough and weedy herbage, affording scanty food for domestic animals.

The improvement upon these practices, attainable by alternating other crops with the cereals, was very much earlier recognised in the case of the leguminous than of the root-crops, the introduction of which is of comparatively recent date.

It was, in fact, distinctly recognised by the Romans more than two thousand years ago, not only that certain leguminous crops were valuable as food for animals, but that their growth enriched the soil for succeeding crops—in fact, that they were of value as restorative crops grown in alternation with the cereals. There is, however, very scanty indication that root-crops were an element in their alternate cropping.

As in the agriculture of the ancients, so in that of more modern times, especially in our own country, various leguminous crops were grown in alternation with cereals long before roots were so interpolated.

It was, indeed, not until about the year 1730 that Lord Townshend, who, as Secretary to George I., had been in Hanover, and there seen Turnips growing as a field crop, on his return, introduced them on his own estate in Norfolk, and there founded the celebrated Norfolk four-course rotation of Turnips, Barley, Clover, and Wheat.

His own land was previously to a great extent a marshy or sandy waste, and its value was increased enormously under the new system.

It was thus that the four-course rotation, or, in other words, the alternation of root-crops and of leguminous crops with cereals, became established. Such alternation is in fact, the basis of all the various rotations which are now adopted.

It is worthy of remark that, although we owe the introduction of the essential elements of our rotations to the example of our continental neighbours, we, with one or two immaterial exceptions, obtain more per acre of all the staple saleable products of rotation, grain and meat, under our landlord, tenant, and labourer system, than any other country in Europe, or than in America, under whatever advantages of climate, or under whatever system of holding, or of size of holdings.

There can be no doubt that the effect of the extension of the growth of green crops was—to a great extent to get rid of unprofitable fallows, greatly to increase the supply of stock food, especially for winter feeding; so as to lead to a largely increased production of meat and milk, to a greatly increased supply of manure, and thus to enrich the

land for the growth of grain, which, accordingly, yielded much larger crops.

The first definite theory as to the benefits of the alternation of crops assumed that the excreted matters of one description of crop were injurious to plants of the same description, but that they were not so, and might even be beneficial, to other kinds of plants. We need scarcely add that the fifty years' experience at Rothamsted on the growth of various agricultural crops year after year on the same land for many years in succession, is conclusive against the theory of injurious or poisonous excretions, whilst the investigations which have been conducted both in the field and in the laboratory at Rothamsted show us wherein the real value and benefits consist.

Experiments on Rotation made at Rothamsted.

An area of 2½ acres is devoted to the purpose. The ordinary four-course rotation of Turnips, Barley, Clover (or Beans), or fallow, and Wheat was adopted for investigation. The experiments were commenced in 1848, so that the eleventh course of four years each was completed with the harvest of 1891; and the Wheat which was sown in October, 1894, will complete the forty-eighth year of the experiments.

The area of 2½ acres was divided into three main divisions, which have respectively been under the following conditions as to manuring:—1. Without manure from the commencement. 2. For the first nine courses, manured with superphosphate alone, applied for the Turnip crop commencing each course, that is, once every four years; for the tenth, and each subsequent course, salts of potash, soda, and magnesia have been applied, as well as superphosphate. 3. A complex artificial manure, also applied every fourth year, that is, for the Turnips commencing each course. This manure comprises superphosphate, salts of potash, soda and magnesia, ammonium salts, and Rape-cake; and it supplies about 140 lb. of nitrogen per acre for the four years' course, that is, an average of 35 lb. of nitrogen per acre per annum. This complex manure was designed to be, in great measure, a substitute for farmyard manure; and it was used instead of it, in order that the amount of the different constituents supplied might be more accurately known than would have been the case if farmyard manure had been employed.

Each year the amount of produce on each of the various plots is weighed; samples of each crop are taken; in all, the dry substance and the mineral matter (ash), and in many the nitrogen are determined; in many cases also complete analyses of the ashes of the crops have been made. Lastly, determinations of the total nitrogen have been made in the surface soils, and in the upper layers of the subsoils, at different periods; and the nitrogen as nitric acid has also been determined to a considerable depth. As to the results themselves, only brief reference to the main indications of these various investigations can be made. *J. J. Willis, Harpenden.*

(To be continued.)

AMERICAN NOTES.

(From Our Own Correspondent.)

THE TARIFF.

The Treasury Department has just issued a memorandum which settles definitely the questions as to import duty on plants which arose out of the interpretation of the Act of August 28, 1894. In a previous communication, a suggested classification, as drawn up by the New York Florists' Club, was given (see p. 112), and with a few alterations this has been accepted by the Board of General Appraisers.

These alterations consist of the taking out of the free list (Class A) Azaleas of all kinds, Cacti, Chrysanthemums, Lily of the Valley, and Roses of all classes. It would seem that these alterations are made merely to ease the work of the appraisers; but paradoxical or contradictory as these few rulings may be, it is a very great boon to the trade to have the tariff question thus put on to a definite basis. The New York Florists' Club deserves the thanks of all those who are engaged in the trade for having brought about the present position. It is one more instance of the generally accepted "l'union fait la force." There had been disputes innumerable, and not until a deputation from an organised body took up the subject did the officials unbend in the least.

Flowers at Easter.

Easter has come and gone! It is the season for the flower and plant trades, and the chief energies of the florists are centred in the endeavour to reap a rich harvest at that season. As is perhaps only natural, the growers made a desperate effort to "bull" the market — sacking their stock, as it is called here, that is, keeping it back after its real time. Well, there is no doubt that it was so this year, and as a consequence the market was glutted. One salesman in New York City received from one grower alone 100,000 Violets, and wholesale prices ranged from 10 to 75 cents per hundred blooms. Violets were everywhere, and a walk down Fifth Avenue on Easter Sunday is stamped on memory by the Violets which were worn—regular bouquets of Violets adorned (!) many a lady.

The great stand-by among Roses, American Beauty, was selling at 5 dollars per dozen, and curiously

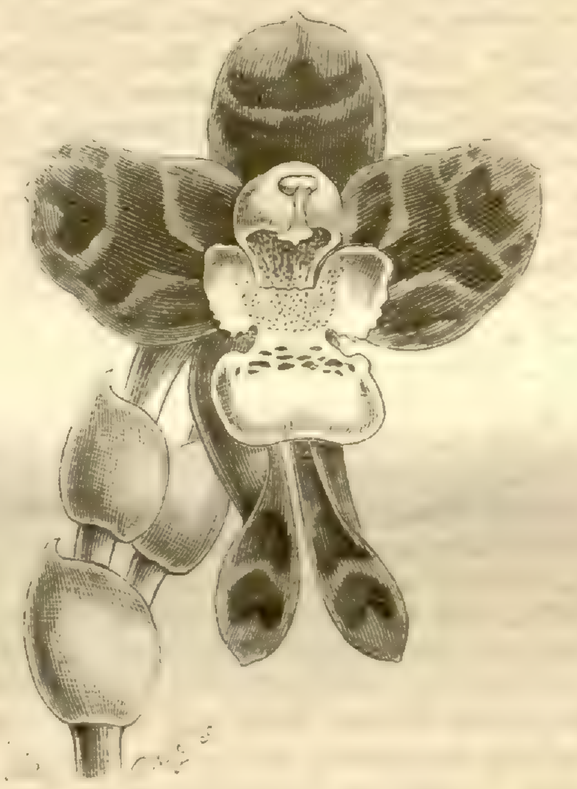

Fig. 77.—Batemania peruviana: sepals and petals greenish-coloured, barred with brown; lip white, with red spots.

enough blooms of Ulrich Brunner realised better prices, although it is devoid of the rich perfume of the former. Pink was the ruling colour in flowers, and Bridesmaid Rose was easy to sell; so also were Carnations of the desired colour. Generally speaking, the demand for Roses was flat, and for out-of-town orders Carnations were in the highest demand. Cut blooms of Lilies sold at 8 cents each, and were in profusion. One salesman disposed of 10,000 all from one source during the week preceding Easter Day. The cut flower business for Easter proper was bad, owing partly to the aforementioned glut, and also to the bad weather which prevailed on Saturday; there were many orders countermanded, which only increased the over supply.

Plants were selling well, however, and the report is that this branch of business was 33 per cent. better than last year's. Spiræas, Azaleas, Genistas, Hydrangeas, were the chief stock after the great Easter Lily (L. longiflorum Harrisi), the sales of which were enormous, almost every house and shop-window having one in it. Hyacinths, and Tulips in pots were also good, and so too were Pansies, and forced Lilac, a few plants of Boronia heterophylla were to be seen—but only a very few. Azaleas are set off curiously; the pot is wrapped in a large quantity of *crêpe* paper, pink for a pink variety, white for a white, &c., and from a distance the plant seems to be unusually large, but on close approach we see it is only decorated in the same way as is the knuckle-end of a boiled ham in the cook-shops, there is the silk ribbon too which is tied round the paper."

BATEMANIA PERUVIANA.

The genus Batemania was founded by Lindley on a species sent over by Colley about the year 1834, when collecting in Demerara for the great pioneer of Orchid culture, James Bateman, Esq., now of Home House, Worthing, and in Batemania Colleyii the names of both the collector and his employer are commemorated. Notwithstanding the fact that in more recent times the calling of some of the leafy Zygopetalums Batemania has rendered us familiar with the name, the genus was for a long time monotypic. The present introduction (fig. 77), was exhibited by Messrs. F. Sander & Co., St. Albans (the importers), at the meeting of the Orchid Committee of the Royal Horticultural Society on March 26, 1895, when it received a Botanical Certificate. Its sepals and petals are of a greenish hue, barred with purplish-brown, the lip white, with reddish spots. It is a singular species, and pretty withal.

THE ROSARY.

THE EFFECT OF LAST WINTER ON ROSES.

Small as is the area of our islands, their geographical position subjects them to greater variations of climate than perhaps any other country in the world, while the influence of that mysterious flow of water known as the Gulf Stream affects many parts which, from their position, we might naturally expect to be colder than they really are. Thus, the south-west part of Scotland, Wigtonshire and the adjacent counties, although so far north, are rarely visited by frost or snow. Fuchsias attain a height of 30 or 40 feet, the Himalayan Rhododendrons grow and bloom profusely, and the more tender members of the Coniferæ grow with a luxuriance quite unattainable in many parts of the kingdom; and therefore it is, that when we come to look back upon the effects of a severe winter like that through which we have lately gone, when the cold has been so prolonged in general, we meet with some curious facts in connection with the condition of our Rose trees which are difficult to explain. We read, for instance, of the mildness of Cornwall, and we think what a splendid place it must be for growing Roses; grow they most certainly will, and rather too luxuriantly. But that keen horticulturist, the late Hon. and Rev. J. T. Boscawen, who resided at one of the most lovely spots in the county, said that he never could grow an exhibition Rose, and he did not believe it ever could be done in any part of the county. The neighbouring county of Devonshire is different, it is not so humid; and we know what grand Roses have come from Mr. Baker of Exeter, Messrs. Curtis & Sanford of Torquay, and others. I have endeavoured to collect from various parts of the country returns as to the effect of the past winter upon Roses—and how puzzling they are; thus, I have two returns from one locality within a mile of each another; one speaks of deplorable losses, the other says "my losses are not above the average." Some say that they have protected their Roses, and in some instances the protection seems to have been useful, while in others it has utterly failed. In my own small collection I do not find that my plants have suffered more than in less severe winters; we had, it is true, a good coating of snow, about 4 inches, and my plants were all well mulched. The Teas have all been killed down to the snow-line, and some of them killed altogether. I do not think that anyone, after last winter's experience, will venture to assert that Tea Roses are as hardy as hybrid perpetuals. Of course, some kinds have suffered less than others, being of a hardier constitution, and the more tender

kinds, such as Countess Nadaillac and Ma Capucine, have succumbed in thousands. There are some things which I cannot understand. I have on the low wall of my greenhouse, facing due south, two plants, Madame Chedame Guinoisseau, and Catherine Mermet; the snow on the house melted, and came down on these two bushes in icicles 1 foot and 1½ foot long; these were added to by fresh accumulations until many of the branches were covered with a solid block of ice; but I have just now cut a piece from each of these in which not only is the wood perfectly sound, but shoots have been formed 1 inch and 1½ inch long, and apparently as vigorous as usual.

It has again been demonstrated, I think, that Roses suffer less from severe frost when the climate is comparatively dry and the situation high. There is another factor which has not a little to do, I think, in many cases, with the crippled condition of Roses. I mean that terrible frost that we had on May 20 last, which in many cases necessitated cutting away all the new growth; where this was the case it seems to me that two results followed. Considerable strain was put upon the Roses in making fresh growth, and owing to the lateness at which this growth was made, the wood could hardly be in a sufficiently ripened condition to resist the influence of the severe frost; of course, I may be wrong in these notions, but they do seem to me, in some measure, to account for the varied condition of Roses in different places. In my own small garden, for instance, where that May frost never entered, and not even a Potato haulm was blackened, I do not find that my losses are more than those of ordinary years. I have only lost about half-a-dozen Teas, and these have succumbed not so much to the frost as to the original weakness of the plants; of Hybrid Perpetuals I have hardly lost any, while Roses on the walls, such as Rêve d'Or (planted due east), Madame Bérard, Bouquet d'Or, and others of a similar character are sound and healthy—they have lost some wood, of course, but this has been cut out, and the trees are fast shooting out. Some plants of Comtesse de Nadaillac, Ma Capucine on the south wall I feared I had lost, but they are now shooting out afresh. I have seen that some one has complained that Crimson Rambler is not hardy, but my plant of it, planted in a thoroughly exposed position, is completely untouched by the winter, so that altogether I have but little to complain of.

Passing away from my own limited experience, I now give the statements that have been forwarded to me by various correspondents. As might have been expected, the most favourable account came from Devonshire, as the following letter from Messrs. Curtis, Sanford & Co., from Devon Rosary, Torquay, testifies: "Our soil is clay, our lowest recorded temperature was 21°.6, no H.P.'s damaged; a few of the tender sort of Teas such as Niphetos, both on standards and dwarfs, killed; but I do not think this is so much to be attributed to the frost as to the strong east winds charged with a white deposit, which we experienced in January and February, and which was so thick as to whiten the meteorological instruments. There was no damage done to dormant buds, nor were any of our Roses protected." Very different is the account from South Wales, a locality which does not generally suffer from the extremes of frost, for Mr. Treseder of Pwll Coch Nursery, Cardiff, writes, "I never saw Roses cut so badly; I had nearly a thousand half-standard Teas, and fear they are all killed. I see just a trifle of life in some of the dwarf Teas, but most of them I fear are ruined; the sorts which have suffered mostly are Madame Cusin, Madame de Watteville, Comtesse de Nadaillac, Catherine Mermet, and The Bride. I believe the plants that I planted in the autumn fared better than the stronger plants that were planted two years since, although I had them protected with straw." Messrs. Keynes, Williams & Co., of Salisbury, write, "The frost here has hit the Roses hard, standards especially, the tender kinds are killed outright; we are almost afraid to examine the dormant buds; we bud facing west, with stock leaning to the east, and are in hope that the keen east wind was in too much hurry to stop and punish the dormant buds." I may here mention that this firm reports an extraordinary sale of Lord Penzance's Sweet Briars, and says that they ought to have propagated twice as many, as some orders have to go unexecuted; this is good news, not only for them, but for our gardens generally, for which these Roses will form a pleasing addition. Bath is generally looked upon as a sheltered and favoured locality, but it, too, has felt the severity of the past winter, for Messrs. Cooling & Son write, "Teas have suffered as much with us as in the north—in fact, we may be more punished, as we had less snow than in some places; all are killed down, and I am afraid many of the weakly varieties are killed outright. Perpetuals do not appear to be hurt, excepting a little batch we had taken up and heeled-in; these were all killed, strange to say. Standards, both H.P.'s and Teas, are, I think, a good deal injured, and show it more the last few days than they did at first; and a good number of the Briars planted in the autumn are killed—all which were at all sappy are gone. The dormant buds, as far as we can at present judge, look better than we expected. We inspected our standard Teas yesterday, and we do not think we have lost more than a third." From Canterbury, which, by many, is considered of necessity, a warm position, but is, I think, far from being so, for it lies in the valley and has the sluggish stream of the Stour flowing through it, forming a little further on, those Sturry marshes which Sidney Cooper has made famous by his beautiful pictures of cows, &c., so that there must be always a certain amount of damp, and it is just the position in which frost is most likely to be injurious. So Mr. George Mount says "I think everything unprotected is cut down to the snow line. I have never seen such havoc with the H.P.'s, but am glad to say my Teas have escaped, for, dreading a severe winter, I went to great expense and trouble in covering up permanently planted Teas in my long border; and all my maiden Teas, both standard and dwarf, I took up just as the frost came, and laid down in a cool-house, and some outside, protected by mats and bracken. If I had not done so, I should not have had one left; as it is, the H.P.'s, both standards and dwarfs, are injured so that there are not many fit to send out. I am very sorry to say my strong climbing Roses (Richardson's, &c.) on the boarded fences are all gone, they were too large to cover up in any way." From Reigate, which I think may be regarded as the metropolis of amateur Rose growing, associated as it is with the names of Baker, Brown, Ridout, West, Wollaston, and others, we have a somewhat chequered, but, on the whole, more favourable record, for Mr. T. B. Haywood says, "I do not seem to take such a gloomy view of the Rose prospects as some of my friends do. I have had to prune very hard, and do not think I shall lose more plants than usual. I am uncovering Teas to-day, and to all appearance they are all right." Mr. R. E. West writes:—"My Roses were well earthed-up early, and the wood was nice and hard, mainly due to my system of taking out all old and sickly wood early in August or middle of July, according to the state of growth. My H.P.'s appear right, except A. K. Williams, which, I fear, are all dead, like my half-standard Teas. Dwarf Teas appear to have nearly all stood the cold except my Nadaillacs; they are all dead, I believe. The intense frost settled all my half-standard Teas, perhaps because I omitted to protect them; but I know others who did protect that are equally unfortunate." He adds, "I have no dormant buds." *Wild Rose.*

Rose Madame Plantier.

This, one of the hybrid China section, is deserving of extended culture. As an out-door Rose it flowers freely, and a group of it forms an interesting object in the garden. Cultivated in pots and flowered in March, it is a very valuable addition to the attractions of a conservatory; the pure white flowers are abundantly produced in close clusters, and their fragrance is delicious. *E. M.*

Forestry.

Profitable Wood Management.

While confirming a great deal of what I stated on this subject, Mr. Elwes challenges me in a recent number of the *Gardeners' Chronicle*, to furnish one instance of woods having left any return for rent, taxes, &c., and capital expended in planting them. As this is practically equivalent to saying that woods yield little more than would cover the cost of felling them, I think Mr. Elwes is inclined to take rather too gloomy a view of the subject. Before a proper understanding can be arrived at, however, it is necessary that some definition of the term "wood-management" should be given. Mr. Elwes gives an instance of woods which are and have been "a good deal better managed than common." What degree of perfection this description may represent, I cannot say, but judging from the little I have seen of wood-management, good or otherwise, their superiority in this respect probably accounts for their failure from a financial point of view. A few reasons for woods proving unprofitable have already been given, and it is not difficult to find others. Can Mr. Elwes instance a plantation crop in the South of England, grown on not less than 50 acres, which has been formed, managed, and felled on the same principles as those involved in growing a crop of Oats or Turnips, on a well-managed farm? Would the latter crops be considered intelligently grown if the cost of cultivation and sowing amounted to half or three-fourths the value of the mature crop, if weeds and rubbish covered a considerable portion of the ground, and early and late ripening varieties were mixed up together? Would cutting or pulling one-half of the crop a couple of months before it matured, and the remainder the same period of time after it ripened, be regarded as good farming? Yet this is exactly the state of matters in the average estate plantation. Lastly, mixtures are planted for the sake of appearance, which run up the cost of formation to five or six times what it need be, patches of shrubs and rubbish are maintained for game cover, specimen trees are stuck in here, there, and everywhere, trees regarded as arboricultural specimens instead of timber, and felling performed at any time in general, and no time in particular. Mr. Elwes has himself summed up the effect of this method of raising plantations when he recognises the impossibility of "getting a remunerative price for timber unless of especially fine quality." Why should timber of fine quality be the exception and not the rule in plantations? Simply because its production is left entirely to chance, the result being that "ordinary timber," as Mr. Elwes expresses it, is the principal feature of our woods, or, in other words, the greatest proportion of branches to the least bulk of timber. The gnarled and blasted Oak, spreading Beech, and rugged Elm may do as objects of veneration and in poetry, but they will not pay ground-rent, rates, taxes, &c. We can all admire "Huge trees, in every bole a thousand rings of spring," but no one has the brutality to enquire of the owner, "Do they pay?" Where would the farmer be if he allowed the sentimental part of his nature to run to seed and kept his fat beasts to die of old age, or mixed Poppies and Corn-flowers with his corn crops? In much the same position as the sentimental arboriculturist, we imagine, except that the latter can afford the loss incurred, and does so as a matter of course, and as one of the privileges still left to the land-owner.

The question at issue is not whether woods do or do not pay, but whether timber-growing pays? My contention is, that it does, but only when carried out on similar lines to those on which any other crop is grown when profit is aimed at. So long as woods are regarded as what in Scotland are known as "policies," and no serious consideration paid to the relative proportions assumed by the expenditure in producing to the value of the crop produced, no sensible man expects them to prove a source of profit in hard cash; but the proprietor usually gets

what he wants, and pays for it. As to the advisability of the estate proprietor planting for profit, that entirely depends upon the way he looks at the question. If personal profit is the chief consideration, he need not expect to get it in planting. If, on the other hand, the future value of, and income from, the estate is the object in view, he could not do better than plant land which brings in less than 2*s.* 6*d.* or 5*s.* per acre, but which is capable of growing timber. The planting of such land is rather a national question than otherwise; and perhaps some day, as Mr. Elwes believes, the fostering of home industries and enterprise will take the place of "programmes" which are apparently "made to sell." *A. C. Forbes.*

MARKET GARDENS AND TECHNICAL EDUCATION.

Seldom has the *Gardeners' Chronicle* contained two more valuable articles in one week than those on the above subject. Careful readers will find, too, that the two subjects are virtually one. Market growers, commercial horticulturists, are doing most and best in most districts perhaps to solve, on profitable lines, the more pressing problems of technical education. The Press, too, has done splendid service in the same direction, and the *Board of Agriculture Journal*, about the latest addition to our literature, is likely to help rather than hinder our older established journals in spreading information, and furnishing up-to-date knowledge on the produce and profits of the land. But as you have often remarked, the difficulty is to get people to read, mark, and inwardly digest the profusion of knowledge in existence and within easy reach. The enormous bulk and value of foreign imports, such as Potatos, Onions, Peas, Haricots, Tomatos, French Beans, Cabbages, Cauliflowers, fruits, flowers may well startle patriots as well as market growers and technical educationists.

Nothing can be more true than this extract from the article on "Market Gardens." Technical knowledge is necessary for the production of vegetables. Some market gardeners are particularly clever, energetic, and hard-working, and always on the outlook for some new idea, and many of them from their connection with salesmen and their nearness to large centres are in close touch with vegetable markets, and are well and regularly posted up as to supply and demand. On the other hand, there are market gardeners and farmers who are mostly not only days but weeks behind the fair—that is, the profits. They fling themselves into new industries or crafts mostly unfurnished for the functions that alone can command success; and after a few desperate struggles and failures, they swell the general and doleful complaints all too common.

For illustration, a well-known farmer tried Celery on a large scale last winter, and was told that very late Celery paid best. He therefore went in largely for late strains, with the result that February's zero frosts fell upon his crops in a poorly protected state. It was short of mould, and without an atom of straw litter over the crowns. It therefore went down like Potatos before May frost-bite. Worse than all, large orders had been booked for late Celery, and such rotten rubbish was sent to market in execution, that the reputation of some districts is lowered or tarnished for years; whilst those who had sufficient education as to the growth, storage, and sale of Celery have done fairly well by it, in spite of a winter of admitted severity.

Notwithstanding all that has been done for technical education in this country, very much yet remains to be done. Neither is it all loss, while all that is being accomplished that is likely to be done here through our schools—lectures, object-lessons, colleges, classes, examinations, and rewards—that the technical education of these islands is never likely to conform itself to that of America, France, Germany, and Italy. Our systems (or lack of them) are probably more numerous than those of other countries, and this renders them more difficult to tabulate, but not always the weaker nor the worse on that account.

No one with his heart and head in this great and useful work of technical education but will be inspired and encouraged by your leader on p. 492. No one newspaper, professor, or lecturer is entitled to write or speak with more authority on the subject than the *Gardeners' Chronicle*, the leader of the van in these matters, and still found with unabated energy, linking more closely science and practice through the stimulating forces of technical education. With horticulture, with its feet firmly planted in our common, elementary, or continuation schools, and the highest rung of the ladder within sight or sound of college or lecture-halls, and in closest touch with our horticultural, agricultural or general press, a great future should be within reach of the devotees of technical and practical horticulture and agriculture. *D. T. F.*

ERIA RETICULATA.*

This singular little species, and many other pigmy Orchids, offer little inducement to the gardener to cultivate them, though to the botanist and lover of Nature, and especially to those who use the microscope, they open up a new, beautiful, and wonderfully interesting field for observation and speculation. The tiny scale-like pseudobulbs of Eria reticulata produce abnormally large flowers considering

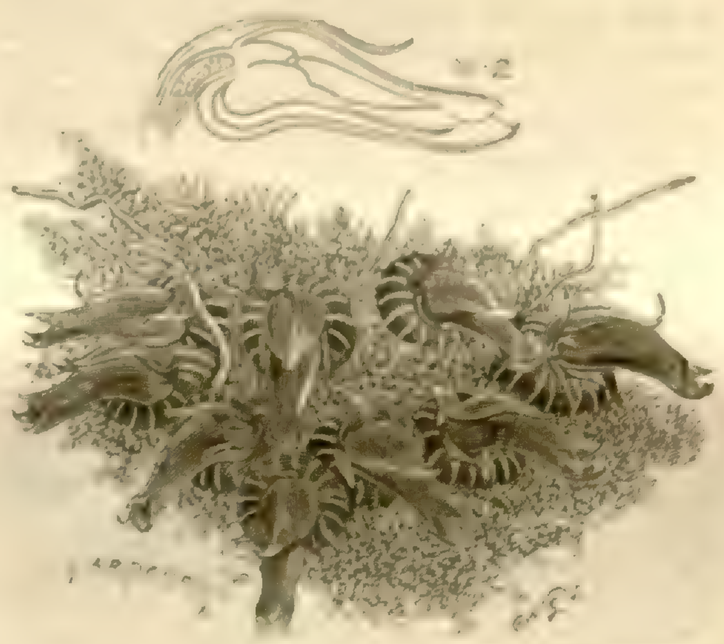

Fig. 78.—Eria reticulata: colour of the flowers reddish-brown.

the size of the whole plant, and these are of a warm reddish-brown colour. The mouth of each, in its earlier stage, rests on the surface of the moss or the bark of the tree on which the plant grows, thus forming an inviting tunnel for tiny strollers of the insect kind. The plant illustrated (fig. 78) has flowered three years in succession with Mr. James O'Brien, of Harrow-on-the-Hill, who is very partial to botanical curios; and of a similar class to that illustrated, he has lately flowered the tiny Eria extinctoria, E. braccata, E. albiflora, Quekettia microscopica, Q. Jenmanii, Cryptophoranthus minutus, and many beautiful little Cirrhopetalums, Bulbophyllums, Pleurothallis, Stelis, &c.

HARD-WOODED GREENHOUSE PLANTS.

(*Continued from p.* 167.)

Cape Heaths.—Amongst all the various genera of plants suited for cultivation in the cool greenhouse, the Cape Heaths should, in my opinion, be placed in the foremost rank. These Heaths have many distinct advantages over some, if not all, greenhouse plants, seeing that the flowers endure in a fresh condition a long time, and they are obtainable under good management all the year round, besides being well suited as decorative plants, preference for the latter purpose being given to the free, or as they are sometimes termed (but erroneously so), the soft-wooded forms. Most old gardeners look back with regret at the decadence in the culture of Cape Heaths in their finest and noblest forms. Where now, for instance, can one see a good example of Erica Massoni major, or of E. obbata, or of E. aristata major, or of E. McNabbina, or of the finest of the E. tricolor section? Possibly some good cultivators of other plants do not even remember to have seen one or more of the aforenamed kinds. These are, however, some of the very finest of the race; requiring much skill in their cultivation, it is true, but when well done, no other plants afford the same opportunity for displaying the gardener's ability as a plant cultivator. The number of varieties of the Cape Heath were greatly increased in bygone years by Messrs. Rollisson, of Tooting; Epps, of Maidstone, nurserymen; and by Turnbull, gardener of Bothwell Castle. Some of these crosses are even now amongst those that are the most popular, such, for instance, as E. Cavendishiana, E. hyemalis, and E. hybrida; whilst others, which are of the first rank, but not of so free or rapid growth, are not nearly so much cultivated as they deserve to be—E. Fairrieana, E. profusa, and E. Shannoni glabra are instances of these.

It is a regretable feature in present day plant-culture, that so many of the finest species and varieties of Cape Heath are discarded, or seen in but poor condition. One reason, and, I think, the chief one, for this occurrence is the large demand for plants suitable for affording cut flowers, or for furnishing-purposes. For the former, several of the slower growers are not suited, but, on the other hand, there are varieties that may be so used, and with distinct advantage, more particularly as sprays and in bouquet-work; the decorative florists are beginning to be alive to this fact, as may be noted from time to time. E. Cavendishiana, E. ventricosa, in varieties; and E. melanthera, to which might very advantageously be added E. Eweriana, E. infundibuliformis, and E. cerinthoides coronata in their various seasons are instances of suitable varieties. Usually it is the erect growers, with strong shoots that flower from the lateral wood, which find most favour as small decorative plants, such as E. hyemalis and E. Wilmoreana; but there are also those which form very compact and neat-looking plants, as E. Parmentieriana rosea and E. perspicua nana, which are beautiful objects when in bloom whilst still quite small. There are, again, those species which flower more in spike-like fashion, as E. mammosa and E. Bowieana; whilst, again, E. vestita coccinea furnishes another distinct type with whorl above whorl on the same shoots at one and the same time. Thus there is an abundant variety of form, of colour, and of season of flowering in Cape Heaths, all of which are in its favour in present-day gardening. It is a pity that so many comparatively weedy plants—plants of the easiest possible culture, should almost have forced out of cultivation these and kindred other subjects that cannot fail to be attractive when well managed.

It is very rare that even the least possible objection is made to Cape Heaths as flowering plants; there are those with their likes and dislikes in regard to other genera, but in this instance the opinion is practically in their favour. Were they better cultivated, and displayed in more presentable condition than is now often the case, they would, I think, soon assume their old position amongst the inmates of the greenhouse. It cannot be said that the present day style of houses does not suit them; it is, indeed, far more in their favour than the old lofty houses with high side-lights, which used at one time to obtain in gardens. To attempt to grow Cape Heaths without a proper greenhouse, at least for a portion of the year, is to court failure; anything approaching to shade, to overcrowding, to undue warmth other than that supplied to the cool greenhouse, or to a close and stuffy atmosphere, is conducive to this. In potting, also, the present style of pushing the work through as rapidly as

* Illustrated in *Wight Ic.*, v., t. 1737, as *Appianthus marchantioides*, but later reduced to Eria.

possible, will not answer; time must be allowed to do it well, and then, if the soil be good, the plants will stand a long time without requiring another shift. Heavy watering, particularly when not in the best state at the roots, will tend to make matters all the worse; but, on the other hand, when in the best condition in that respect, a greater supply than is often given would be beneficial. Fruit-houses are certainly not well suited as makeshift methods of housing them in the winter months, but I have seen many good plants grown in such at that season for want of better accommodation, but the inconvenience comes in the spring when the last of such is closed; then the want o' a greenhouse proper is sorely felt. To keep the plants for any length of time in a crowded or shaded conservatory is much against them, so also is one that is kept any warmer than the normal greenhouse, free ventilation being very essential. Young plants must be kept near the glass, either by elevating them on pots or by placing them on swing shelves until they are too large for such a place, and it is with such young stuff that a beginning should be made. Potting and shifting, already alluded to, need to be performed at various seasons. Spring-flowering kinds as E. Cavendishiana, E. depressa, E. Devoniana, E. ventricosa vars. and E. tricolor vars. should be re-potted when they need it, and as soon as possible after they have flowered. This will usually be towards the end of the month of June or early in July, save in the case of some of the later vars. of E. tricolor. If repotted then there will be plenty of time for them to re-establish themselves before the winter. Those which flower later in the summer, as E. Marnockiana, E. retorta major, E. Austiniana, E. Jacksoni, and E. Massoni should preferably be potted in the spring, March and April being suitable months. My reason for this practice is that a more suitable time is given for fresh root-action than could be possibly afforded if potted after blooming.

The winter and early spring-flowering species and varieties as C. hyemalis, &c., should be repotted as soon as there are any signs of fresh growth after the blooming stage is passed, and the needful pruning has been performed. The sooner this latter operation is attended to the better will it be, so as to save any undue waste of the plant's energies in developing fresh terminal growth. It is necessary to prune somewhat hard, which may safely be done, otherwise these kinds, of which the variety just named is an admirable example, would soon become tall and straggling. After pruning, less water for a time is needed, but just at that period a slightly close treatment as that afforded by a late vinery or Peach-house will tend to encourage vigorous breaks, and as soon as these are attained the treatment should again revert to the usual course, so as to avoid undue drawing of the shoots. Failing a forcing-house, a brick pit if kept close will suit them admirably, in which they can be gradually hardened off to withstand an outside treatment without any further removal. *Jas. Hudson.*

(To be continued.)

FLORISTS' FLOWERS.

PINK, HER MAJESTY.

As a forcing Pink, this is superbly grown by Messrs. W. Balchin & Son, at their Hassocks nursery, very fine full flowers being produced. Pipings are taken in April, and, as soon as rooted, they are potted into 60-sized pots, stood out-of-doors all the summer, and when fully rooted potted off into 32-sized pots, in which they bloom in a warm-house. Treated in this way, and the plants well looked after at all seasons, fine plants are formed, many of them bearing twelve grand blooms. Whether for decorative purposes or for cutting, the plants are valuable, and a sweetly fragrant white Pink appears to be warmly welcomed at this season of the year. *R. D.*

CARNATIONS.

The following is a list of the best eighteen varieties as selected by members of the Carnation Society (Southern Section) in the Report just published. They are given in their order of merit, and the number of votes to each :—

	Votes.		Votes.
Mrs. R. Sydenham (Douglas)	17	Ladas (Douglas)	7
Countess of Jersey (do.)...	17	Aurora (do.)...	6
Lilian (do.)...	14	Mrs. Dranfield (do.) ...	6
Agnes Chambers (do.) ...	13	Florrie Henwood (do.) ...	6
Annie Douglas (do.)... ...	12	Stadtrath Bail (Benary) ...	5
Mrs. Henwood (do.)... ...	12	Undine (Douglas)	5
Mrs. Whitbourne (do.) ...	10	Mrs. Alfred Tate (do.) ...	4
Almira (do.)	7	Romulus (do.)	4
Mrs. Douglas (do.) ...	7	Chrysolora	4

Some of the above are new varieties sent out now for the first time, therefore it is not likely that they can occupy the position they will do when grown by everybody. *J. Douglas.*

FOREIGN CORRESPONDENCE.

ERICA ARBOREA.

The natural elegance and simple beauty of Erica arborea at all seasons, but more especially when in flower in the winter months, are not sufficiently appreciated. As was observed by a gentleman lately, who is a great lover of plants, but not a botanist, or even a gardener, he had no idea such a large Heath existed. His idea was that heaths were of low stature, and not as those he saw at Laeken, 6 feet or more in height, with long plume-like branches, covered with white flowers. Those who do not grow this species of Erica should add it without delay, and they will be proud of their acquisition in the greenhouse. *K.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. White, Orchid Grower, Burford, Dorking.

THRIPS, ETC.—Nothing is so inimical to the well-being of Orchids as the insects which infest and frequently disfigure them. Amongst these foes thrips not only disfigure, but they are almost fatal to Phaius tuberculosus, P. Humblotii, Miltonia Roezlii, M. vexillaria, the deciduous Calanthes, Lissochilus, Phalænopsis, and others. Cultivators of any experience are aware that these species and varieties thrive fairly well under cultivation, if they are kept free from insect foes, and that immediately they become infested by thrips, the foliage becomes unsightly, and for a long period of time growth is greatly checked. Those who are not experienced in Orchid-culture are sometimes induced to try some of the many insecticides now in vogue; but I would particularly caution them in the use of these antidotes, as I have had valuable plants much injured by their use. Of the liquid preparations which I have experimented with, none is safer or more deadly to thrips and aphis than Richards' XL All Vaporising Fumigator, and although the houses at Burford Lodge have been periodically fumigated during the past twelve months, with the exception of those containing Disa grandiflora and its congeners, no injury has been done. In the spring insects multiply fast, and it is therefore necessary to examine Orchids, particularly those species I have mentioned, and others which are the inmates of the warmest houses; fumigating forthwith on the discovery of thrips. There is no necessity for drying the atmosphere of the house when using this preparation, as is customary when tobacco-smoke is employed; and the houses may be damped down as usual, but no overhead syringing done, as that would cause the insects to descend to the hearts of the plants and axils of the leaves, where the fumes of the insecticide would not reach them. If thrips are numerous, fumigate the house in the evening and the next morning, or on two consecutive evenings. The day following a fumigation the plants should be shaded more heavily than usual, the foliage being apt to get injured by sunshine. This preparation kills thrips but not their eggs, these being, as it were, sealed down upon the leaves, and only to be eradicated by sponging the leaves with an insecticide in a weak state.

SCALE INSECTS AND MEALY-BUG, ETC.—The various forms of scale and mealy-bug, which infest some Orchids, should be destroyed by the same means. The species of black-coated scale with a silver fringe, multiplies with great rapidity, and is more frequently found on Cypripediums, Aërides, Angræcums, Saccolabiums, Vanda Denisoniana, V. alpina and V. cristata, V. Esmeralda Clarkei, Renanthera matutina, Trichoglottis fasciata, &c., but it is easily killed by the vaporising fumigator, and afterwards sponging the leaves with clean rain-water. Red-spider rarely makes its appearance if the right temperatures are maintained, but there are species of Orchids mentioned by me in former calendars as being particularly subject to be infested by these insects, but which may, if treated in accordance with the directions given at the time, be kept almost free from attack. If red-spider greatly increase, the flow-pipes in the warmest divisions should be coated with whitewash in which flowers-of-sulphur are mixed. Apply it when the houses are closed, the pipes being at that time moderately warm. Plants which occupy cool houses are seldom attacked by red-spider, with the exception of Lycastes, and even these by the persistent sponging of the leaves may easily be kept clean.

LYCASTES.—The potting of these plants may now be proceeded with as they go out of flower, using well-drained pots and ordinary orchid-potting compost. Lycastes may be grown well at the warm end of the cool house. L. Skinneri and L. S. alba are beautiful Orchids, their flowers lasting a long time in perfection, and opening when other flowers are scarce.

THE HARDY FRUIT GARDEN.

By W. Pope, Gardener, Highclere Castle, Newbury.

YOUNG FRUIT TREES.—Fruit trees recently planted will often, if they are nurseryman's trees, show a quantity of bloom the first season; but this should be removed, as it weakens and checks growth. Moreover, the fruit, if any of it set, would be worthless. Trees well planted in the early autumn, if breaking strongly, may be allowed to carry one or two fruits, if it be thought desirable to test the correctness of the names; and all such should be well mulched with half-rotten manure, and frequently afforded water at the root if the spring and early summer be hot and dry. Stunted or weakly trees, or those weakened by premature bearing, or from being over-cropped, should not be cropped heavily, and they should be assisted by occasional applications of liquid manure—say, twice or thrice during the summer. The disbudding of trees may now be carried out.

PEARS AND APPLES.—Those espalier-trained and those on walls usually throw a number of shoots on the shortened leaders, and such shoots should be reduced to three before they attain much size, i.e., one central shoot to continue the leader, and one on each side, as nearly opposite to each other as may be, and about 1 foot distant from the last pair of branches, fastening them to the wall securely as growth progresses, training them obliquely at first, but bringing them to the horizontal line at the autumn training. The shoots at the extremities of the already-formed side-branches will also need thinning, reserving the best central one, to continue the extension, and stopping the others at the fourth leaf. Thin off other lateral shoots by early disbudding, rubbing off all those which have their origin at the back of the branches, only those facing outwards being retained; these may be stopped at about the fourth leaf. Cordons should be treated in the same manner, only allowing the leading shoots to go unstopped.

PLUMS AND CHERRIES are mostly trained in the fan shape, and should be disbudded like the Pear; but in addition to the leaders on existing branches, well-placed shoots should be left on the top side of these branches, to fill in the constantly-widening spaces consequent upon the extension of the tree, training in shoots thinly, allowing each permanent branch or important shoot a width of 9 inches. Foreright and other shoots which are retained should be pinched at the fourth or fifth leaf. Morello Cherries, Belle Magnifique, &c, do not need so much space between the shoots as 9 inches, and bearing shoots should be laid in between the main branches, and cut away after fruiting, if not required for the further extension of the trees. A few foreright shoots at the base of the

main branches may be pinched, and on the spurs thus formed some fruit may be obtained for a year or so, but all other forerights should be rubbed off. Apricots may be treated in the same manner as Plums, care being taken to keep the spurs as short as possible, so that the bloom gets the full protection of the wall.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

THE SPRING FLOWER GARDEN.—Advantage should be taken, now that the spring-flowering plants are at their best, to make note of alterations and improvements in the mode of planting the beds another season. It is at this time that failures and successes can best be noted, and the scheme of colour devised for another year. Nothing ought to be left to chance in this matter. The great losses among spring-flowering plants in the past winter were exceptional, and may not again occur for many years. In this part of Yorkshire, Wallflowers suffered severely, and the beds and borders, which usually are masses of fragrant blossoms, are very poorly furnished, many of the plants having been killed. Late-sown plants withstood the frosts better than those early-sown, perhaps this was owing to the protection afforded them by the snow; many also of these died from being too long buried. Wallflower seed should not be sown before the beginning of June; sowing it in drills 1 foot apart, and thinning the seedlings to about 8 inches apart as soon as they can be conveniently handled; afterwards planting them out in rows 1 foot apart on well-dug and manured ground. Such plants have much larger root-masses and more compactness of growth than plants which are left in the seed-beds. Wallflowers also look the best if they are dwarf, and furnished with leaves down to the soil. Light applications of fresh soot and nitrate of soda in showery weather afford good manures for these plants and for young seedling Carnations, Pansies, Pinks, Primulas, and Antirrhinums. As soon as the spring-flowering plants get past their best, dig them up, and prepare for the summer bedders. Alyssum saxatile, Arabis albida, Ajuga reptans, Anemone coronaria, Cheiranthus Marshalli, Myosotis azorica, Pansies, Primroses, Daisies, and any plant that will be useful another year should be lifted and laid in for the present on a sheltered border, affording them water in dry weather. After a time, any part of the stock which requires increasing should be pulled into bits, and the latter pricked-out in beds of good soil. The old plants of Alyssum saxatile flower satisfactorily for many years, and may be kept in good serviceable condition by taking off the long straggling shoots, and for a yellow belt or bordering there is no more attractive plant. Cuttings should be taken from the different varieties of Pansies before they are removed. Any young flowerless shoots will strike if placed in sandy soil under a hand-glass, or in cold frames on the north side of a wall. The cuttings will also strike in cutting-boxes placed in pits or houses, and shaded from bright sunshine. Old Pansy plants, before being lifted, should have all the flowering-shoots removed, and be laid-in in rows in the reserve garden for furnishing more cuttings if required, dividing and replanting them soon after fresh growth begins. Tulips, Hyacinths, Narcissus, Scillas and other bulbs that flower in the spring must be left in the beds after flowering, so as to allow the bulbs to mature; and those which cannot be left long enough, should be lifted intact, and laid-in, in the reserve garden till such time as they mature. Cerastium tomentosum, as edgings or paneling, if left in place for the summer, should be kept well trimmed-in, and all flower-shoots removed. The plant strikes freely from cuttings put in under hand-lights or frames, if shaded during bright sunshine; or the plants may be divided, re-planting the pieces, and affording them a moderate supply of water till rooted. Box-edgings may be clipped when the beds are emptied of plants; and new edgings may be planted, taking care to have plenty of roots on the divisions, and the latter of one size, so that a neat edging may be made at the first. The grass-verges to the flower-beds should be cut anew with the edging-iron, and if new turf is required anywhere, the present is the proper time to lay it. Most flower-beds before being dug will need a dressing of short stable-dung or leaf-mould, and very light soils are benefited by having a dressing of new loam, nothing being so exhausting to the soil as a continual succession of flowering-plants.

MISCELLANEOUS.—The potting of Tuberous-rooted Begonias, Dahlias, Coleus, should be carried on as fast as possible; the pricking out into boxes of soil of the seedling Asters, Stocks, Marigolds, Tagetes pumila and T. patula, annual Chrysanthemums, Nasturtiums, &c., or into frames where they may remain till planted out, should recieve early attention. Plants of autumn-flowering Chrysanthemums should be well exposed to the light so that they may be ready for early planting. The plants may even be planted at once if they can have the shelter of a few Spruce boughs afforded them, for they will endure a few degrees of frost without injury. Fuchsias that are required for planting in beds should be kept well exposed to the light and air.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

CARDOONS.—In backward parts of the country the seeds should be sown forthwith, and in warm districts from the middle of May onwards will be found sufficiently early. Sowing too early is, as with Celery, &c., the chief cause of the plants running to seed before the summer is gone, and a check has sometimes the same result. Sow two seeds in a flower-pot, and when the plants are a few inches high, pull up the weaker one. Grow on the young plants still in pots, shifting them when the roots touch the sides of the pots, and planting out in June, making trenches for them as for Celery, but affording more space between the plants in the rows and between the latter. Afford water to settle the soil when the plants are put into the trenches, and a syringing overhead after hot days.

BEETROOT.—Seed should now be sown. To obtain tender roots, let the land be good; and in cold parts of the country do not sow early, but defer the sowing of seed for the chief crop till the end of this month, or the plants will be starved if cold weather ensue, and it will not grow kindly afterwards. Sow in rows at 1 foot apart, and do not thin the seedlings too much, or the roots may grow large and coarse. By leaving the plants somewhat close in the lines, coarseness is averted. For exhibition Beet, I have made holes as for Carrots, only shallower and smaller. Sown in this way, the roots are improved in shape. Nutting's Dwarf Red, Pragnell's Exhibition, Dell's Crimson, and Veitch's Selected Red Beets are excellent varieties.

TOMATOS.—Look well to the stocks of these plants for outside fruiting, and do not starve the roots by keeping them in small pots, but repot when necessary, and try to keep them dwarf, well hardening them off before planting out.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

TUBEROUS-ROOTED BEGONIAS FOR THE FLOWER-BEDS.—Any tubers having new growths a few inches high may forthwith be planted out in beds preparatory to their transference to the flower-beds. For this purpose the Violet frame, if emptied of the Violet plants, may be made use of. First throw out the soil, &c., and in their place put a bed of fermented stable litter, or litter and tree leaves in thickness sufficient to afford a mild bottom-heat. When the mass has once more fermented, and the highest point been reached, and the warmth has then declined to 85°, put on a layer of light soil, such as that from beneath the potting-bench, and to this add some decayed horse-dung and cocoa-nut fibre refuse. Begonias root well in this mixture, and remove with good root masses. The plants should be lightly shaded and kept close till they are well rooted, when air should be gradually admitted to the frames, the lights being removed towards the middle of May, if the weather be favourable.

CELOSIAS AND COCKSCOMBS.—These plants will now be large enough to pot into 48's and 32's, making use of small quantities of turfy loam and peat with some dried cow-dung, and plenty of sand as potting compost. Cockscombs, if wanted very dwarf in the stems, should have the lower part of the stem cut off as soon as the comb appears, and be inserted like cuttings in small pots, and plunged in a brisk bottom-heat in a close frame. Roots will soon appear, and the plants must then be potted low down in 32's, and in such a manner that fresh soil can be added as the stem grows. Place them on a shelf in a stove, and close to the glass; syringe them regularly twice a day, and when full of roots afford plenty of manure-water.

VIOLETS.—If the runners were pegged down as advised they should be nicely rooted and ready for planting out at this date. A Violet bed needs to be well prepared; and if the staple is of a light nature, a good quantity of strong loam should be mixed with it, also spent Mushroom-dung, or leaf-mould. Having added the various substances and dug it well, tread it regularly all over to make it firm, and then rake it level. It should be in a sheltered yet not much shaded part of the garden, a suitable place being alongside an espalier fruit tree fence, or on a west fruit border. On a south border red-spider is apt to infest the plants. During the summer stir the soil with a hoe, and remove the runners, and towards the end of the month of July, and till the plants are ready for lifting, they should receive a dressing of soot about once in three weeks. The runners of the single-flowered strong-growing varieties may be planted at 1 foot apart each way, and the double-flowered at 9 inches, which will afford ample space to work among them. Afford water to the beds in dry weather, also well syringe the under-sides of the leaves in the evening in order to check the increase of red-spider.

CYCLAMENS.—Plants of more than one year old that may have finished their flowering for the season, may now have any remaining flowers removed; and the poor varieties may be thrown away. The good ones which have seed-pods should have the latter thinned to six on a plant, and be placed on a shelf in a greenhouse or cool dry pit to ripen the seeds. The rest of the plants may be removed to a cold frame and kept a little drier at the root for a time; but not allowed to become dust dry. I always afford the foliage on old corms a thorough syringing twice a day, this helping to keep aphis and thrips under, and the soil from becoming very dry. Young Cyclamen plants now growing freely, must on no account be allowed to become dry at the root; and for these a little shading and frequent syringing will become necessary in bright sunshiny weather. As against aphis, fumigate the house or pit, or dust the leaves with tobacco-powder.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

PINES.—As the early batch of Queens comes into flower, do not allow moisture to collect in the blooms, or it is apt to cause decay, and result in the discoloration of the pips when the fruit is ripe. When the flowers have passed, however, a slight dewing overhead will be beneficial during bright weather. The pips of a well-grown Queen should be almost flat, and possess a waxy appearance when thoroughly ripened; and to obtain this, a brisk heat with plenty of moisture must be maintained from the time flower is finished until the fruit commences to colour. Shade lightly at mid-day, and ventilate with great care, not allowing a draught of air to pass over the plants. The temperature of the house may rise to 95° on bright afternoons, and during the night it should range from 68° to 70°. Given this temperature, fruit now passing out of flower will be ripe by the middle or end of June. Keep the evaporating pans filled with weak liquid manure, and syringe between the plants, and upon the floors, &c., with the same the last thing at night. More moisture may be given at the roots as the fruit swells, using also liquid manure made of guano and soot-water in a weak state alternately, allowing some to collect at the base of the lower leaves, which will induce fresh roots to start from the stem. Keep the fruit in an upright position, with a couple of stakes and some stout string. Remove any "gills" which may form round the bottom of the fruit, and do not allow more than two suckers to grow from the base of any plant, or the fruit will suffer in consequence. Smooth Cayennes for winter fruiting should be given very little shade—a Strawberry-net will be sufficient if the plants are well rooetd. Afford a little ventilation at 9 A.M., when the temperature rises above 70°, and increase it gradually. Close the ventilators by 3 P.M., and keep the temperature at a not higher point than 65° at night, and growth will then be sturdy. Young plants in small pots should have the plunging material kept moist, and when the plants require water, enough should be afforded to penetrate to the drainage. Avoid shading them until it is found to be necessary. The same temperature will suit these as that advised above for Cayennes.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE MONTH.

MEETINGS.

FRIDAY,	May 10	Royal Botanic Society, Lecture.
SATURDAY,	May 11	Royal Botanic Society.
TUESDAY,	May 14	Royal Horticultural Society's Committees, at Drill Hall, James Street, Westminster.
FRIDAY,	May 17	Royal Botanic Society, Lecture.
FRIDAY,	May 24	Linnean Society, Anniversary. Royal Botanic Society, Lecture.
SATURDAY,	May 25	Royal Botanic Society.
FRIDAY,	May 31	Royal Botanic Society.

SHOWS.

WEDNESDAY,	May 15	Royal Botanic Society's Summer Show, at Regent's Park.
TUESDAY,	May 21	Great Temple Show of the Royal Horticultural Society (3 days).
WEDNESDAY,	May 22	Devon County Agricultural Society, at Torrington (3 days).
THURSDAY,	May 30	Birmingham Botanical, Show of Pansies, &c. (2 days). Bath, West, and Southern Counties, at Taunton (4 days).
FRIDAY,	May 31	Manchester Botanic Society.

SALES FOR THE ENSUING WEEK.

MONDAY,	May 6	Lilies, Begonias, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	May 7	Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	May 8	Sale of the Collection of Orchids formed by W. Bown, Esq., Birmingham, on the Premises, by Protheroe & Morris (two days). Lilies, Palm Seeds, Carnations, Continental Plants, &c., at Protheroe & Morris' Rooms. Stove and Greenhouse Plants, at the Manor House, High Street, Sutton, by Protheroe & Morris.
FRIDAY,	May 10	Sale of Freehold Nurseries, situate at Woking, Potter's Bar, and Claygate, and Building Land, Leytonstone, at Protheroe & Morris' Cheapside Auction Mart. Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—52°.7.

Lawn Mowers.

THOSE amongst gardeners of the present day who are old enough to remember the first mowing machines and to have used them, will possess a lively recollection of the severe strain to the muscles of the back, arms, and legs, entailed by having to push and drag these lumbering appliances over even the smoothest of lawns. There were "no easy lawn mowers" in existence in the interval between 1830—1860; but cumbrous heavy things that made a maximum of ear-torturing sounds, entailed severe labour to work and much difficulty to regulate, so as to cut the grass properly. Even so recently as 1870, easy-going lawn mowers were not common, although they were rapidly making way; and a trial of several makes was held at Chiswick by the Royal Horticultural Society of London in the year following—a figure of one of the best, the "Anglo-American," appearing in our issue for August 26 in that year. This mower resembled an earlier machine, the Archimedian, on which it was supposed to be an improvement; it had two driving-wheels, and the handle was in a direct line with the axle. The Climax was a mower of about that time that was highly commended for amateurs' use. The heavier machines were being rapidly improved by being made more simple in all their parts, lighter, and consequently of easier draught; and also fitted with front bearing-wheels standing close to the frame, thus enabling grass to be mown close up to plants and shrubs in beds and borders, and rendering the use of the scythe less needful in completing the mowing of a grass plot. An improvement to the same end, and one greatly needed, was the general adoption by all makers of the protecting casing over the toothed-wheel and chain gear on the sides of the frame. In the old kinds of machines the gearing was unprotected, and the damage done sometimes by the cogwheels was irretrievable. So great was the noise caused by these cogwheel machines, that in most establishments they could not be used whilst the family was in residence before 9 A.M., when the inmates had risen. In this matter of substituting the watch-chain gearing for the cogwheel and reducing the number of parts we have gone a long way towards obtaining a noiseless machine, besides considerably reducing friction. What we seem mostly to require now is a mower driven by electricity, which is a want that we hope soon to see met by our clever machinists. The steam-driven mower is already in existence, but except for the heavier kinds of machines now drawn by powerful horses, it is not probable that it will get into very general use, owing chiefly to the great addition to the weight of a mower, its costliness, noise in working, and the necessity of its being under the control of a man acquainted with the use of steam machinery. The older makers erred on the side of making the grass-collecting box too small, involving frequent stoppages to clear the knives by pushing the grass into the back of the box or for emptying it. This fault has been remedied by some makers by providing larger boxes, or fitting them with some light kind of a rake by which the grass is removed from the vicinity of the knives till the box is filled, without the attendant having occasion to frequently stop the machine. This is a decided gain in point of time, and the horse is much less distressed. Moreover, the revolving knives, being unclogged by the grass that falls into the box, are not likely to be broken or strained, nor the cogwheels injured, nor the machine to skid without cutting. A mower fitted with steel springs so as to fit it for mowing uneven surfaces is well spoken of by those practical men who have had it in use for a season, and all of them say that the springs form a great improvement, doing away with all jarring and shaking, rendering the working smooth and easy, tending greatly to avert breakages, and lessen the draught.

THE TERRACE IN THE GARDENS AT POWERSCOURT, ENNISKERRY.—Our Supplementary Illustration depicts a part of the terrace-garden at Powerscourt, Viscount POWERSCOURT'S residence. For the privilege of using the illustration we are indebted to the proprietors of a monthly illustrated paper, published in Dublin, *The Illustrograph*. The view was taken from the top of the mansion, and is considered a very good one. Those who have never visited this fine place, will note the beautiful surrounding landscape for which this part of the country of Wicklow is famed. The mountain seen in the distance is the Sugar Loaf, the most prominent of the Wicklow range. In the valley flows the river Dargle in circuitous windings—a favourite resort of numerous tourists. The woodland scenery is charming, and as seen from the upper terrace nothing could be more picturesque. The pleasure-grounds at Powerscourt are extensive, having an area of about 40 acres. They were laid out and planted by the present Viscount POWERSCOURT, who is an enthusiastic gardener and forester, and justly proud of the thousands of the fine Conifers and choicer shrubs which succeed so well on this estate. The planting of trees and shrubs was begun about twenty-five years ago, and his lordship has thus been enabled to witness some of the results of his labours. The house is approached by an avenue of Beeches, a mile long, and about 200 years old. Some 15,000 of the best Conifers have been planted by the present Lord POWERSCOURT, who has also clothed the slopes of the mountain with hundreds of acres of wood. The deer park contains about 1,000 acres, with numerous ancient Oaks. In this park is the famous waterfall, which falls from a height of 370 feet. Lord POWERSCOURT has added greatly to the structural and artistic features of the garden, and the house is also rich in objects of art. The kitchen garden and the plant and forcing-houses are under the able management of Mr. Crombie, who is entitled to great credit for their condition. They are situated on the west of the residence, and are constructed on an extensive scale, fruit growing under glass being a leading feature of the place, and carried on with very satisfactory results. The cultivation of Roses is extensive, the demand for cut blooms in the spring being very large. Close on a thousand Chrysanthemum plants are grown annually. The decoration of the gardens at Powerscourt absorbs a great number of summer bedding plants, late-flowering Phloxes, Verbena venosa, summer and early autumn-flowering Chrysanthemums, and others, which hold out well, are largely employed. Numerous choice herbaceous plants are cultivated, these being Lady POWERSCOURT'S especial favourites and at the present season the borders are gay with Doronicums, Anemones, Hyacinths, Tulips, Narcissus, and many other flowers of the spring. The gardens are not jealously guarded from the intrusion of strangers, but they are freely opened to the public, and numerous are those who take advantage of the kindness of the owner to visit what a native of Africa termed "an earthly Paradise." Viscount POWERSCOURT has had the happiness of keeping on excellent terms with his tenantry.

THE NELUMBIUM IN EGYPT.—As the question of the presence of the Nelumbium in Egypt has once more been noted in these columns, we applied to Professor FLINDERS PETRIE as the gentleman of all others most capable of giving an authoritative opinion. Professor FLINDERS PETRIE obligingly answers our enquiry as follows: "I do not know of any decisive evidence for the Nelumbium in Egypt. Among the conventionalised and elaborated decorations, forms occur which might perhaps be referred to it, but I should hesitate at deciding that they are anything beyond decorative 'sports' on the Lotus. WM. FLINDERS PETRIE."

LINNEAN SOCIETY.—At the meeting held on Thursday, April 18, Mr. C. B. CLARKE, F.R.S., President, in the chair, Surgeon-Captain W. H. ELLIOT was admitted, and Mr. W. WILL was elected a Fellow. In view of the approaching anniversary meeting, the election of auditors was next proceeded with, when Mr. A. D. MICHAEL and Professor J. R. GREEN were nominated on behalf of the Council, and Messrs. E. M. HOLMES and H. GROVER on behalf of the Fellows. Mr. T. B. BLOW exhibited specimens of the River-weed, Mourera fluviatilis, Aublet, from the River Essequibo, with observations on its life-history, and lantern-slides illustrating the natural haunts of the plant. Mr. J. E. HARTING exhibited and made remarks upon a collection of West African Lepidoptera which had been collected and forwarded by Mr. J. T. STUDLEY from Old Calabar, and was to be presented to the British Museum. A paper was then read by Mr. F. W. KEEBLE, entitled "Observations on the Loranthaceæ of Ceylon," in which country the author had made a short sojourn in 1894. After remarking that in Ceylon many species of Loranthus have large and conspicuous flowers, with the corolla-tube brightly coloured, more or less tubular and lobed, he pointed out that certain deviations from the typical regularity of the corolla-tube were corelated with the mode of fertilisation of the

flower by sun-birds (Nectariniæ), and this was made clear by diagrams and some excellent coloured drawings. Discussing the mode of distribution of the seeds, Mr. Kebble first quoted the views of Engler and Prantl, and the remarks in *Kerner's Pflanzenleben* (English edition), on the dissemination of the European Mistleto, and then detailed his own observations in the case of tropical Loranthaceæ. The modes of germination of various species of Loranthus and Viscum were then described, as well as the curvature and growth of the hypocotyl, and the effect of contact in the latter, and on its suctorial disc; the paper concluding with some remarks on the forms of fruit and seed of Ceylonese species of Loranthaceæ. Mr. A. Trevor-Battye exhibited and made remarks upon a collection of plants obtained during his sojourn on the Island of Kolgueo.

"Hooker's Icones Plantarum," now edited for the Bentham Trustees by Emeritus Professor Oliver, comprises in its last part, 4th series, vol. iv., part iii., some twenty-five lithographic illustrations of new and rare plants contained in the Kew herbarium. These are mainly of botanic interest, but some of them have a prospective interest as regards cultivation also. Circæaster agrestis is of simple structure and doubtful affinity, looking like a more simple relative of Hippuris or Myriophyllum in spite of its "superior" ovary. Achilus siamensis is a Zingiberaceous plant of much interest from its nearly regular flowers, absence of staminodes, and single stamen.

Paris International Horticultural Exhibition.—The prospects of this exhibition are reported as very favourable. Prizes to the amount of 30,000 francs (£1200) are to be awarded. Customs regulations are entirely suppressed in favour of foreign exhibitors. The members of the jury are chosen from the "sommités du Monde Horticole." Unfortunately, the date fixed coincides with that of the Temple Show in London, though, as the Paris show is of longer duration, there may be time for some visitors to attend both.

Eastbourne Battle of Flowers: *April* 24.—Some 20 000 spectators gathered on the Eastbourne parade on this occasion, and were treated to a singular exhibition. The principal streets of the town, and almost the whole of the front, were decorated. Happily far more artificial than real flowers were used. Yellow was the predominating colour in natural flowers, Primroses and Daffodils being very plentiful; next to these were Hyacinths in various colours. Some three hours were spent in the promenading, but flowers were not thrown quite so liberally as was expected. It is a degrading way of treating our beautiful spring flowers. Among the coaches, &c., were the Mayor's, richly decorated; Mr. Bradford's coach, "Harkaway," and a brake from Sir Ellis Ashmead-Bartlett. The premier prize went to Mr. and Mrs. Edgar Bruce's dog-cart, decorated entirely by themselves. The "Sutton" fire-engine won, but was very closely run by the "Morrison," both being decorated with more plants—Palms, Spiræas, Azaleas, &c.—than others. The allegorical car of the Eastbourne Horticultural Society, with an intricate framework, and the sides, body, and wheels covered with various flowers, representing a spring garden, in which were several children, was very good. By far the best allegorical car, however, was that from Mr. H. B. Winchester, a waggon filled with haymakers; Primroses were the chief flowers, with evergreens; the male occupants were dressed as carters, and the ladies as haymakers. On Thursday the procession was much the same, but instead of flowers being thrown about in so absurd a manner, *confetti* was used.

The People's Palace Horticultural Society.—The annual general meeting of members took place in the Winter Garden of the Palace on the 29th ult. The first annual report set forth that the Society grew out of a flower-show in the People's Palace in 1893. It was started on January 1 of last year, and by the end of December 287 persons had been enrolled as members. Several elementary lectures on gardening had been delivered, the average attendance has been about 200, and the members show their interest by asking many questions. The two exhibitions held during the past year were very successful; so much so, that a spring show was added for the present year. The financial position of the Society is very satisfactory. A summer show will take place on July 11, 12, and 13, and a Chrysanthemum show on October 31 and November 1 and 2. In moving the adoption of the report, Mr. C. E. Shea said that all those present desired to make the success which had crowned their efforts in the past even more satisfactory. The success of the Society depended mainly upon the number of members, and if each one would bring in another, it would become firmly established. The prizes awarded at the spring show were paid, and the medals of the Society handed to the winners of the same. A proposal for an excursion to Kew Gardens was referred to the committee.

Open Spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., it was agreed to open to the public towards the end of May the disused burial grounds of St. Peter's, Walworth, and St. Mary's, Woolwich, lately laid out by the Association. It was announced that seats had been placed on the Main Drainage Embankment, E., and by the river at Chiswick, W. It was decided to grant additional seats for Hackney Churchyard, and to offer some for Hammersmith Churchyard, St. Peter's Churchyard, Cornhill, and a garden in Stockwell Road. Attention was drawn to cases of building operations on disused burial grounds in apparent contravention to the Disused Burial Grounds Act, 1884; and it was decided to take steps to ensure a full inquiry into each case, in order to secure a due observance of the law. The completion of the tree-planting in Whitechapel Road, and the laying out of Allhallows' Churchyard, London-wall, were announced, and it was agreed to endeavour to obtain as public open spaces a vacant site in Mile End Road, the Brixton Oval, the Copperas, Bromley, E., Walcot and St. Mary's Squares, S.E., a plot of land in Hornsey, an enclosure in Upper Street, Islington, and one of the Jewish disused burial grounds. Letters were read respecting a site to be laid out by the Association in Canning Town and vacant sites in Deptford and Walworth; it was decided to prepare plans for the laying out of Bromley Churchyard, E., and St. Stephen's school ground, Bow, E.

"The London Catalogue of British Plants. . . . ."—Ninth edition (George Bell & Sons). This is a publication we are occasionally asked about, and we are glad to announce the issue of a ninth edition by so capable a hand as Mr. F. J. Hanbury. For anyone with the requisite time at his disposal, the comparison of the nine editions would be most interesting, and, in some ways instructive. The changes now introduced, we are told, represent the results of the field work, the critical study of British plants, and the researches on nomenclature made during the last nine years. The *Journal of Botany*, the *Index Kewensis*, and Mr. Brown's Supplement to *English Botany*, have been of material service. It is to be hoped rather than expected that the publication of the *Index Kewensis* will fix the conventional nomenclature, and do something to check the incessant changes in the names of plants. We recognise, of course, that these changes are in the interests of truth sometimes requisite, but the end may often be obtained by retaining the old conventional name and adding the more correct one as a synonym, just as botanists gladly make use of analytical keys and artificial systems, to enable them to recognise quickly the genus or species of any particular plant. The increasing tendency to specialise, and the enhanced attention given to varieties, are well illustrated in this catalogue. To those interested in the history and genealogy of so-called species and their prospective career, these indications will be most acceptable, and will compensate for many inevitable changes. Combined as they should be with a more minute study of the life history, or manners and customs of plants, and their relation to surrounding circumstances, they can but greatly augment our knowledge of the natural history of plants. The increased attention to "critical" plants, and to varieties, also interferes somewhat with the figures which indicate the relative frequency of the species or variety in particular districts. Perhaps for the present, it is best to do as Mr. Hanbury has done, retain the old census numbers for the aggregates, and and to postpone requisite re-adjustment till further information has been obtained as to the distribution of the varieties. Altogether 1861 flowering plants are here enumerated, forty-seven Ferns, and twenty-seven Characeæ. The common Elm we see is admitted as a native, but under an unfamiliar name, that of Ulmus surculosa, of Stokes. Calystegia sepium is now called Volvulus, the little field-creeper being now the only British representative of Convolvulus. The species of Hieracium and other large and contested genera, are arranged in groups. If these groups be natural, their adoption is much to be commended. Of H. murorum, some twenty-four forms are enumerated! All British botanists, whatever their views, must possess themselves of this indispensable pamphlet, for which they will feel grateful to Mr. Hanbury and his assistants, who have comprised the keenest critical botanists of the day.

Belgian Horticultural Exhibition at Bordeaux.—On May 18, under the central dome of the Exposition Universelle of Bordeaux, a Belgian Horticultural Exposition will be opened, which is likely to be of considerable importance. There will be many Orchids in bloom, sent from the principal amateurs and nurserymen of the country, fine ornamental plants, and new plants likely to attract notice. The Belgian department is organised in the English manner. Each exhibitor arranges his exhibits to suit his own convenience, and is not restricted in any way. *Ch. de B.*

The Royal Gardeners' Orphan Fund.—The usual monthly meeting of the committee took place at the Horticultural Club on the 26th ult., Mr. Wm. Marshall in the chair. A special donation of 3 guis. was announced from Mr. J. Kipling, The Gardens, Knebworth, Stevenage, received as fees for skating on the lake during the wintry weather. Mr. N. Sherwood has generously agreed to place a child seven years of age upon the Fund to be known as "The Emma Sherwood Presentation." Mr. Sherwood was requested by the committee to nominate a child, and a special vote of thanks was passed to him. Mr. Harrison, of Leicester, who presided at the annual general meeting of the Fund, was nominated a Vice-President of the Society, and a hearty vote of thanks was passed to him. The dinner accounts were laid upon the table, and a very satisfactory gain to the Fund was announced to have accrued from the Festival. Special votes of thanks were passed to Mr. H. J. Veitch, for presiding at the annual dinner, to the donors of plants and flowers; and Mr. Barron reported that the fruit and flowers remaining at the close of the dinner were sent to the Hospital for Sick Children in Great Ormond Street, and a letter was read from the Lady Superintendent, gratefully acknowledging the same.

M. Ed. Rodigas.—M. Ed. Rodigas celebrates this month the thirty-fifth anniversary of his horticultural professorate at Ghent. On this occasion his colleagues, his pupils, and his friends are organising a manifestation in his honour, with which tribute we are in full sympathy.

"The English Illustrated Magazine."—The May number of this periodical contains, as usual, an excellent assortment of fiction and of more important articles. It is a great advantage for certain classes of readers that there are no serials in this magazine, each number of which is

complete in itself. The editor is Mr. Clement K. Shorter; the publishing office is 198, Strand, W.C. (*Illustrated London News* Office).

"Dictionnaire Pratique d'Horticulture." (Paris, Doin).—This French translation of Nicholson's valuable dictionary has now advanced to its thirty-six part—Loasa. Sundry additions will be found in the French text by M. Mottet, which will enhance the value of the work.

Temple Ewell School Garden.—Through the recommendation of Mr. W. P. Wright, F.R.H.S., who has been giving a course of lectures on "Cottage Gardening," lately at Temple Ewell School, the Technical Education Committee of the Kent County Council has instituted a school garden here for lads under the age of 17.

"The Ladies' Gazette."—This periodical contains in its new, smaller, and cheaper form, much to interest those to whom it is more particularly addressed. The contents include articles on fashion, needlework, cookery, and the inevitable fiction. On the whole, it should take a high place among other publications of a similar kind. Messrs. Collingridge & Son are the publishers.

The Poisonous Principle of Primula obconica.—Dr. Riehl, of Vienna University, says the *English Mechanic* of the 12th inst., has been experimenting with the poison of the Primula obconica, one of the most beautiful of the Primrose family. Experiments were made, and it was found that the tiny hairs on the leaf and stalks irritated the skin, and gave rise to swellings and inflammation. Dr. Riehl succeeded in extracting the poison, and, by means of injections with it, claims to have healed more than one obstinate skin-disease! His experiments are not yet completed, but they are stated to promise good results.

"We Should like to Know."—Some of our intelligent readers would be helping their less experienced brethren of the craft, by endeavouring to answer the following questions in these columns. What is known about the forcing capabilities of the new varieties of Roses? What kinds and varieties of Narcissus force best? Is there a better White Grape for early forcing than Foster's Seedling? When should the buds of early autumn-flowering varieties of Chrysanthemum and late winter ditto "be taken"? And might the late winter bloomers be grown from layered shoots of roots in the open air? How can gardeners here grow early Cherries wholesale for our markets so as to keep out the French fruits? Cannot we grow early Carrots and Radishes on the south and western coast, and in Ireland, for supplying our markets in April? Also cannot Horseradish and Black Currants that now come to us from Holland be grown here? If these questions can be satisfactorily answered, and the answers read in the light of a letter from a correspondent who has bought land at a cheap rate in Kent (see p. 561), a good reason can be found for many an able-bodied native of these islands for staying at home instead of emigrating.

Cut Flowers.—American flower-sellers are complaining loudly of the practice of some of the growers in Bermuda, who flood the markets of New York and other towns in the States, with cut blooms of Lilium longiflorum (Harrisi), and thus spoil the trade in the bulbs, and in American-grown cut flowers. The Dutch bulb-growers some few years since, had to put down the export and sale of cut Hyacinth-blooms in England, for they found that if the consumers knew they could buy the flowers without the trouble of growing them, they would not purchase the bulbs!

Evergreen Oaks and the Late Frosts.—We saw recently in the very old gardens at Ham House, Richmond, the residence of the Earl of Dysart, a striking effect on Evergreen Oaks of the severe frosts. Close to the house is a short avenue of these trees, very large, and very old, some of them being, as near as could be estimated, about 60 feet high. All of them present a very sad appearance, the shoots being killed in most instances 18 inches back, over the whole tree, or on one side. Mr. Sage, who has charge of the gardens, feared some little time since that the trees were killed outright; but it would appear now that they will survive, although severely crippled, as they are casting their leaves, and commencing to break away from the old wood. Even should they stand, the effect will be equal to a general pruning-back of the distance given above. If a dry summer follow, their case will be less hopeful, perhaps.

"Chapman's Magazine."—This new periodical has now appeared, and we may say that it fulfils the promises made in the prospectus concerning it. The literary matter is contributed by various popular fiction writers, whose names are sufficient guarantee for the quality of their work. *Chapman's Magazine* is well brought out, and of convenient size and shape. The publishers are Messrs. Chapman & Hall, London; the editor, as we have before said, is Mr. Oswald Crawfurd.

A Swindler.—We would advise gardeners who may be looking out for situations to be on their guard against the wiles of a scoundrel with probably many aliases, who on the strength of putting a gardener in the way of obtaining a situation at a certain place which he names, attempts to obtain a loan on the pretence that he is short of money just then, owing to his having spent more than he expected to do in going to see another gardener about a vacant situation. Of course, loans obtained in this way are never repaid, and the whole thing is an impudent swindle.

Bananas.—Mr. Will Armit writes to Baron Von Mueller that the Gros Michael's Banana, imported from Jamaica into British New Guinea, attained at Nukeo a height of 25 feet, and that he counted 216 fruits on one bunch, each fruit weighing 4 oz. or more.

A Donation of Plants to the People's Palace, E.—The Secretary informs us that Messrs. B. S. Williams & Sons, of the Victoria and Paradise Nurseries, Upper Holloway, have presented the People's Palace Winter Garden with nearly 300 plants, including Camellias, Azaleas, and Palms. This Winter Garden is open free to the public daily from 2 to 5 P.M.

Fruits from the Antipodes.—The second of the line of steamers chartered to carry fruits from Australia and Tasmania, has this week brought to market 288 cases from Sydney, 11,320 do. from Hobart Town, 164 half-cases do., 875 cases from Melbourne, 57 cases from Adelaide, and six half-cases do.: total, 12,705. We omitted to mention last week that the first lot of Tasmanian Apples arrived per Orient Co.'s steamer on the 13th ult, with 11,350 cases of Apples. Altogether the season appears to have opened well.

Barford Chrysanthemum Society.—A correspondent at Warwick requests us to state that steps are being taken to remove the Barford Hill Chrysanthemum show to Warwick, and the society is to be called that of Warwick, Leamington, and District. It is to be hoped that the many lovers of this flower who live in the neighbourhood will do all they can to forward its success. Mr. J. Burrows, Warwick School, has kindly accepted the post of secretary to the society.

Thomasschlacke.—This material is much employed in Germany as a fertiliser—in the German Empire, 22,000,000 cwts. yearly. It is a by-product of iron-smelting, and contains 12 to 20 per cent. of phosphoric acid, and is known in commerce also as Thomas' Phosphatmehl. It decays in the soil somewhat slower than superphosphate of lime, and about 30 per cent. is taken up by the roots of plants in the course of the summer. It is therefore a very suitable substance for affording the subsoil a store of phosphoric acid, which it is usually deficient in, the deficiency being the cause of the arrest of development in fruit trees, garden shrubs, Vines, &c., when they become aged, and their roots penetrate the subsoil deeply. In laying out new grounds, orchards, vineyards, Asparagus-beds, Thomasschlacke should be dug deeply into the soil at the rate per square metre of 450, 300, and 150 grammes, it being well mixed with the soil in the process of trenching the land. Every autumn the land should receive a dressing of 50 grammes per 89 mètres, mixing it with moist soil before distributing it. *Mittheilungen der K. K. Gartenbau Gesellschaft in Styria*, for April.

Hybrid Cypripediums.—The list prepared by Mr. Chapman, and published in the *Gardeners' Chronicle*, p. 199, has now been reprinted as a separate book, of a size convenient for the pocket. The price of the book is fixed at 2*s.*, post free, it being understood that the net proceeds are to be given in equal shares to the Gardeners' Royal Benevolent and to the Royal Gardeners' Orphan Fund. Application may be made to Mr. Chapman, the Gardens, Cambridge Lodge, Flodden Road, Camberwell; or to the Editor of the *Gardeners' Chronicle*.

Lindley Library.—Among recent donations towards the Catalogue fund are W. Lindley, Esq., £5 5*s.*; Miss Julia Lindley, £5 5*s.*; Mr. W. James, Farnham Royal, 10*s.* Mr. Arthur Sutton has also presented a fine copy of Plukenet's works.

Amsterdam Universal Exhibition.—In the horticultural section a special exhibition of Asparagus will be held on May 16 and 17. Entries should be made on or before May 13. A prize of honour of the value of 75 florins is offered by M. Galesloot to the foreign exhibitor who sends the most important exhibit of Orchids or other plants to the exhibition to be held from July 27 to 31. Details may be had from the Secretary, Mr. Isaac Bulk, Exposition Universelle, Amsterdam.

Ancient Society of York Florists.—The first show of the present season held under the auspices of this society took place on April 24, when the display showed considerable falling off in the number of exhibitors, the result being that but little competition occurred in not a few of the classes. The Hyacinths, so far as they were exhibited, were of good quality, and the whole of the 1st prizes in this division, excepting one class, were taken by Mr. W. Todd. The 1st prize for two Hyacinths was taken by Mr. W. Douglas. Auriculas were well shown by the Rev. R. Walker, who obtained the best prizes; while Mr. E. R. Rogerson, Mr. W. Todd, Miss Walker, Mr. J. R. Jackson, and Miss Barstow were also prize-winners in these classes. Mr. E. Bell and Mr. W. Todd were the best exhibitors of Tulips. There were also classes for miscellaneous plants, and for cut flowers.

Beckenham Horticultural Society.—Mr. J. Wright gave a lecture before this Society on Grapes and Apples, as the last of a series of technical education lectures.

Irish Gardeners' Association, Dublin.—Mr. Thomas Shaw read a paper on the Daffodil before this Society, on the 24th inst., in which he advocated the culture of the Daffodil for market purposes in Ireland.

Pinoza Cigarettes.—With these cigarettes there is a very agreeable aroma of the Pine-leaf, but a total absence of the flavour of the same in the mouth. Ladies will find no trace of the "nasty" smell so much complained of with ordinary tobacco, where Pinozas are smoked in the house. With tobacco prepared by the Pinoza process, the fumigation of a glasshouse attached to a dwelling would not be accompanied with objectionable fumes. The inventor asserts that the principle of the Pine has a perfectly neutralising effect on the nicotine of the tobacco—but this requires support, and should be determined by actual experiment.

SCILLY FLOWERS.—In the *Western Morning News*, of April 19, we find the following paragraph:—The flower season at the Isles of Scilly is now about finished. Although prices at the beginning of the season ruled high, the returns to the islands will fall considerably below the average. The early Narcissus crop, the Soleil d'Or, was a failure throughout the islands, and the total quantity sent for the year will be about 100 tons short of last year.

AUSTRALIAN SALT-BUSHES.—Baron von MUELLER writes:—"Two of the Salt-bushes, described as Atriplex nummularia and A. halimoides by Dr. LINDLEY, have mainly through my efforts become widely established in Africa. Professor LINDLEY, my generous patron, described them from Sir Thomas Mitchell's collections. The English colonists have carried these two Atriplices from Capeland to beyond Transvaal, and the French colonists have brought them from the shores of the Mediterranean Sea to the Sahara and Senegal country by abundant gathering of seeds from the first plants raised. The importance of these shrubs cannot be over-estimated in regions free from severe frosts, particularly on somewhat saline soil, and in regions with but little rainfall. Where (in the more central parts of Australia) these two Salsolaceous plants occur, the best merino wool is produced, the flocks need less water on account of the succulent foliage of the Atriplices, and the hottest winds do not burn up these plants. I introduced both long ago also into Argentina, the Southern States of North America, and several other countries."

EPPING FOREST.—The following resolution was passed at the meeting of the Balloon Society, at No. 9, Conduit Street, on the evening of May 1:—"That this meeting, called to consider the question of Epping Forest and its management, is of opinion that the policy of the Conservators has tended to destroy the natural aspect of the Forest, contrary to the provisions of the Epping Forest Act, 1878. This meeting is further of the opinion that the destruction of trees and undergrowth calls for the intervention of Parliament, and hereby agrees 'That a Member of the House of Commons be requested to call for a Parliamentary Return of the total number of trees felled during the Conservators' period of office, with the names of purchasers, and the amount of money received on account of purchases.'" Proposed by Professor J. STUART, M.P.; seconded by BERNARD GIBSON, Esq., and unanimously adopted.

AMERICAN TREES IN EUROPE.—Europeans travelling in America are surprised at the great wealth of variety in trees and shrubs over the list in their own countries—English travellers especially. It is not that American trees will not grow, but that English nurseries do not keep them. A few English gentlemen are getting them direct from America, and seem thoroughly astonished that they should cross the ocean in perfect condition. When American nurserymen have to pack trees often for a four or five weeks' journey in their own country, it would be strange if the short trip across the Atlantic had any difficulties. *Meehans' Monthly for April.*

MEETING OF THE BRUSSELS ORCHIDÉENNE.—The last meeting, on April 28, included a particularly fine exhibition of plants. MM. MADOUX, VAN WAMBEKE, and WAROCQUÉ staged splendid collections which won for them *par acclamation*, First-class Diplomas of Honour, which were awarded for their exhibits, taken as a whole. MM. LINDEN showed an important group, for which the jury awarded the Diploma d'Honneur, *par acclamation*, and with congratulations. The President of the Jury was M. ALEXIS VARENEVSKY, a nobleman of Moscow, and a great admirer and connoisseur of Orchids. Amongst the most noteworthy Orchids may be mentioned the following:—In M. VAN WAMBEKE's collection O. Cervantesi, dark lilac in colour; Cattleya Mendeli, very beautiful, with rosy-lilac divisions; the lip has a creamy-white horn, the eye spots dull yellow, and the spreading blade a beautiful dark purple colour. Oncidium cucullatum, splendidly grown and flowered; and many fine specimens of Odontoglossum, Lælia purpurata, Lycaste, and Cypripedium. M. WAROCQUÉ staged a Cattleya Mendeli with fifteen fine blooms; a beautiful plant of Odontoglossum excellens; a fine variety of Cattleya Mossiæ, with a lip which I consider remarkably beautiful; Odontoglossum Ruckeri, with six fine trusses of bloom; Cochlioda Noetzliana of deep colouring; Cattleya Mossiæ albo-marginata, very fine, the petals unusually wide, and the habit erect; Odontoglossum Ruckeri, with prettily-coloured spots, of which one is large and of a square form situated on the lip; a natural hybrid, O. luteo-purpureum × crispum, &c. In the large group from MM. LINDEN we noted particularly a fine Angræcum sesquipedale, with three splendid flowers; Cattleya Lawrenceana nobilior, of velvety texture, and exceptionally dark colouring, especially on the lip; a set of C. Mendeli, of which the most remarkable were the varieties Superbissima and Varjenevskyia, Cochlioda Noetzliana, with four long racemes; Oncidium macranthum, vivid in colouring; Cattleya elegans, splendid in colouring; C. Mendeli Reginæ, tinged with lilac; C. Mossiæ formosa and C. M. conspicua, both the latter with a handsome lip; Cymbidium Lowi pallidum, &c. M. MADOUX's Odontoglossums included some fine varieties, worthy of mention for beauty of colouring, shading, and form. The splendid specimens of O. crispum, Ruckeri, and Wilkeanum were of remarkably rare beauty; one Cattleya Mendeli was quite peerless, and one Phalænopsis Luddemanniana splendid. Mr. H. KNIGHT showed an Ada aurantiaca with 250 flowers; a truss of Vanda tricolor with sixteen blooms, and a fine and dark variety of Cattleya Lawrenceana. M. A. VAN IMSCHOOT exhibited Miltonia vexillaria, with a beautiful white lip, and M. vexillaria of an unusually deep colour, both well bloomed; a very curious Epidendrum × Endresio-Wallisii, and a natural hybrid Oncidium, in which the characteristics of fuscatum and serratum were traceable. The Cattleya Mendeli and Schroderæ from Dr. CAPART were fine. Odontoglossum crispum guttatum, from MM. VERVAET ET CIE., was well spotted; O. crispum, from the same firm, was exquisitely spotted and dotted, the ground colour white. M. MITRAY was successful with Cypripedium Sanderianum and Cochlioda Noetzliana, remarkable for depth of colouring. The Cypripediums from M. JOS. MOENS were all fine and long-valued specimens. Cattleya Mossiæ, from M. A. WINCQZ was scarcely open, but promised beauties which we shall appreciate at the next meeting. M. FLOR. PAUWELS staged a beautiful Odontoglossum Ruckeri, Cypripedium Mastersianum, and a fine Masdevallia Veitchi Prince de Galles. The Odontoglossum crispum, from MM. JANSSENS and VINCENT were very beautiful, especially one which seemed to be a hybrid of crispum × cirrhosum, which attracted notice, owing to the colour of the spots which are the same as that of the flowers of O. Edwardi. O. Cervantesi from M. STEPMAN, bore a large flower with a handsome lip; O. crispum, from M. DRAPS DOM as well as his Oncidium sarcodes, were good varieties. *Ch. de B.*

SOCIETY OF LADY ARTISTS.—At the present time there is to be seen in the Drawing-room Gallery at the Egyptian Hall, Piccadilly, a very varied collection of chiefly water-colour pictures by professional and amateur members of the Society. It is the fortieth exhibition which the Society has held. Flowers and bits of landscape form the chief part of the subjects illustrated, and these in numerous instances show much skill in treatment. "Devon Roses," by A. M. YOUNGMAN; "Narcissus," by AGNES JONES; "Fritillaria meleagris," "The Flower seller," by BARBARA TATE; "The Winter Cherries," by LUCY W. FINCH; and "Bluebells," OXNEY; are capital instances of this. Landscapes appear in considerable force, some of the best being "Amooth Castle, Wales," where the purple shades in the hollows of the woods, and the glint of the setting October sun on the river, are very cleverly rendered; another is "Kingston Churchyard," with an Oak and a Yew of as great antiquity as the Church; and a "Kilkenny Byeway," with Iris acorus and the characteristic vegetation of marshland, are excellent. The visitor will find plenty to interest him whilst passing away half an hour.

NEW PUBLICATIONS.—*A Manual of Forestry.* By WILLIAM SCHLICH. Vol. iii. (BRADBURY, AGNEW & CO.)—*Official Guide to the Museums of Economic Botany, Royal Gardens, Kew. Monocotyledons & Cryptogams.*—*Journal of the Royal Horticultural Society*, April, 1895.

PLANT PORTRAITS.

ANEMONE JAPONICA COUPE D'ARGENT, *Le Jardin*, p. 56, 1895.

CATTLEYA GIGAS, VAR. AMPLISSIMA. There be giants, and giants, and this is of the latter, for "it is so ample and majestic in its proportions, that in our experience it has never been equalled." *Lindenia*, t. CDLXI.

CYPRIPEDIUM CHARLESWORTHI, *Garden*, April 13.

CYPRIPEDIUM MADAME OCTAVE OPOIX.—A hybrid raised by M. Opoix, at the Luxemburgh Garden, Paris, between C. superciliare and C. niveum. *Lindenia*, t. CDLXII.

IRIS CUPREA Pursh, *Meehans' Magazine*, April, 1895.

LÆLIO-CATTLEYA SAYANA × L. LINDENI.—One of the elegans group, with flowers of a rich vinous purple. Outer surface of the lip whitish. *Lindenia*, t. CDLXIII.

MAXILLARIA LINDENIÆ.—Sepals white, broadly lanceolate, spreading petals of a similar form, but half the size, and marked with purple stripes, lip with a yellow blotch in front.

MIMULUS CLEVELANDI, *Garden and Forest*, April 3.

PEAR NOTAIRE LEPIN, *Bulletin d'Arboriculture*, April. An excellent late Pear, February to April.

PHALÆNOPSIS YOUNGIANA, *Journal of Horticulture*, March 7.

PHYSURUS PICTUS and VAR. ARGENTEUS, *Revue de l'Horticulture Belge*, March.

PLUM "BOTAN," *Revue Horticole*, April 1.—A Japanese variety. A yellow-fleshed variety, highly spoken of when the fruits are allowed to shrivel a little before eating them.

PRUNUS DAVIDIANA, Franchet, *Gartenflora*, t. 1412, March 1.

RHODOCHITON VOLUBILE, *Illustration Horticole*, April 15.

RHODODENDRON CILIICALYX, Yunnan; flowers pale rose, fragrant. *Le Jardin*, p. 51.

ROBINIA NEO-MEXICANA, Asa Gray.—A small tree with pinnate foliage and short stalked dense racemes of pink flowers. André, in *Revue Horticole*, March 1.

RUDBECKIA NITIDA, *Garden*, March 23.

SAINTPAULIA IONANTHA, *Garden*, February 23.

SENECIO LAXIFOLIUS, *Garden*, April 5; yellow flower heads in a loose panicle.

SPIRANTHES ESMERALDA, *Revue de l'Horticulture Belge*, March.

THUNBERGIA GRANDIFLORA, *Garden*, March 2.

TILLANDSIA DURATII, Visiani, André, in *Revue Horticole*, April 16.

TULIPA SPRENGERI, Baker, *Gartenflora*, t. 1411; see *Gardeners' Chronicle*, 1894 ii., 716.

VIOLA ODORATA "FÜRSTIN VON SUMONTE" (Princess of Sumonte).—Flowers white, flushed with lilac. *Gartenflora*, April 1, t. 1413.

WASHINGTONIA FILIFERA, *Revue Horticole*, April 1, p. 153.

NOTICES OF BOOKS.

HISTORIA NATURAL BOTANICA. Por Don Odón de Buen. (Barcelona: Montana y Simón, 1895). 4 vols. 8vo.

It is not often that we are called on to note the publication in Spain of any horticultural or botanical work. Spanish botany has been of late years left very much to foreigners like Boissier or Willkomm. It is therefore with the more interest that we call attention to the text-book issued by Don Odón de Buen. This is a complete text-book of a modern type, covering the anatomy gross and minute, the morphology, physiology, biology, and taxonomy

of plants in general, together with special sections devoted to the peculiarities of the several orders of flowering and flowerless plants, and to their geographical distribution.

The work is evidently well-planned; and, so far as we can judge, is well executed. It is based to a considerable degree on Van Tieghem's *Traité de Botanique*, and it is copiously illustrated with woodcuts from the works of Decaisne & Maout, Duchartre & Baillon, together with others less familiar. The coloured illustrations are apparently intended for decorative purposes only, as they have little value from a botanical point of view, and must add needlessly to the expense of production.

A chapter on the vegetation of the Iberian peninsula will be read with interest by students of geographical botany. In this the physical features of the country, its altitude, geological formation, and climatal phenomena, are briefly sketched. About 6000 species of flowering plants are found in Spain, of which no fewer than 1000 are endemic. For botanical purposes the country is divided into seven zones—1, the Cantabrian zone, between the Cantabrian coast and the Asturian Cordilleras; 2, the Pyrenean zone; 3, the oriental zone, comprising Cataluna and Valencia; 4, the sub-oriental zone; 5, the southern zone; 6, the western zone, bounded by the Portuguese frontier; and 7, the central zone. The work is attractively got up, provided with ample indexes, and is altogether a noteworthy production.

Fitzgerald's Australian Orchids.

The appearance of another part of Fitzgerald's *Australian Orchids* was recently recorded in these pages, and a few more details concerning it may be interesting. It will be remembered that some time ago the work was interrupted by the death of the author, and the continuation of the work is due to the praiseworthy determination of the New South Wales Government not to allow the author's unfinished drawings to be lost to science through the lamentable event. From a prefatory notice to the present part we learn that Robert David Fitzgerald commenced the study of the Orchids of the Colony in order to add, if only a single stone, to the great pile collected by the boldest speculator of the age, the late Charles Darwin, of whom he was a warm admirer, and in whose system he was a firm believer. A keen observer, and painstaking and conscientious investigator, he soon accumulated a vast mass of information, and made careful and artistic drawings of all he could procure. He devoted most of his leisure to his favourite pursuit, in which he was ably assisted by Mr. Arthur J. Stopps of the Land Department. He then offered it to the New South Wales Government, who, fortunately, for the *prestige* of the colony, accepted it, and the first part was published in July, 1875. Since then up to March, 1888, one volume of seven parts, each containing about ten plates, and four parts of a second volume appeared. To the great grief of his friends and the botanical world, the author died on August 12, 1892, leaving many partly finished drawings and some notes not in a state for publication. These were felt too valuable to be lost, and consequently Mr. Henry Deane, F.L.S., Engineer-in-Chief of Railways, who has devoted much leisure to the study of Orchids, was induced to undertake the etterpress, with the help of Mr. Stopps, as before. In this way it is hoped that all the drawings left unfinished at Mr. Fitzgerald's death may be utilised.

The plants figured in the present part are Adenopetalum bracteatum, Fitzg., otherwise Bulbophyllum bracteatum, Bail., a small Bulbophyllum without petals; Bulbophyllum exiguium, F. Muell., and B. Baileyi, F. Muell., the latter with solitary flowers like a small Sarcopodium; Cirrhopetalum clavigerum, Fitzg., a species from Cape York, allied to C. Thouarsii and C. picturatum; Phaius grandifolius, which is common along the river valleys of the Queensland coast; P. Bernaysii, with bright yellow flowers, which are often triandrous; Epipogon nutans, Lindl., which ranges to India and Africa; Gastrodia sesamoides, R. Br., a light brown saprophyte; Caladenia conjesta, R. Br., C. unita, Fitzg., and C. reptans, Lindl., with pretty pink flowers; C. flava, R. Br., with yellow, and C. latifolia, R. Br., with blue flowers; Glossodia Brunonis, Endl., G. intermedia, Fitzg., with light purple-blue flowers; and G. emarginata, Lindl., with pink ones; Dendrobium bigibbum, Lindl., Diuris abbreviata, F. Muell., and D. tricolor, Fitzg., which latter is said to be fertilised by small pollen-eating beetles (Hyparetrus globulus), which resort to the flowers to eat the pollen and rostellum; Oxyricera purpurascens, Bail., otherwise Bulbophyllum purpurascens, Bail., a little gem with mossy habit and red-purple flowers, whose lateral sepals are united; and Bulbophyllum lichenastrum, F. Muell., a peculiar little plant, with fleshy ovoid-oblong leaves and solitary white flowers, whose lip is yellow with some red at the base.

A curious fact connected with the work, which I have just stumbled across, deserves to be recorded. Corunastylis apostasioides, Fitzg., is a curious new genus, which was described and figured in vol ii., part 3, but the name having previously been given to a genus in another family, it was changed in the next part to Anticheirostylis apostasioides, Fitzg. As the new name, however, only appears on the back of the wrapper, it is liable not only to be overlooked, but to be thrown away when the work is bound. The part was received at Kew in December, 1891, but I had previously overlooked the name. This wrapper should be bound in with the volume. *R. A. Rolfe.*

The Silva of North America, etc.

By Charles Sprague Sargent. Vol. vii. (1895). Lauraceæ—Juglandaceæ. (Boston and New York: Houghton, Mifflin & Co.)

We have had now many opportunities of calling attention to Professor Sargent's excellent publication. Not the least of the many virtues attaching to it is the regularity of its publication. We have now before us the seventh volume, and we have only to reiterate what we have said before as to the conscientious manner in which both text and illustrations are prepared. The present volume is dedicated to "Sir Joseph Dalton Hooker, whose labours have largely increased knowledge in regard to trees of three continents, and whose example has been a stimulant to botanical study in every land, this seventh volume of the *Silva of North America* is gratefully dedicated."

The orders treated of are the Lauraceæ, Euphorbiaceæ, Ulmaceæ, Moraceæ, Platanaceæ, Leitneriaceæ, and Juglandaceæ. This list is sufficient to indicate the many points of interest to English tree-lovers contained in this volume. We can only advert to a few of them. The white or American Elm, Ulmus americana, is one of the largest and most graceful trees of the North-eastern States and Canada. Of this we are told that "the Elm trees which greeted the English colonists as they landed on the shores of New England seemed like old friends, from their general resemblance to the Elm trees that had stood by their cottages at home; and as the forest gave way to corn-fields, many Elm trees were allowed to escape the axe, and when a home was made, a sapling Elm taken from the borders of a neighbouring swamp, was often set to guard the roof-tree. These Elm trees, remnants of the forests which covered New England when it was first inhabited by white men, or planted during the first century of their occupation, are now dead or rapidly disappearing; they long remained the noblest and most imposing trees of the Northern States, and no others planted by man in North America have equalled the largest of them in beauty and size." In Europe generally, Professor Sargent says, it does not grow to a great size or display much beauty. Nevertheless, one of the finest trees for its age that we have ever been privileged to see, but whose precise dimensions we are unfortunately unable to give, grew in the Exotic Nursery, Canterbury. It was planted by its proprietor, and attained very large dimensions, till it was blown over some few years before the death, at a ripe age, of him who planted it. It was a grafted tree, and the sections of the trunk now in our possession show that it made unusually thick and withal firm annual rings. The mention of the word "forest" in the preceding quotation reminds us of the extreme rarity with which our English Elm is met with in woods.

The account of the genus Juglans (Walnut) is particularly interesting, from the beauty and economic value of the trees. Professor Sargent's notes are, as usual, encyclopædic, and the casual reader will find himself fascinated by the varied and interesting character of the information contained in the foot-notes. We are almost inclined to caution the busy worker who wants to refer to these pages to beware of these notes, or to reserve their perusal for a convenient season. The Black Walnut (J. nigra), a magnificent tree, grows as well here as in its native country. There, it has been practically exterminated, at least for a time, owing to the large demand for its timber. Of Hickories, Professor Sargent admits eight species, none of which are all common in British gardens in spite of their beauty. Various hybrids in the genus Juglans are also mentioned.

The plan of nomenclature adopted by Professor Sargent leads to some changes. Our old friend, Laurus Sassafras appears as "Sassafras Sassafras," the earliest *specific* name being retained, even though the species has been placed in a different genus. This particular neologism will not cause much inconvenience, for it reveals, rather than conceals, the plant to which it is attached; but what botanist would ever guess that Toxylon pomiferum was the appellation of the tree universally known as Maclura aurantiaca, the Osage Orange. The adoption of Hicoria for Carya is not so objectionable to to those who know what a Hickory-nut is. The *Kew Index* still retains Carya as the name to be adopted for the Hickory, and Maclura for the Osage Orange, in spite of the earlier names of Rafinesque, which no one till recently paid heed to.

Professor Sargent may well be congratulated on the progress of this splendid work, and on its approaching completion. For usefulness, accuracy, and fulfilment of requirements, without ambitious ostentation, this work is most noteworthy. The work has been added to the Lindley Library.

"Paradise Retrieved."

I have been reading an old book with the above title, written by Samuel Collins, Esq., and published by "W. John Collins, Seedsman, over against the May-pole in the Strand, 1717." It is an interesting book, and written by a man who knew what he was writing about. He demonstrates "The most beautiful, durable, and beneficial method of managing and improving fruit trees, against walls or in hedges, contrary to W. Lawrence and others upon gardening."

It is interesting to have an independent treatise upon gardening in the early years of the eighteenth century, but it is of more importance when the author was evidently a cultivator of the trees he writes about. He also gives a list of the best varieties of fruit-trees, and as it is just 178 years since the book was published, these must also be of some interest. He had come to the conclusion that by the help of walls we might have trees as beautiful, and fruit very nearly as good, as any other country whatsoever. And he gives one "substantial" reason why the trees and fruits were not so good as they might be, and many in these days will agree with him: "Because gentlemen too often change their gardeners." "I have known," he says, "a good gardener turned off for an unhappy word, and a fine fellow succeeded him, who pruned off all the bearing wood in one season. In a word, where a gentleman loves the products of a garden, a gardener is not to be removed (unless for reasons not to be borne withal), but to a greater disadvantage than almost any other servant that attends a family." The same

remark may well be applied now. Gardeners are but human, and it is quite natural that they should have as much of the old Adam in them as the members of any other profession.

"The grand old gardener and his wife,
Smile at the claim of long descent."

Too often, owing to "an unhappy word" spoken in the heat of temper, long years of faithful services have been forgotten, accompanied sometimes by unavailing regret.

Our author, after giving good advice on the relation of gardeners to their employers, proceeds to lay the foundation of all good fruit culture, viz., the formation of the border against a wall; and here, I think, he errs in advising a depth of 3 feet at least, implying that a greater depth would be better. The 5 or 6 inches of the surface is to be laid aside to mix with turf-loam, dug up to the depth of about as much. No manure is to be used, because it breeds worms, and makes the trees too exuberant in their growth. This is a point that ought to be well thought over in making up borders for choice wall trees; 2 feet deep of good soil is enough; it is easy to feed the trees afterwards if necessary with surface-dressings. Canker and other ills which fruit trees are heir to may frequently be caused by the roots getting too deep—the gumming which destroys or disfigures Apricot trees may be traced to the same cause as often as to unsuitable soils. Mr. Collins recommends October as the very best month for planting. He considers November late, and gives excellent directions as to the manner of planting. He advises wall-trees to be planted 4½ yards asunder if a Vine is to be planted between them, but 4 yards only if there are no Vines to be planted; 7 to 8 feet high was the height of his walls.

Covering the roots of newly-planted trees, he insisted upon, but could think of nothing better than "mowed grass" which was to be removed during the season to be replaced with fresh material. Our author was out in his reckoning in his directions for winter pruning, it evidently did not occur to him that cutting the young wood back too closely was the cause of the sappy, Willow-like shoots he alludes to. But the same practice has been followed within my own memory by some otherwise good gardeners, and it may be done now; that is, to cut back the young wood of a trained tree to four or five buds or eyes. The second year, Mr. Collins says, the tree must be cut down again, leaving not above four or five shoots, which he says must be cut back to 6 or 7 inches. The third year there may be a great many shoots a yard in length, and now says he, you may "begin to form your tree." After the third year his instructions are right enough. The fourth year bearing-wood may be formed, quoth our instructor, so that the fifth year after planting we may be looking for some fruit. In these days things move faster. I have won prizes with Peaches and Nectarines gathered from trees in the third year of their growth from the bud. They were not wall trees, but by pinching the gross growths, causing them to form three or four other growths, a year is gained. His instruction about taking the Peach and Nectarine trees down from the wall once a year or once in two years, and "cutting out some great wood," are excellent. By this means and by judicious pruning of the other parts he obtained good healthy trees well-furnished with bearing-wood throughout. He says, "it is not in the nature of either Peaches or Nectarines to grow higher than 7 feet, and yet keep themselves filled with young bearing-wood as directed; indeed, I have seen these trees 15 or 16 feet high, but then they have been naked at the bottom, having pitiful long and barren arms." His trees, 7 feet high, remained healthy and in fine bearing condition for over thirty years. This he attributed to never over-cropping, which not only ruined some of his neighbour's trees, but the fruits these over-burdened trees produced were, he considered, uneatable. For gumming on Apricot trees, he advises cutting them down. When they showed signs of "blasting" he cut them down to 4 feet from the ground, when they grew up again and never "blasted" afterwards. "The reason of this I take to be, that this tree being a free shooter, doth not strengthen in its root, nor thicken in its trunk, equal to the first head it carries, therefore blasts for want of sufficient sap; but once cut down the root mightily strengthens, the trunk or body grows thicker, and better able to protect a young top. I have seventeen years since cut down one of these trees which commonly blasted, and it has never blasted since." The above is the result of practical experience, and as such is worthy of attention.

He next gives a chapter on "Summer Pruning of Stone-Fruit Trees," which operation he advises to begin with about the middle of June.

The planting, pruning, and training of "Pear trees in hedges" are carefully considered. By this definition he means espaliers. The illustration of the trellis-work gives nine strained wires. The trees, our author says, should be planted 24 feet apart, and in twenty years they will make a hedge 14 feet in height, well furnished from bottom to top.

He does not go into the culture of Apples, but his lists of fruits are interesting. They are:—Of Peaches: Old Newington, Nivet, Man, Magdalen (white and red variety), Almond, Nutmeg (white early), Minion, New Newington, Royal, Troy, Belgarde. Nectarines: Roman Red, Newington. Apricots: Masculine, Turkey, Orange, English. Figs: White, Blew. Plums: Blue Perdrigon, Queen Mother, Imperial, Orleans, Mussel, White Perdrigon, Violet, White Bonum Magnum, Fotheringay, Date, Drab d'Or, Apricot. Cherries: Duke, Carnation, Black-hart, Red-hart, Amber, May Duke, White-hart, Morello. Pears: Burgamot, Chaffery, Bon Chrétien, Winter, St. Germain's, Colmar, Virgoule, Ambret, Orange Bergamot, Burre, Green Chisel, Black Worcester, Amadot. The list of fruits gives us an idea of what were cultivated at that time.

Collins also writes learnedly upon Melons and Cucumbers, his ideas being tinctured with the superstitions of the age in which he lived; but as even the learned and devout moralist, Dr. Samuel Johnson, who lived a generation or two later, was not free from it, we cannot expect much from lesser intellects. Melon seed, he says, will grow after being kept twenty years, but before sowing it must be steeped in some soft body, not corrosive, as milk or mead, and the seed should be imported at least once in three years, else the fruit will lose part of its colour, and much more of its taste; and he concludes by sagely observing, "I know it is said the steeping of this seed in several sorts of wine will meliorate the taste, but having made use of this experiment, I can assure the reader that it has no effect." He tried all sorts of experiments in the culture of his fruits, many of them interesting. He found, for instance, that by choosing several Melons, set about the same time, and that by covering some of them with what he terms "glazier's glasses," evidently bell-glasses, and leaving others exposed on tiles, those on the tiles ripened earlier by a fortnight. Great pains were taken in those days to grow fruit well, and also vegetables. Mr. Collins had plenty to say on the culture of "Colly-flowers," but forbore, as it was the A B C of gardening. He had them from May till within three weeks of Christmas. *J. Douglas.*

HOME CORRESPONDENCE.

THE CHISWICK VEGETABLE SHOW.—"Kitchen Gardener" is very kind to give my modest criticism of the schedule of this show so much notoriety. He seems not to have read what I had written anticipatory of the schedule's appearance. If he had he would have better understood the nature of my disappointment. Perhaps he is one of the persons mentioned to me as "two eminent gardeners" who framed the schedule, and cannot endure criticism. My critic takes unkindly to the fact that, as a member of the code of judging committee, I have thought that those who were esteemed worthy to occupy such a position, and specially engaged in framing instructions to schedule makers, must have some fitness to outline a schedule. Very likely he is jealous that the honour is not his, but what earthly use, on such a committee, are those who have no boldness, no originality, no capacity to get away from the stereotyped. When I say that this vegetable show schedule is an exceedingly commonplace affair, and its descriptions need a lot of revising, I have said enough. To me the pain is that it should have been formulated by so distinguished a body as the Royal Horticultural Society. *A. D.*

WHY EMIGRATE?—The paragraph in your current issue, about emigration, is of interest, but I would point out that the cheapness of land within 40 miles of London, at the present time, should be considered before emigration is advocated, in any case. I have just purchased 2 acres 10 poles of finely-timbered land in Kent for £41 5s. At this price it is freehold, the situation attractive for its natural scenery, and the soil adapted for almost any cultivation. Considering its nearness to large towns and the metropolis, I hardly think the colonies could offer much better at the price. It is a matter of great importance and interest to gardeners, as no doubt if the demand for land in small plots extends, numbers of estates will be broken up for the purpose. What are on offer are, I understand, being rapidly taken up. The possibility of a living being made out of these holdings is, of course, open to some question. Your leading article on market gardening is hardly encouraging, while its information is valuable. Yet many succeed with very little capital, simply by intelligent application to the needs of the local demands, and there is certainly room in many directions for expansion of home industry in cultivation. *J. A. Notman, Forest Park, Windsor.*

LAXTON'S ROYAL SOVEREIGN STRAWBERRY.—Among the many good Strawberries raised by the late Mr. Laxton, the variety under notice bids fair to eclipse them all. Plants growing here under one year old are looking, after a severe winter, marvellously strong and robust. I this day counted eight, nine, and in some instances, as many as ten, good bold trusses of flower on each plant. Of course, for flavour we must wait; still, forced fruit of it is good, so that I hope to chronicle before the season is over, that Royal Sovereign Strawberry is unique. *R. Gilbert, Burghley Gardens, Stamford.*

THE EDUCATION OF GARDENERS.—The subject is so important that I may, perhaps, be allowed a few words in reply to "W. G.'s" letter in your issue of April 13. First, I must beg to point out that four children are no necessary accompaniment of education; but though the absence of "encumbrances" may in some cases be a *sine quâ non*, surely when other conditions are equal, the educated man is likely to be preferred to the uneducated. Secondly, with regard to the cost of supplementing the work of our primary schoolmasters by peripatetic teachers of scientific principles, I maintain that this is exactly that technical education which has been entrusted to our County Councils, and for the carrying out of which ample funds have already been assigned to them. Thirdly, I would say that, though it is sad to see an elderly man soured by long-continued "misfortune," I should always be glad for a young man to feel that he was fitted for better things, as such a feeling will generally be the best guarantee of the possession of that energy that commands success. I need not say how fully I agree with "Mr. Barrows" and "T. F.," as to the duty of employers assisting their employés in the matter of books; and I must specially thank the latter writer for clinching my whole argument, as against "W. G," by his sentence "A gardener's head is of far more practical use than his hands." *G. S. Boulger, 18, Ladbroke Grove, W.*

SHELTER IN GARDENING.—We must all feel grateful to Mr. W. Paul for his illustration of the value of shelter in gardening (see *Gardeners' Chronicle*, p. 527), and it is no doubt very useful to have, as he says, "a reserve against severe winters;" but I have always been under the impression that it was better for nurserymen to grow plants under the most adverse circumstances, compatible with proper development. In my own nursery I have no sheltered conformation of ground, and am exposed to piercing east and west winds; so much so, indeed, that in the old coaching days, the coachmen used to say, that if they were blindfolded in London, they could tell when they reached Beggar Bush Heath (the site of my

present nursery). I have always believed that the stock, if kept healthy and green, when grown in this, undoubtedly one of the coldest situations in England, would have a better chance of flourishing when transferred to my customers', probably more favourable, localities. With regard to the effects of the late very severe winter, my experience agrees with Mr. W. Paul's, save in the matter of dwarf Roses, which have been terribly slaughtered—I might almost say annihilated; but the shrubs, &c, he mentioned as uninjured in his sheltered reserve are also, for the most part, untouched in my shelterless grounds. *Charles Noble, Bagshot.*

MAGNOLIAS.—I was much interested in reading the contribution to your journal, the article on the above plants, by Mr. Nicholson. I was, however, rather surprised he did not mention there were two grandifloras which are most commonly seen, viz., grandiflora with plain smooth leaves, and the Exmouth variety, with brown under the leaves, and which is the most grown because the most freely flowering. I send you by this post a flower of a variety he does not mention at all, viz., Lenné, mentioned some time ago by Mr. Watson, Kew, in *Kew Bulletin*, and afterwards by Mr. Bean, of Kew, in your paper as flowering here, and other particulars. This plant flowers twice a year now, and in the autumn—when these gentlemen saw it. It seeds freely. Its size is hardly so large or its colour so good as in the autumn, but you see it is good now. *Hy. Mills, Enys Gardens.*

PINE-APPLE CULTURE.—The writer of the excellent leading article which appeared in the *Gardeners' Chronicle* for April 27 (p. 524), has made a suggestion which is worthy of due consideration on the part of practical gardeners who may contemplate embarking in horticulture as a commercial enterprise, inasmuch as the "commercial cultivation of the Pine-apple" in England has not hitherto, so far as I am aware, received that attention which it undoubtedly deserves at the hands of British horticulturists. The idea of starting a Pine-apple growing establishment in the "black country" is both novel and commendable. Here, say within a short distance of Birmingham, ground whereon to erect a few dozen, more or less, light, suitable houses and pits in which to grow and fruit the plants could, I should think, judging by the hundreds of acres of unused and burnt-up-looking land which are in close proximity to the coal-mines, be leased or purchased at a nominal sum per acre. And the initial cost of erecting and heating the said houses and pits on the newest, most simple, and approved principle, by local or other horticultural builders of reputation, would not be very great, and this expense might be greatly reduced by obtaining the hotwater apparatus, expansion-joint pipes, connections, and valves on special terms direct from the makers; and by the fixing of the same by, or under the personal supervision of, the person or persons most interested in the success of the venture. After the first expense, the annual cost of production would be a mere trifle compared with the value of the crops of well-grown Pine-apples secured every year, seeing that fuel fit for heating hot-water apparatuses may, as pointed out by the writer of the article referred to above, be obtained close by at from 3*d*. to 6*d*. per cwt., being 5*s*. and 10*s*. per ton respectively. As a matter of fact, coal suitable for the purpose indicated can be obtained at the pit much cheaper than the prices quoted by the "leader" writer. Quoting from a price list before me for March last: "Slack: Brights and Hard, 2*s*. per ton; Hard Nuts, 5*s* 9*d*. per ton; Hard Cobbles, 6*s*. per ton, and so on, rising up to 10*s*. 9*d*. for Digby Main (best Bright). In the matter of labour, two men would be amply sufficient to attend to the cultural requirements of the plants in several ranges of Pine-apple houses and pits, excepting during the potting and re-arranging of the plants every spring and early autumn, when assistance would be necessary, and potting and plunging materials (fibry loam and tan) would be easily and cheaply obtained, and, moreover, being close to the main lines of railway, a ready despatch of goods to Birmingham, Leamington, Oxford, London, &c., at a fair rate would be secured. Cucumber-growing on a large scale might also be engaged in, in connection with "commercial Pine-apple culture," with every prospect of its being a paying concern, as there would be no difficulty in marketing tons of Cucumbers in the several large towns and very populous suburbs within easy reach of home during the summer and autumn months; they would also command a ready sale in winter and spring in Leamington, Oxford, and London, as well as in Birmingham. I do not think that any bad effects need in the least be apprehended as being likely to result from the besmoked atmosphere of the place, which has for obvious reasons been selected for—shall I say—the "British Commercial Pine-apple-growing Company" to pitch its camp in. Roughly speaking, a company with a capital of £10,000 in £1 shares would be required to start the business indicated on a good, sound basis, and which, I have no doubt, would prove a first-rate investment if well and skilfully managed. *H. W. Ward.*

THE EFFECT OF THE LATE FROST ON SHRUBS IN DEVON.—At p. 434, "W. T. T.," writing from Teignmouth, says:—"It is singular that there should be so great a difference between the effects of frost in the south-east and the south-west of England." I am not aware to what extent shrubs have suffered in the south-east of England, but I feel that the south-west has nothing whatever to boast of. Recently I had reason to take a journey to Plymouth, and it was saddening to witness the havoc the frost had occasioned throughout fair and sunny Devon. Possibly the spot "W. T. T." writes from at Teignmouth may be well protected, and if so, it is not a fair test of the superiority of the south-west climate over the south-east. I know Teignmouth well, having lived in my boyhood at Trafalgar Cottage during the memorable winter of 1860. At that time my experience of matters appertaining to gardening was not enough for me to remember its effect on vegetation there then; yet I do remember a fine bush of Fabiana imbricata flowering for several years afterwards—and this plant being in the open, must have withstood that severe winter; as also did a Clianthus puniceus growing under a verandah, which lived for some years after that year, and it was only protected with a garden mat during winter. Mrs. Baring Gould, the grandmother of the author, Rev. Sabine Baring Gould, who resided there at that time, was fond of plants, and this fondness was no doubt shared by her brother, Mr. Joseph Sabine, at one time Secretary to the Royal Horticultural Society. This garden contained several very uncommon species, and their continued preservation was mainly due to the garden being well sheltered from cold winds. But because this favoured spot escaped, possibly for the same reason as "W. T. T.'s," it cannot be held that the whole of the south-west of England has been so favoured. If "W. T. T." had gone to other parts of Devonshire, he would have found that many acres of the common Gorse had been killed to the ground, and no prettier sight can be seen in these islands than an expanse of common land covered with Gorse in full bloom. Let any one contrast a plant of Gorse growing by the side of Berberis stenophylla, or other free-flowering Barberry, they will find that the Furze is far more bright and pure in its colour than any of this lovely family of spring-blooming shrubs. Many a nurseryman in Devonshire has this year suffered irreparable loss. Of coniferous plants, Cupressus Lawsoniana var. erecta viridis is killed in all stages of growth; also Cupressus macrocarpa and some of the Cryptomerias. The needles of Pinus insignis and Abies Pinsapo, and other large-growing Conifers, are browned by frost and wind, almost, I fear, beyond recovery. Rhododendron ponticum is sadly punished; Laurels are cut to the ground, and even the common Ivy in exposed places is as if burned. Several letters appeared in the *Western Morning News* on the destruction caused in Devon and Cornwall while I was down in that part. It was in March, 1891, that several trains were snowed up for many hours, and for many miles trees were swept down by the gale in thousands; so much so, that the wood is not all collected at the present day. On September 17, 1892, I saw within five miles of Plymouth a frost that killed Vegetable Marrows, Kidney Beans, and Dahlias, while London escaped until about October 18; and on November 9 of the same year I saw in the Isle of Wight several bunches of Dahlias which were good, considering the lateness of the season. I send these few notes in the hope that further information will be contributed to show that vegetation nurtured in favoured spots like the coombs of Teignmouth or Torquay do not give a fair representation of the effects of the recent winter on the vegetation of the south-west of England. *J. W. Moorman, Victoria Park.*

REMARKABLE TREES IN ENGLAND.—In the list of remarkable trees figured and described in Strutt's *Sylva Britannica*, 1826 (reprinted in your columns at p. 433, on March 22), No. 21, Abbot's Willow, and No. 22, Black Poplar, are assigned to Bury St. Edmund's. The last-named still survives, but the Abbot's Willow is gone. There are still, however, several other somewhat remarkable trees in Bury St. Edmund's and its neighbourhood, viz., a Willow tree which droops gracefully over the river Lark, near Eastgate bridge, in Eastgate Street, and is known as Napoleon's Willow, and is said to have been taken as a cutting from the celebrated Willow tree which drooped over Napoleon's tomb at St. Helena. Near to this was what may be considered as a very fine specimen of the Lombardy Poplars, although not an old tree, but which, when prostrated by the terrible gale of March 24 last, measured considerably over 100 feet in length. Few persons can have left the town of Bury St. Edmund's by the Northgate Road, without having admired a very fine Elm tree, which stands upon the right-hand side of the road. It is some 200 yards from the ruined gateway of St. Saviour's Hospital, where Humphry, Duke of Gloucester (the good Duke Humphry), was supposed to have been murdered in the year 1446. The tree in question is of considerable dimensions, and is greatly admired, being a very distinct or drooping variety of the English Elm (Ulmus campestris). This tree was some few years since figured in the *Garden*, and is likely to be preserved, as some years ago, on the occasion of the land on which it stands changing hands, stipulation, it is said, was made for its preservation. In the park at Barton Hall, the seat of Sir Henry Bunbury, Bart., some 3 miles from Bury St. Edmund's, are three very remarkable Oak trees of large dimensions, and having the appearance of very great age; and in Culford Park, the seat of Lord Cadogan, is a very ancient Oak, supposed to be not less than 1000 years old. In Rushbrooke Park, the residence of W. R. J. Rushbrooke, Esq., some 2 miles south from Bury, is still to be seen one of the few residences in this country surrounded by a moat, and where Queen Elizabeth is said to have held her court in the year 1578, on the occasion of her visiting these parts of her dominions. The park contains many fine trees, chiefly Oaks of gigantic dimensions, all of them having the appearance of great age, yet showing little, if any, signs of decay. This may no doubt be ascribed to the suitable nature of the soil for the growth of the Oak, an apparently somewhat heavy loam, with a subsoil of clay. The grounds of Hardwick Hall, the seat of G. M. Gibson Cullum, Esq., contains many fine trees, possibly one of the most remarkable is an extraordinary specimen of the Purple Beech, which stands near to the mansion. This is an exceedingly large and handsome tree, which must be of great age, but at the same time carries its years lightly, as it is in a perfectly healthy condition. Near to Hardwick is Hawstead Place, which must in former times have been a place of some importance, as Queen Elizabeth appears to have also held court here during her visit in 1578. Nearly all that now remains of Hawstead Place is the moat which surrounded it, from the drawbridge over which the Queen is said to accidentally have dropped her silver-handled fan, which her entertainer, as in duty bound, is said to have promptly recovered. Doubtless the most interesting objects now to be seen at Hawstead Place are three fine oriental Plane trees, Platanus orientalis, which stand at a short distance to the south-east of what was probably the front of the mansion. According to Loudon, this tree was introduced to this country from the Levant about the year 1548, and those at Hawstead may be supposed to have been planted soon after their introduction, as there are possibly few, if any, finer examples of them in this country. As stated in Cullum's *History of Hawstead*, the largest of these trees, at 3 feet from the surface of the soil, measured in circumference just 10 feet in the year 1787; the same tree, in 1887, measured 18 feet, showing an increase of 8 feet in one hundred years. *P. G.*

BERBERIS STENOPHYLLA × .—A fine specimen of this beautiful spring flowering hybrid, growing in the forecourt garden of my house at Ealing, appears to be almost, or quite, killed outright. It was growing against a low wall, but had formed a massive bush-head, and for several years past it had been an object of admiration in April and May, when covered with its bright yellow racemes of flowers. The position is a very cold one, open to the north-west, and tall Laurels growing by the side of it are much injured. It was no doubt the cutting winds, biting vegetation with their icy sharpness, that caused so much destruction among reputed hardy shrubs. *R. D.* [A similar shrub in the same neighbourhood is only browned. Ed.]

VEGETABLES.

VICTORIA SPINACH.

When a dish of this fine hardy Spinach was recently shown to the Fruit Committee at the Drill Hall, as some doubt existed as to its identity with the French Viroflay variety, which has been certificated, it was resolved to recommend that both assumed sorts be grown at Chiswick for trial this season. But under whatever name known, there can be no question but that it is a first-rate winter variety. Many gardeners will now grow none other either for winter or summer. I often advise market-growers to give it a trial, in place of the old prickly-seeded variety which is yet exclusively grown in market gardens. During the past winter this newer variety has proved to be far more productive and satisfactory in every respect than has the older one. *A.*

MANCHESTER BOTANIC GARDENS.

Rudgea macrophylla.—In one of the Manchester Botanic Garden stoves there is at the present time a plant of Rudgea macrophylla in fine bloom, twelve umbels of closely-packed flowers, not unlike a double Gueldres Rose. Before expanding, the white flowers have greenish apices, and then, when unfolded, they show a yellowish cast at the base. Touching the umbel before expansion, one is reminded of a badly-thinned bunch of Grapes. It is an attractive-looking plant, with a stem not unlike that of Quercus Suber, and carrying tufts of grand ovate, acuminate, coriaceous leaves, with these bundles of sessile flowers. Pity it is not fragrant.

Rhododendron Falconeri.

In one of the greenhouses in the gardens, now glorious with Himalayan Rhododendrons, and crosses of them, is one of the best-flowered plants of R. Falconeri I have seen. It is by no means a large plant, but is growing in a 14-inch pot, and it carries eight trusses of its remarkable flowers—first, pink on expansion, then blush, and as the flowers age, change almost to pure white. In some of those umbels there would be quite forty flowers, and one of the heads had forked out into three distinct centres, with it accompaniment of flowers towards each centre. The leathery leaves, with their rusty under-surfaces, enhance the general appearance of the plants. Mr. Bruce Findley deserves a meed of praise for bringing out these two rather unique examples of flowered plants to the general notice of the public. *J. A.*

NEW INVENTIONS.

A SEED-SOWER AND DIBBER.

Messrs. R. & W. Wilson & Sons, Ld., are making a new garden implement, see fig. 79, which they have called the "No-Back-ache Seed-sower and Dibber," apparently designed to meet the requirements of persons who have a decided objection to bending the back. "The seeds are at a convenient level, the ironshod dibber is guided by the tube, easily plunged into the earth, the seed can then be dropped down the tube, and the whole operation conducted without stooping at all. The sower can be used without the plunger for sowing seed broadcast." This convenient article is made at 90, Wardour Street, and 75, Dean Street, London.

Pot Lifter.

This is a contrivance made of stout copper-wire, sufficiently indicated by fig. 80, intended to clasp a flower-pot under the rim when putting it into a vase. If the wire is to remain on the pot, it can be held in position by bending two short sprigs of wire over the rim. The inventors are Messrs. C. B. Kent & Sons, Brush Factories, London.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

April 23.—Present: Professor Michael Foster, Sec. R.S., in the chair; Messrs. McLachlan F.R.S, Arthur Sutton, G. F. Wilson, F.R.S., Rev. W. Wilks, Dr. Hugo Müller, F.R.S., and Dr. Masters, F.R.S.

Fasciated Lily.—From Baron Sir Ferdinand von Mueller came a photograph of a fasciated specimen of Lilium auratum, which bore 208 more or less developed flowers.

Fig. 79.—Patent seed-sower and dibber.

Fig. 80.—Kent's patent pot-lifter.

Superposed Bulb in Leucoium.—Dr. Lowe, Wimbledon, sent a specimen of Leucoium with one bulb superposed upon another. The older of the two bulbs had produced a cylindrical stem or rootstock about 1 inch in length, which bore at its extremity the new bulb, so that the two bulbs resembled beads strung on a necklace.

Cuscuta on Pelargonium.—Dr. Masters exhibited a plant of Pelargonium densely covered with a mass of long fine threads, which had been taken for aërial roots, but which were clearly the thread-like stems of a species of Dodder, probably introduced with the peat made use of in potting.

Androgynous Willow.—The same gentleman showed specimens of Willow-catkins, the lower portions of which bore female flowers, the upper male flowers. Between the two there were several flowers in which one stamen was perfect, whilst its neighbour in the same flower was half anther, half carpel. In some cases three catkins, one terminal, two lateral, emerged from the same node. The catkins and the branches in the vicinity in some but not in all cases were marked by irregular swellings. These, when cut open, were each found to contain the larva probably of some beetle. It is thus a matter for speculation whether the irritation set up by the puncture of the insect had anything to do with the morphological changes observed.

Saintpaulia ionantha.—Dr. Masters showed flowers received from Mr. Ernst Benary, of Erfurt, showing a considerable range of variation in size and in colour. With reference to this matter, the proposal to refer this East African genus to the Chinese Petrocosmea was mentioned, and the opinion of Mr. C. B. Clarke, the monographer of the order, was cited to the effect that until the ripe fruit of Saintpaulia was examined, and the numerous new forms of this order lately introduced, carefully investigated, it was considered better to retain for the present the genus Saintpaulia—though, in all probability, it would eventually have to be merged into some other genus.

Cattleya Lawrenceana.—Sir Trevor Lawrence, President, Royal Horticultural Society, sent a raceme of this species bearing six flowers, all of which presented the same peculiarity. The two lateral petals were joined at their inner edges, and adherent also to the back of the column.

Lindley Library.—Mr. Arthur Sutton obligingly presented to the Lindley Library a fine copy of L. Plukenet's *Opera Omnia*, six volumes in two. Plukenet's volumes have an historical interest, as they serve to fix the date of introduction of many garden plants. Plukenet was botanist to Mary, Queen of William III., was superintendent of the gardens at Hampton Court, and at one time had a botanic garden of his own not far from the present site of the offices of the Royal Horticultural Society.

NEWCASTLE SPRING SHOW.

April 24, 25.—The annual spring show of the Durham, Northumberland, and Newcastle-on-Tyne Horticultural Society was held on the 24th and 25th ult. in the Olympia, Newcastle. The exhibition, though extensive, was rather under the average in quantity, and the quality of the Hyacinths and other bulbs shown must also be described as under that of the excellent exhibits one usually associates with the shows of this vigorous Society. Narcissi were exhibited in good quantity, and there were some collections of cut Roses, besides Auriculas, Tulips, miscellaneous plants, &c. Table decorations were an important feature, and were executed with great taste.

The best twenty-four Hyacinths, and also the best twelve, were shown by Messrs. H. Dewar & Co., Newcastle; Mr. McDougall being 2nd. The flowers, although rather smaller than have been exhibited here, were admirably timed for the date of the exhibition.

Mr. J. Wood, Fenham, had 1st for nine pots of single Tulips, being followed by Mr. G. McDougall, the latter exhibitor gaining 1st for six pots.

Mr. T. Wheeler, Newcastle, was the only exhibitor of Polyanthus Narcissus, and of six pots of Daffodils. Auriculas were shown by Mr. R. Patterson, Sunderland, who was 1st for twelve plants and for six, being followed in the latter class by Mr. E. Adams. Mr. Patterson was altogether unapproachable, and took 1st also for four and two plants, and in the classes for a single plant of a grey, green, and white-edged Auricula, for a self, and for a collection of twelve alpine Auriculas, and for a single plant. The premier Auricula in the show and the best seedling alpine Auricula were also from Mr. Patterson. Mr. Adams had 1st for a seedling Auricula.

A group of miscellaneous plants was staged by Mr. Jas. Wood, Morpeth; Mr. John McIntyre, Darlington, being 2nd. Mr. N. Black, Darlington, was 1st for three plants in bloom, being followed by Mr. Jno. Kennedy, Gateshead.

Mr. J. McIntyre had the best collection of three Azalea indica; and Mr. J. Kennedy, 2nd. Mr. T. Wheeler had 1st for three Orchids, and Mr. J. McDougall, Dudley, for four plants of Dielytra spectabilis.

In this division also were collections of Spiræas, Cinerarias, Primulas, Cyclamens, Lily of the Valley, and for six plants for table decoration; the last-named class being splendidly won by Mr. J. McIntyre.

Cut flowers were shown in six or seven classes, and five classes devoted to table decorations created an amount of competition, and formed an attractive feature. Messrs. Perkins & Sons, Coventry; Mr. F. Edmondson, Newcastle; Mr. T. Battensby, Blaydon; and Messrs. E. M. Armstrong, Benwell, were the most successful exhibitors in this section.

Division B contained classes from which nurserymen were excluded, and there were plants in bloom, bulbs in bloom

and table decorations in this section. Beside Mr. T. Wheeler and Mr. McIntyre, other 1st prize exhibitors in this division were Mr. P. Blanchard, Jesmond; Mr. G. Corbett, Mr. W. Pitt, Mr. J. Kennedy, Mr. J. D. Bissett, Mr. J. Wood, Trenham; and Mr. J. Battensby.

The amateur classes were well contested, and, on the whole, very satisfactory.

MANCHESTER ROYAL BOTANICAL.

National Auricula Show (Northern Section).

April 27.—The usual show of the National Auricula Society was held in the Gardens, under favourable auspices. The quality and quantity of the flowers were affected by the untoward season we have passed through, the principal prizes going to nearly the same exhibits.

For six dissimilar varieties, and for four dissimilar varieties, Mr. T. Lord, Todmorden, and Miss Kyrke Penson, Ludlow, took 1st and 2nd respectively; Mr. Bentley, Castleton; Mr. Simmerick, Sheffield; Mr. T. Dickson, and Mr. J. Stokes, Birmingham, following.

For pairs, Richard Gorton, Eccles; W. H. Midgeley, Halifax; Geo. Middleton, Prestwich; E. Shaw, Moston; Jas. Wood, Staleybridge; J. Shelford, and T. Buckley, also of Staleybridge, following each other in the order named.

For single plants (green-edge), Mr. T. Lord was 1st, with Rev. F. D. Horner; Miss Kyrke Penson was 1st for a good grey-edge, named Durham; and Richard Gorton was 1st with white-edge, with Heatherbell.

Mr. C. E. Gerald was 1st for selfs, for which class there was a large competition. The best sorts were George Lightbody, shown by Miss Penson, and awarded the prize as the best Auricula in the show; then Acme, Mrs. A. Potts, Brunette, Rev. P. Headley, Rev. F. D. Horner, Heatherbell, Mrs. Doyles, Beauty, Lancashire Hero.

For alpines there was a brisk competition, these sorts being easier grown and much more attractive outside the florists' circle than the show pans. Mr. J. Beswick was 1st, with shaded John Allen, Bright Eye, Dr. Knott, and a very good seedling; Mr. Richd. Gular, Mr. Stokes, Birmingham, Chas. Turner, Slough, following in order named. Mr. Shelford, Mr. Jas. Wood, Mr. Beswick, Mr. John Lees showed in other classes excellently, the latter gentleman taking 1st position for the best alpine with a seedling; and Mr. Chas. Turner taking 2nd position with Winnifred. Mr. Turner's Roland took premier place, a beautiful flower it is too; and Mr. Beswick took similar place with John Allen.

Polyanthus.—This class was only indifferently represented, the best flowers coming from Messrs. A. Oldham, Beswick, Thornley, Geo. Middleton, and others. The best sorts were Mrs. Brownhill, Cheshire Favourite, Sydney Smith, George IV., and several showy seedlings.

Messrs. Barr & Son, Long Ditton, Surrey, had a splendid display of about 250 glasses filled with Daffodils of all shades. Messrs. Dicksons & Co., Chester, had a group of over one hundred sets well put up; and Messrs. Pearson, Chilwell, had a smaller group. Mr. Henry Browhill, Seed Stores, Sale, had a fine lot of Primulas of the Sieboldii type, clean, and fresh, and beautiful; and some remarkably well-grown blooms of Tea Roses. Messrs. Hopkins, Knutsford, sent a lot of hardy border Primroses and Polyanthuses.

NURSERY NOTES.

DAFFODILS AT LONG DITTON.

Daffodils as shown by Messrs. Barr & Son at the meetings of the Royal Horticultural Society and elsewhere are familiar enough, and their beauty, even under such circumstances, is generally sufficient to secure one's attention and admiration; but how poor a sight these present when compared with the growing collection at Long Ditton, which a few days since were in their best flower! It has been said that Narcissi are rather smaller in the flower this season, and that they have been very late. Of the latter there can only be one opinion, and we are not disposed to deny that larger blooms have been seen than the general average this season, though in this respect it may be well to remember that probably a finer collection of Narcissi than that shown by the Rev. S. E. Bourne at the last meeting of the Royal Horticultural Society has not been exhibited. However, the bulbs have never been more floriferous than this season, and it has not previously happened that the writer has seen the collection of Messrs. Barr, when it appeared to greater advantage than was the case when these few notes were taken. A good number of varieties were in flower, and such a wealth of bloom the beds presented, that in the late afternoon, when the sun had considerably waned, there was a picture which those who have not seen a similar one would hardly imagine.

As a guide to those who live at such a distance that a visit is not practicable, a few brief notices of the new varieties, and more popular of the older kinds, may be helpful, or at least, interesting. The finest of all the new ones yet in commerce, is, undoubtedly, the white trumpet Daffodil, exhibited last season, and named Weardale Perfection. It has a strong constitution, with robust foliage, about 18 inches high, and the flowers, besides being extra large, have great substance. It is said to increase but slowly, and at present is very expensive. Glory of Leiden, certificated in 1890, is a handsome yellow trumpet variety, the perianth in this case showing faint evidence of a white ground, but also suffused with sulphur (see fig. in *Gardeners' Chronicle*, April 19, 1890). Madame de Graaff is still one of the very best of the white trumpet sorts; the perianth is distinct white, and the trumpet pale lemon, open and reflexed (see fig. in *Gardeners' Chronicle*, April 19, 1890). Lulworth is the name of a pretty variety not yet in commerce, having a white perianth, and a pleasing orange-tipped cup. T. A. Dorrien-Smith, named after the "king" of the Scilly Isles, who has done such good work in growing Daffodils for market, is still a desirable flower. It has a short trumpet of golden yellow, the perianth being the very lightest sulphur, segments wide and overlapping. Mrs. Vincent is known as a white trumpet variety, and although the white flower has a decided trace of sulphur in it, the plant is very well worth noticing, the form being good. Now follow two varieties of the Barri section. The first is Mrs. Dyer, which apart from the perianth segments being narrow to a fault, is in flower very pretty, and the cup has a decided orange fringe. Dorothy E. Wemyss, with a large white perianth, and canary-coloured cup richly edged with orange-scarlet, has been offered for several seasons past. Perhaps it will be well to say here that the variety in this group named Conspicuus is still the best in the group for general usefulness, and is very inexpensive. One of the best effects in the field was from huge beds of this splendid Daffodil; a grand lot of General Murray, with its creamy-white perianth and pale yellow cup, was noticed also. It may be remarked, that of the varieties yet noticed, only comparatively small stocks yet exist; but among those of which may be seen large breadths, and which are quite indispensable in any collection, one feels bound to mention Emperor, Empress, Horsfieldii, J. B. M. Camm, and others. Then there is the Swan's-neck Daffodil (William Goldring), and in the Leedsii section, M. de Graaff, which has a white perianth with lemon-coloured cup. Commander, in the Incomparabilis group, has sulphur perianth, large yellow cup, and is very distinctly marked with orange-scarlet; it is also recommended as a strong grower. Little Dirk is one of the Barbidgei group, and has a primrose-coloured perianth, and a cup well marked with orange-scarlet; the flower is one of the smallest. Minnie Hulme and Mrs. Langtry are both thorough good members of the Leedsii group; the flowers are not much dissimilar, the perianths are white, the cup in the case of Mrs. Langtry being white with a pale lemon edge, and that of Minnie Hulme is canary-coloured, fading to white. The Nelsoni group we noticed in the varieties Mrs. C. J. Backhouse, which has a white perianth, and a golden yellow cup; William Backhouse, with imbricated white perianth, and yellow cup; Nelsoni major, and Queen of Spain, the last-named is comparatively new, and is a very pretty yellow flower. Poetarum, ornatus, and grandiflorum are the best varieties of the Poet's Daffodil (N. poeticus). From the unique collection at Ditton we have only mentioned a very small number, and such as were particularly striking and good.

Beside the Daffodils, there are very many other hardy plants that are interesting in this nursery, and at the present time there are numerous varieties of Erythronium in flower, planted with other choice things between lattice fences a couple of yards or more apart, which break the cold winds. Among these were noticed E. Hartwegii, E. grandiflorum, and E. Hendersoni, &c. Here also was the vivid vermilion-scarlet Tulipa Grægii, each petal bearing a black blotch at the interior base, and a fine collection of Fritillarias, F. pyrenaica, F. pallidiflora, F. Kotschyana, were among these, also F. Burnati about 1½ feet high, with slender grass-like foliage and three flowers about 1 inch across, dull purple outside, and yellow and purple inside; F. Walayewi about the same height, had four flowers with silvery exterior, and in the interior was a mass of white and blood-red spotting. This was very pretty indeed. Then, too, among the garden Tulips were many good things, such as Koh-i-noor, a blackish-crimson flower; Pink Beauty, each petal having a white flame on the outside, with rose margin, rose and white inside, very delicate and pretty. Tulipa elegans, brightest crimson; T. e. variegata, crimson and yellow; T. retroflexa, yellow, were species as effective as most varieties.

TRADE NOTICE.

Mr. George McLean, for upwards of twenty years Head Gardener at Shugborough Hall, Stafford, has taken the Wollaton Hall Gardens, Nottingham.

Obituary.

Mrs. A. H. Smee.—We regret to announce the death, on the 24th ult., of Mrs. A. H. Smee, of "My Garden," Carshalton. Mrs. Smee took an active part in all beneficent and even political affairs in her neighbourhood, and from her sympathy and charity will be deeply mourned by those who knew her.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Above (+) or below (—) the Mean for the week ending April 27.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1895.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1895.	Rainfall: More (+) or less (—) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1895.	Rainfall: Total Fall since Jan. 1, 1895.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	43	0	— 24	+ 291	4 +	78	13·5	13	31
1	5 +	53	0	— 72	+ 423	3 +	62	7·9	21	31
2	5 +	57	0	— 18	+ 292	5 +	68	8·8	17	29
3	4 +	64	0	— 22	+ 297	2 +	64	6·7	21	31
4	3 +	61	0	— 50	+ 382	9 +	56	7·4	18	28
5	2 +	57	0	— 92	+ 336	8 +	53	6·6	19	27
6	3 +	53	0	— 50	+ 374	7 +	66	9·3	14	27
7	3 +	55	0	— 56	+ 314	8 +	60	8·9	14	25
8	2 +	51	0	— 100	+ 341	9 +	59	10·4	20	28
9	2 +	48	0	— 101	+ 279	4 +	73	9·7	20	30
10	2 +	61	0	— 132	+ 197	4 +	63	11·4	26	31
*	2 +	69	0	— 118	+ 248	5 +	69	9·2	26	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, E.; 10, Ireland, S.; *Channel Islands.

MARKETS.

COVENT GARDEN, *May* 2.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Aruma, per dozen blooms	2 6	3 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Daffodils, double, dozen bunches	1 6	2 0
— single, doz. bun.	2 0	3 0
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz sprays	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	4 0	5 0
Lilies of the Valley, doz. sprays	1 0	2 0
Lilium Harrisii, per dozen	2 6	3 6
Maidenhair Fern, per 12 bunches	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	8 0	12 0
— 12 sprays	0 8	1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	6 0	8 0
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Iris, per doz. buns.	18 0	24 0
Stephanotis, dozen sprays	6 0	9 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. boh.	2 6	3 6
— Czar (French), per bunch	1 0	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Azaleas, per doz.	30 0	48 0
Cinerarias, per doz.	8 0	12 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica Cavendishii, per dozen	36 0	42 0
— hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz.	9 0	12 0
Genistas, per doz.	9 0	12 0
Heliotrope, per doz.	9 0	12 0
Hydrangeas, p. doz.	12 0	18 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Spiræas, per doz.	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cobs, per 100 lb.	18 0	20 0
Figs, per dozen	6 0	8 0
Grapes, 1st quality, black, English, per lb.	3 0	4 0
Melons, each	2 0	3 0
Peaches, per dozen.	12 0	24 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	3 0	4 0
,, ,, 2nds., lb.	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0
Beans, per lb.	0 6	0 8
Cauliflowers, p. doz.	1 0	—
Cucumbers, per doz.	3 0	4 0
Mint, per doz. bun.	2 0	6 0
Mushrooms, per lb.	0 6	0 8
Peas, ordinary, lb.	0 6	0 10
— Telephone, lb.	0 10	1 0
Potatos, Channel Islands, per lb.	0 4	0 5
Seakale, p. punnet	0 6	0 9
Tomatos, Home-grown, per lb.	1 0	1 3

OLD POTATOS.

Stocks held by the large dealers and farmers are in some instances heavy, and the late arrivals in London have not been selling freely even at lower prices. The continental supplies are also fairly heavy, consequently still lower prices are anticipated during the coming week.

NEW POTATOS.

These are now in general demand at better prices. Best Malta kidneys, 16*s.* to 18*s.* per cwt; do., rounds, 13*s.* to 15*s.* do.; Canary Islands kidneys, 13*s.* to 18*s.* do.; do., small kidneys, 6*s.* to 9*s.* do.; Channel Islands do., 5*d.* to 7*d.* per lb. *J. B. Thomas.*

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

WHERE was "Pinus Maurandia" published? It is not in *Index Kewensis*. What is it? A specimen so named now before us seems to be a form of the Silver Fir, Abies pectinata.

VINE TENDRILS.—Mr. JAMES EWING asks:—Will some of your readers kindly give me their opinion as regards the advantage or otherwise of removing the tendrils of young Vines. He thinks the usual practice is to remove them, although he has seen the contrary course recommended. For his own part, he leaves them alone, but would like to hear what others have to say on the matter.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ADDRESS: *Nurseryman.* No. 1, Clement's Inn, Strand, W.C.

BLENHEIM ORANGE MELON: *X.* Please send specimen of roots.

CARNATIONS: *A. G.* The too common Carnation-rust (Helminthosporium echinulatum), often figured and described in these columns. Burn the affected leaves. Try the effect of Bordeaux Mixture or weak Gishurst Compound. Mix a little mortar-rubbish with the soil.

CHAMÆROPS EXCELSA: *A. Lewis.* The flowering of this species is not unusual when the plant has reached a mature age.

CUCUMBERS: *H. W.* Send specimen of roots and leaves.—*F. A.* Next week.

FIGS: *Coll.* We cannot call to mind any special manual extant on the cultivation of the Fig under glass, but there is to be found in D. Thomson's *Fruit Culture Under Glass*, an exhaustive article on the subject. The book is published by Blackwood & Sons, London and Edinburgh. See also Mr. Barron's paper in the Journal of the R. H. S., vol. xiii., 1891, p. 122.

FUCHSIA LEAVES DISFIGURED: *S. Heaton.* This disease is caused by a fungus called Oospora epilobii. Cut off and burn diseased leaves and shoots. Sponge the leaves; or better, immerse the entire plant in a rose-coloured solution of Condy's Fluid. *G. Massee.*

MARGUERITES: *M. B.* Chrysanthemum frutescens, and C. fœniculaceum, and are very nearly allied. Both have glaucous finely-divided leaves. C. Broussoneti is largely grown for Covent Garden, as is also C. pinnatifidum; both of these have green leaves. The Canary Island Chrysanthemums are very variable, and the only way to clear up their nomenclature would be to get seed from the native plants, and cultivate them for purposes of study. *G. N.*

NAMES OF PLANTS: *Castlewellan.* Lathræa squamaria, a root parasite preying chiefly on Hazel. Sir J. D. Hooker describes it as being "rather rare in Ireland."—*No Name.* Magnolia Lenné.—*W. H. D.* 1, Rhododendron dauricum; 2, Ophrys fucifera; 3, next week; 4, Narcissus, a hybrid which we cannot name; 5, Cassandra calyculata; 6, Saxifraga next week.—*A. J. K.* 1, Cupressus sempervirens; 2, Cotyledon umbilicus; 3, Celsia arcturus; 4, Chrysosplenium oppositifolium; 5, Anchusa italica; 6, Catillac Pears; 7, Adoxa moschatellina.—*F. Y.* Fritillaria Meleagris.—*Junior.* Most of the Maples sent are varieties of Acer palmatum (also called Polymorphum), and unfortunately some of them are to be found under different names in gardens, while others, on maturing, totally lose the characteristics of leaf on which they were named. You have largely exceeded our limitations as to naming plants. If every one made as great demands on our time, the editing of the *Gardeners' Chronicle* would be an impossibility. May we not ask you for a small contribution to the Gardeners' Orphan Fund? 1, Acer palmatum roseum marginatum; 2, A. palmatum argenteum; 3, A. palmatum laciniatum; 4, A. p. septemlobum elegans; 5, specimen not developed; 6, Acer palmatum; 7, A. p. septemlobum elegans; 8, A. p. septemlobum; 9, A. japonicum; 10, A. palmatum variegatum; 11, A. p. aureum; 12, A. p. dissectum purpureum; 13, A. p. dissectum variety; 14, A. p. dissectum variety; 15, A. p. dissectum variety. 16, A. p. d. variegatum; 17, A. p. digitatum; 18, A. p. sanguineum; 19, A. p. tricolor; 20, A. japonicum aureum; 22, A. palmatum dissectum ornatum; 24, A. p. atro-purpureum.—*J. C. S.* The moss we cannot name—it is of no horticultural interest. The fungus on the Weymouth Pine is Peridermium strobi, which exists in a very different guise on the black Currant.—*B. Gowan.* Azalea indica alba in poor form.—*W. B* 1, Scopolia carniolica; 2, Saxifraga (Megasea) cordifolia; 3, Adonis vernalis.—*J. M.* Lathræa squamaria, a parasite on the roots of Hazel generally.—*W. J. P.* 1, an Elder, apparently; 2, Ribes flavum; 3, Amelanchier vulgaris; 4, not found; 5, Diervilla (Weigela) rosea; 6, Spiræa prunifolia, double fl.—*P. S.* 1, Deutzia scabra; 2, Chrysanthemum frutescens var.; 3, Ribes rubrum; 4, Pyrus japonica; 5, Berberis Mahonia; 6, Arabis albida.—*W. E. Stone.* Vanda tricolor.—*J. S.* Oncidium luridum guttatum.—*J. W. Reading.* Your only course is to cut away the portions affected by the weevil and burn them. If watched, the pest is easily stamped out.—*H. J. R., Florence.* Broughtonia sanguinea, not Lælia purpurata Doningensis, which has much larger flowers.—*W. T.* Nevinea (not Nevinsia) alabensis, hardy rosaceous shrub.

ODONTOGLOSSUM NOBILE VARIETY: *John R.* Your bloom represents a good variety. It is similar in some respects to the one described on the page you mention, but the yellow tinge is a trifle less distinct.

SHELVES IN THE FRUIT-ROOM: *Constant Reader.* No, do not paint or varnish them, but wash them once every summer with hot soap-suds, and afterwards rinse with clean hot-water. Keep the room well aired during the season, when fruit is not in store. The mildew noticed on some of the shelves may be due to the confined dampness of the place. Hot brine, if used on these parts, would get rid of it.

TOMATOS IN 8-INCH POTS: *T. C.* The size of pot that you name is rather small, still if saucers suited to the pots are placed beneath them, and the plants are afforded liquid manure made from night soil, pigeons' dung, &c., and rich top-dressing when a crop of fruit has set, the returns ought to be fair. Your garden soil being poor, can be enriched with manure—say, ½ rotten stable dung and pasture loam ½. The top-dressings, 2 to 3 inches thick, can be kept in position by placing a strip of zinc or tin round the rim of the pots, or strips of wood, slate, or glass which would answer almost as well.

TOMATOS: *D. & W.* Next week. Sulphate of copper, 6 lb. Dissolve in water in a wooden or earthenware vessel. In another vessel slake 4 lb. of lime. Mix the lime with the copper solution, gradually stirring carefully. Add water to make up 22 gallons. The solution would be blue. If too strong, add more water, and a little more lime.

TORTOISE: *J. J.* The species of land tortoise commonly seen in this country, Testudo græca, is a vegetable feeder, enjoying enormous quantities of milky herbs, such as Sow-Thistles, Dandelions, Lettuces, in the height of summer—say for two months; at other times its appetite is sluggish. We do not suppose it would consume beetles of any kind.

VINE WEEVIL: *W. W.* A weevil most destructive. Trap them with slices of Carrot or Potato, and go round at night when they are feeding.

COMMUNICATIONS RECEIVED.—J. W. (next week).—W. H.—J. H. H., Trinidad.—H. C. F.—K. K., Gartenbau Gesellschaft Wein.—R. L. H. D. C.—C. de B., Antwerp.—G. H.—C. A. N.—H. M. W.—G. F.—W. Searles.—F. C.—E. M.—J. Pope.—E. de B.—J. O'B.—U. Dammer.—J. R. J.—T. W.—H. M.—W. G.—J. D.—C. T. D.—H. W. W.—J. J. W.—R. D.—J. S., W.—R. G.—D. T. F.—J. W.

PHOTOGRAPHS RECEIVED, WITH THANKS.—Sir T. L.—T. S.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

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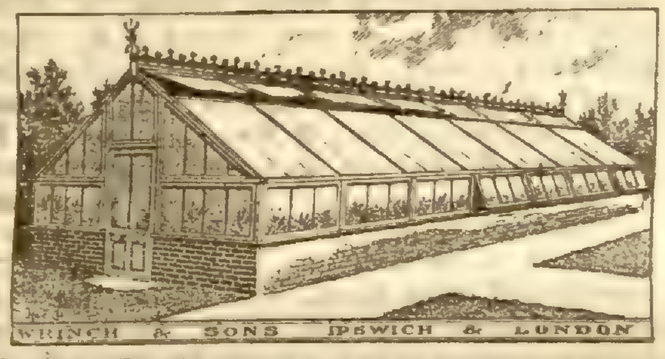

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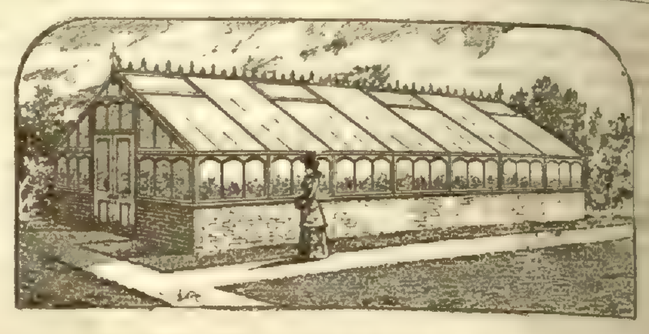

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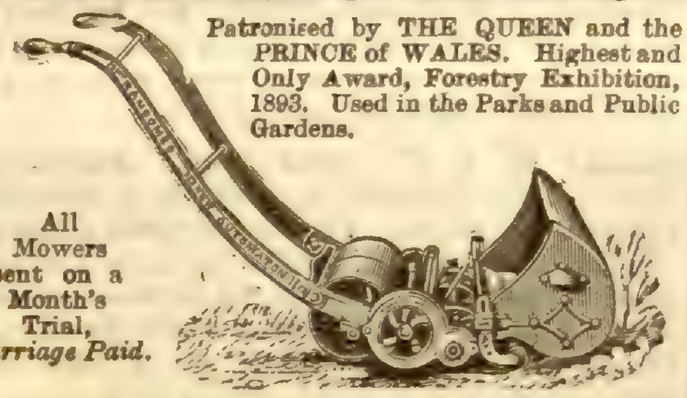

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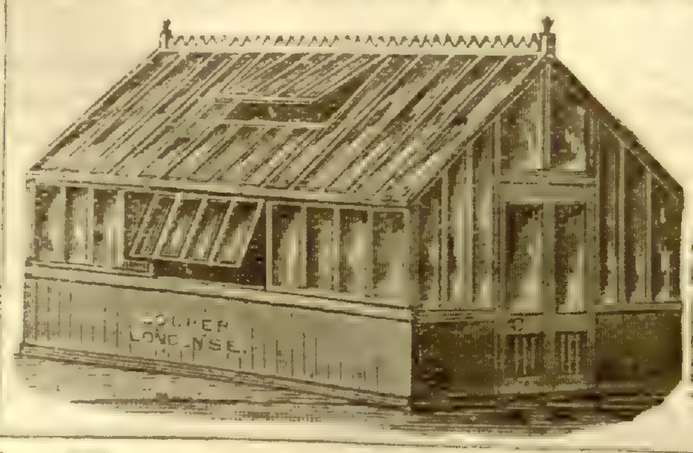

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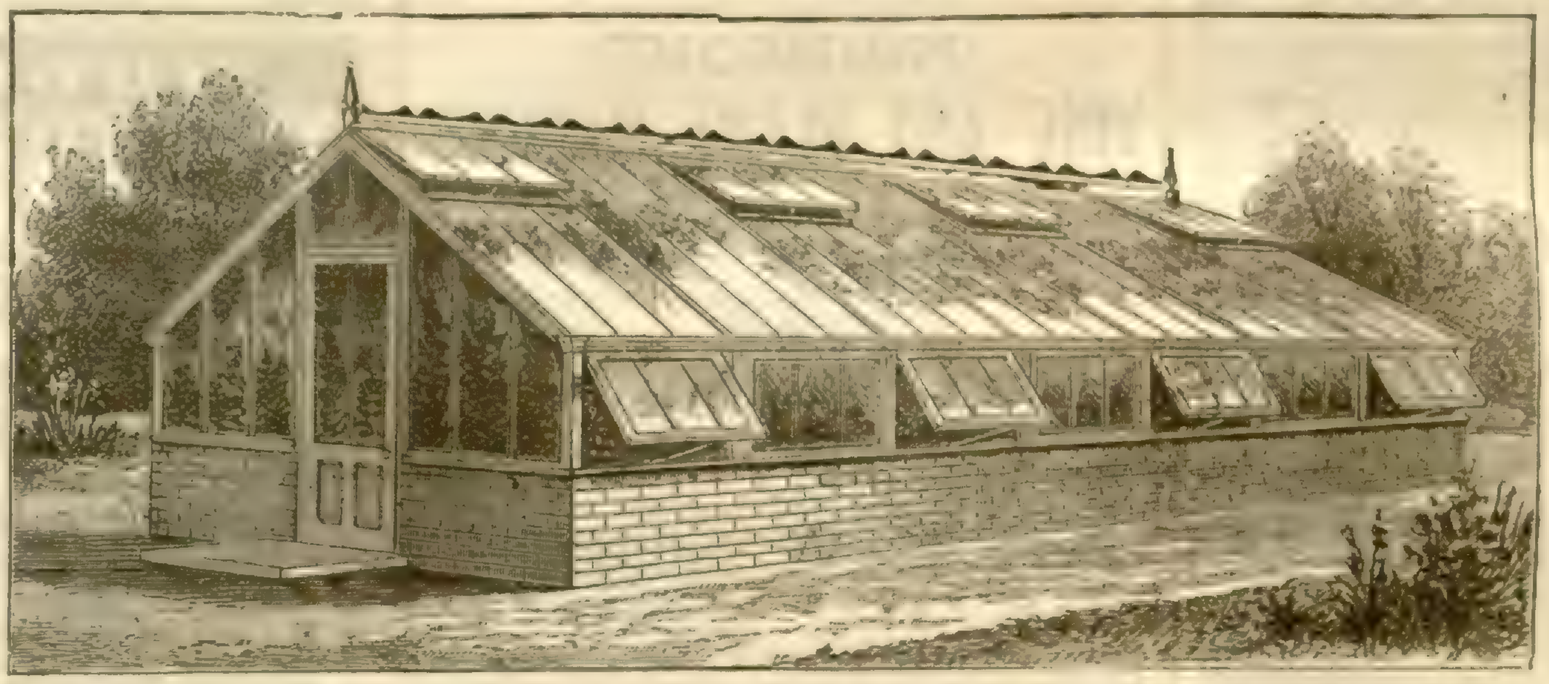

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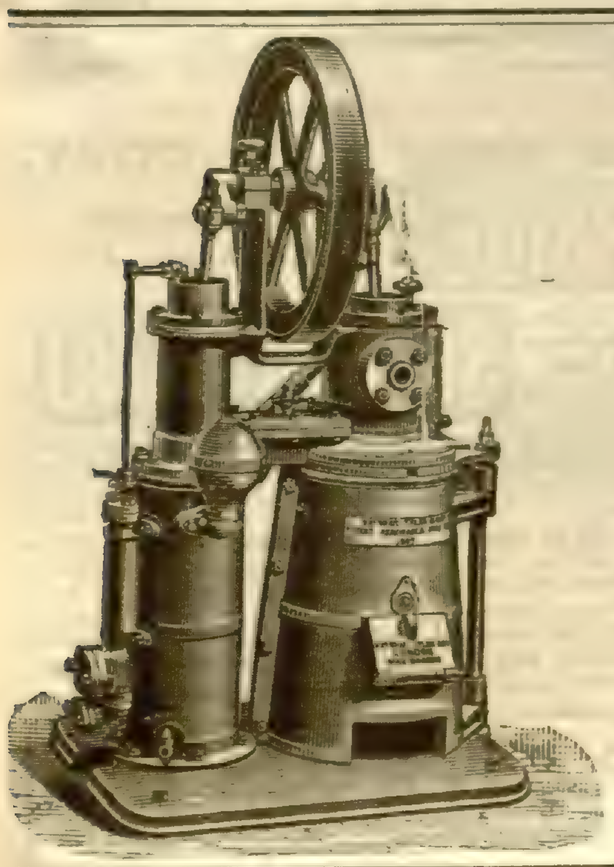

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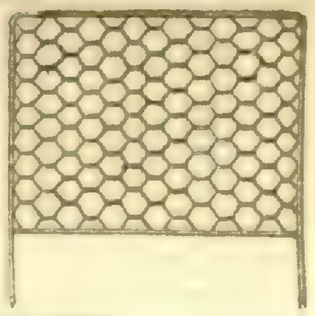

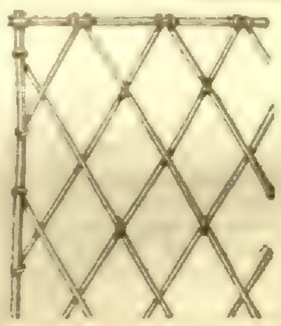

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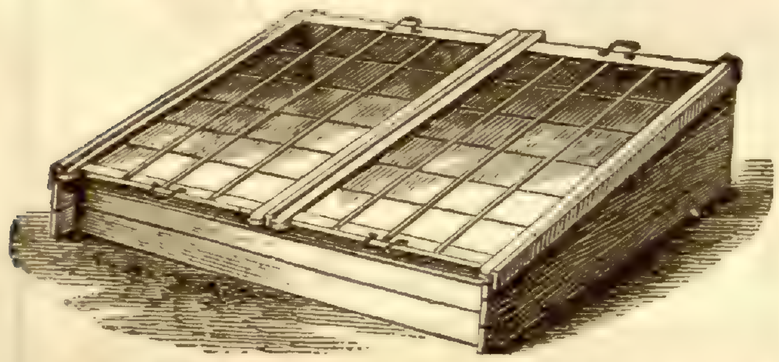

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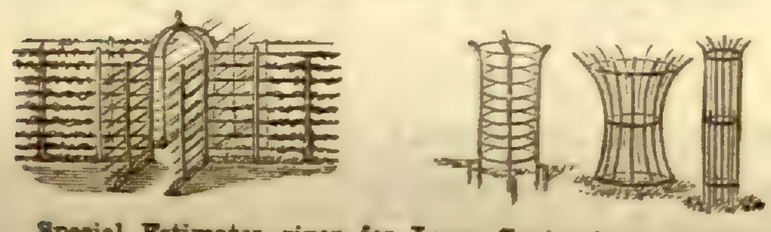

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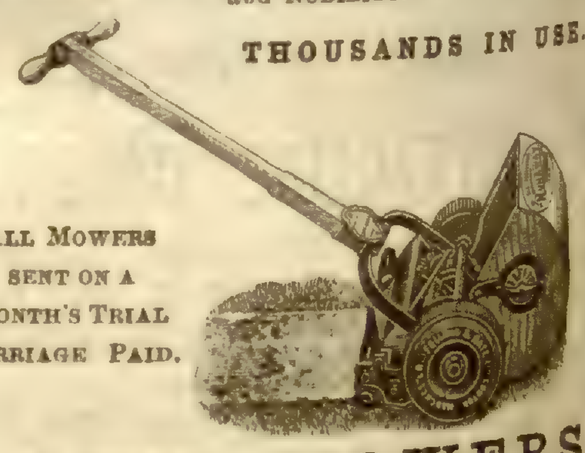

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Mr. R. DAY, late Gardener at Clapham Park, Bedford, as Gardener to F. NUTTER, Esq , Cauldwell Priory, Bedford.

Mr. WILFRED H. CLARKE, formerly Head Gardener at Derwent Bank, near Derby, as Head Gardener to Sir WM. C. PLOWDEN, of Aston-Rowant House, Tetworth, Oxon, entering on his duties, April 29.

Mr. JOHN BENNETT, Gardener to JAMES HORNSBY, Esq., at Stapleford Park, removed with him on his change of residence to Laxton Hall, Stampford, North Hants, on April 29, which estate has been purchased from Lord Carbery.

Mr. W. WHAIT, for the past thirteen years Head Gardener at Wyndham Lodge, Melton Mowbray, as Head Gardener to H. G. JAMES, Esq., Oadby, Leicester.

Mr. ALBERT S. COLE, as Gardener to H. GOSCHEN, Esq., Heathfield, Addington, Surrey.

Mr. FRANK THOMPSON, late Gardener to G. WILSON, Esq., Grimston Manor, Gilling, York, as Gardener to Mrs. DOHERTY, Waterhouse, Wellhead, Halifax.

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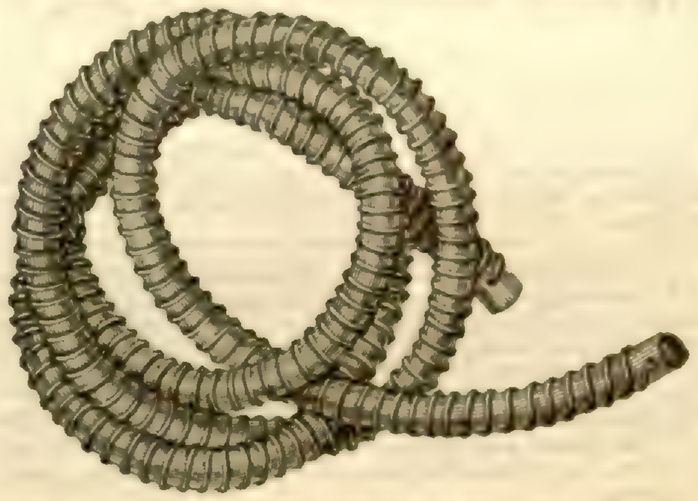

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WANTED, a FOREMAN, to take charge of an Outdoor Branch Nursery. Must have a general knowledge, including Roses, Shrubs, Market Gardening, &c.—Apply to WALSHAW AND SON, The Nurseries, Scarborough

WANTED, TWO useful MEN, one for Ferns, and one for Palms. Must have had previous experience. Permanency for good men.—POULTON'S, Limited, Fountain Nursery, Angel Road, Edmonton.

REQUIRED, experienced GRAPE THINNERS, from Monday, May 6. Terms, 24*s*. per week.—Apply to SECRETARY, Hampton Horticultural Company, Limited, Hampton, Middlesex.

WANTED, a young MAN; one accustomed to Nursery Work, and who would be willing to make himself useful. Wages, 18*s*. per week.—ED. LODGE, Beardwood Nursery, Blackburn.

WANTED, at once, a young MAN, quick at Potting, Watering, and Tying for Nursery.—Apply, with full particulars, to THE MANAGER, E. Lorenz, Heathfield Villa, Hampton, Middlesex.

WANTED, young, smart FURNISHING HANDS. Must have had great experience in all branches.—Apply to ROBERT GREEN, 28, Crawford St., W.

WANTED, a young MAN, for Market Nursery.—Age about 20; wages to commence, 16*s*.—JAMES SHORT, Law Nursery, Apperley, Leeds.

WANTED, a strong, active young MAN, about 20, to grow Cucumbers, Chrysanthemums, &c., for market.—State experience and wages to JENKINS, Florist, Hampton Hill, Middlesex.

WANTED, an active young MAN, for Growing Fruit, Flowers and Plants for Sale. Wages £1 per week.—D. KNIGHT, Calton Pleasure Gardens, Morecombe.

WANTED, a smart young MAN, used to Making Wreaths, Crosses &c., and to fill up his spare time in the Greenhouses.—State age, wages expected, and experience, to FLORIST, 41, Wellington Street, Strand, W.C.

WANTED, an energetic young MAN, accustomed to the Seed and Bulb Trade; one who has had experience in the Nursery department preferred.—State age, reference, and wages required, to W., 41, Wellington Street, Strand, W.C.

WANTED, at once, an active young MAN, for Potting and Watering. Must be used to Fern-growing.—Apply between 10 and 12 A.M. to T. CLARK, Hawthorn Nursery, 183, Northumberland Park, Tottenham.

WANTED, IMPROVERS, Inside and Out. ALSO one to look after Horse and make himself useful in Nursery (bothy).—TURNER BROS., Nurserymen, Hale, Liverpool.

WANTED, at once, a strong LAD. Must be good and quick at Potting.—State age and wages required, also references, to GEO. BLUNDELL, Nurseryman, Oakleigh Road, Whetstone.

WANTED, an intelligent LAD, to assist in Seed Shop, with some knowledge of the Trade preferred.—Write, giving references, wages, &c., to W. FROMOW AND SONS, Sutton Court Nurseries, Chiswick.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

GARDENER (HEAD), where four or five are kept.—Had great experience in all branches of Gardening; also Management of Pasture Land. Fifteen years gardener to the late Lady Shelly. Leaving through her death.—R. THOMAS, Maresfield Park, Uckfield, Sussex.

GARDENER (HEAD); age 35.—J. MCRONALD, The Nurseries, Chichester, can recommend an exceptionally good all-round man, who will be shortly disengaged, Land and Stock if required.

GARDENER (HEAD).—Age 30, married; practical experience in all branches, large or small establishments. Life abstainer. Five years in present situation. Excellent character.—HOWELL, New Cottage, Bell Bar, Hatfield, Herts.

GARDENER (HEAD, where two or more are kept).—Age 30, married, no family; thoroughly experienced in all branches. Three years' excellent character.—Particulars from F. WELLSTED, Purbrook, Cosham, Hants.

GARDENER (HEAD), where two or three are kept.—J. CHOWN will be pleased to recommend his Foreman (age 29) to any one requiring a practical and trustworthy man.—6, Grove Terrace, Board School Road, Woking.

GARDENER (HEAD).—Age 39, married; thoroughly practical all-round Gardener, conversant in every department, with life thorough practical experience in Fruits, Flowers, Vegetables, &c. Thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, W.

GARDENER (HEAD). — Age 35; married. Thoroughly practical all-round man. Well up in Orchids, Plants, Cut Flowers, Fruits, and Vegetables. Ten years as Head in present place. Strongly recommended. — F. C. JENNINGS, Roselands, Wool-ton, Southampton.

GARDENER (HEAD); age 32.—Sir THOMAS BAZLEY wishes to recommend W. Burby, who has been with him five years; thoroughly experienced in all branches.—W. BURBY, Hatherop, Fairford.

GARDENER (HEAD).—Age 34, married; good all-round experience. Six years' good character.—E. D., 39, Balham Hill, Balham, S.W.

GARDENER (HEAD).—Age 30; thoroughly experienced in all branches. Excellent testimonials as to ability.—G. WALLER, Mr. W. Scammell, Selbourne, Alton, Hants.

£5 FOR Information leading to Appointment as WORKING GARDENER (HEAD). Good character, and experienced. — KESEL, Mr. Cooper, Cobham, Surrey.

GARDENER (HEAD WORKING; middle-aged.—A GENTLEMAN will be pleased to recommend his Gardener to any Lady or Gentleman requiring a thoroughly competent and trustworthy man. Management of Land if required. Ten years' good character.—J. C., 4, Essex Road, Chadwell Heath, Essex.

GARDENER (HEAD WORKING).—Age 41, married, no family. Extracts from five years' characters. Lincolnshire and Leicestershire: Good all-round man. Herefordshire: First-rate. Present employer seven years: Excellent.—JOHN SCOUSE, Foliejon Park, Windsor.

GARDENER (HEAD WORKING).—Age 34, married, one child, age 8; well up in all branches. Three and a half years in present situation; nine years previously.—BOVINGTON, Fairmile Hatch Lodge, Cobham, Surrey.

GARDENER (HEAD WORKING).—Age 35, married; thorough good Grower; Fruit, Flowers, and Vegetables, Inside and Out. Nearly four years in present situation. Four and a half years' previous as Head. Good references.—BARNES, Essendon Place, Hatfield, Herts.

GARDENER (HEAD WORKING).—Age 27; married when suited.—JOSH VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING); age 30, married. — Mr. SANDERS, Gardener to Alfred de Rothschild, Esq., wishes to recommend his late Foreman to any Lady or Gentleman requiring the services of a good practical man. — CHARLES FISHER, 6, Stanley Grove, George Street, Reading.

GARDENER (HEAD WORKING).—Age 30, married, no family; well up in all branches. Life experience. Good references.—MASKREY, 28, Prospect Hill, Swindon.

GARDENER (HEAD WORKING); age 35, married, no family,—A GENTLEMAN can highly recommend a thoroughly practical man in all branches of the profession. Leaving through place being sold.—J. W. S., 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING), where two or more are kept.—Age 25; life experience in all branches. Highest references.—A. F., 35, Tremadoc Road, Clapham.

GARDENER (HEAD WORKING), age 41, no encumbrance. Thoroughly practical; life experience. Wife good Cook, Dairy or Poultry. Good personal characters.—H., 5, The Limes, Vernon Road, Sutton, Surrey.

GARDENER (HEAD WORKING), where two or more are kept.—Age 38, married, no family. Leaving through death. Thoroughly experienced in all branches. Fruits, Flowers, Vegetables, &c. Highly recommended from previous employers.—GARDENER, Wodenstone, Chislehurst, Kent.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 35, married, two children, youngest 9 years. Twenty years' experience, including Orchids. Good references.—ROGERS, 23, Hamilton Road, London, N.

GARDENER (HEAD, or good SINGLE-HANDED).—Married, one child at home, age 10. Life experience; eight years in present situation. Disengaged when suited. Cottage or Lodge preferred.—J. R., 14, Woodstock Road, Shepherd's Bush, London.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 28; single; good character; over three years in present situation.—GARDENER, 3, Excelsior Road, Norbiton, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED.—Age 30, married; thoroughly practical in Vines, Fruits, and Flowers. Good references.—ELLERKER, 3, Albany Cottages, Foots Cray.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, single; fifteen years' experience in all branches. Highly recommended.—H. ELLIOTT, 10, Palmer Street, Weston-super-Mare.

GARDENER (HEAD, or SINGLE-HANDED).—Age 29, single; life experience, Inside and Out. Two years last situation. Good manager. References reliable.—W. BREWSTER, 5, Gloucester Place, Cheltenham.

GARDENER (SINGLE-HANDED), or where help is given. Good practical experience.—For particulars, please address GARDENER, 97, High Street, St. John's Wood, N.W.

GARDENER (SINGLE-HANDED). — Married, no family. Life experience in Glass, and Flower and Kitchen Gardening. Wife, Laundress or Caretaker.—PHILIPP, 43, Holywell Hill, St. Albans.

GARDENER (SINGLE-HANDED, or SECOND).—Age 28, single; thoroughly experienced in all branches, Inside and Out. Three and a half years' good character.—J. MOORE, 27, Sidney Road, Eastbourne.

GARDENER (SINGLE-HANDED or SECOND).—Age 23; ten years' experience Inside and Out. Good reference; country preferred.—A. P., 45, Talbot Road, Twickenham, Middlesex.

GARDENER (SINGLE-HANDED). — Young man, age 24, seeks situation as above. Nine years' practical experience in all branches. Excellent references. Small place in country preferred.—R. G., 6, Lismond Villas, Swanley Junction, Kent.

GARDENER (SINGLE, or a good SECOND).—Age 24; eight years' experience; three years' good character.—A. K., Homewood Cottage, Chislehurst, Kent.

GARDENER.—E. J. BRETT, Esq., recommends his HEAD GARDENER and ORCHID-GROWER where not less than four are kept, thoroughly conversant in every department. Age 36, married.—W. E., 41, Wellington Street, Strand.

GARDENER, married; well up in Fern, Cut Flowers, and all Pot Stuff. Long experience.—G. M., 125, Brettenham Road, Upper Edmonton.

GARDENER.—Age 23, married; total abstainer. Good character. Could undertake a small place, where one is kept.—W. MOORING, Tarlton, Cirencester, Gloucestershire.

GARDENER.—A GENTLEMAN wishes to recommend a thoroughly honest, steady, trustworthy married Man, with no encumbrances, as Gardener. Understands Cows and Poultry. Nine years' good character, during which time he has had entire charge of small Farm.—Mr. W. Clendean, West Drive, Streatham Park.

GARDENER, where one or more are kept, SECOND, in a first-class establishment.—Age 28, married; well up in Fruit, Flowers, Early and Late Forcing, and House Decorating. Fourteen years' experience. Excellent testimonials. Abstainer.—C., 41, Wellington Street, W.

GARDENER (good WORKING, SINGLE-HANDED, or otherwise).—Age 30; married, two children; four years' excellent character; sixteen years' experience in all branches; leaving through a death.—L. HUNT, Lainston House, Winchester.

GARDENER or FOREMAN, well experienced in all branches. Special knowledge of Orchids. First-rate testimonials. Five years with Messrs. Low & Co.—C. WILLEY, 12, Winslade Road, Clapton, N.E.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 26. Married, when suited; seven years' practical experience Inside and Out; abstainer; recommended.—G. HAYLOCK, Tilgate Gardens, Crawley.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 26; experienced Inside and Out; good character. Abstainer.—A. G., Drive Nursery, Manor Park, Essex.

GARDENER (SECOND, or UNDER).—Age 24, experienced in Indoor and Outdoor Work.—W. CAWLEY, Devon Cottage, Malpas, near Newport, Mon.

GARDENER (SECOND), or JOURNEYMAN (FIRST); Inside.—Seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER (SECOND, or SINGLE-HANDED).—Age 27; single; twelve years' experience, inside and out, excellent character. — R. A., Tandridge Court Gardens, Redhill, Surrey.

GARDENER (SECOND), Inside and Out.—Age 23; nine years' good character. Thoroughly experienced in Lawn and Kitchen Garden.—J. HYDE, Minerva Road, Welwyn, Herts.

GARDENER (SECOND), where four or more are kept.—Age 21; total abstainer; good references from present and previous employers; three years in present situation.—J. KURTON, Tylehurst Nurseries, Reading.

GARDENER (SECOND), or JOURNEYMAN in the Houses or Out.—Age 24; eight years' good experience Inside and Out. Good references.—S. WORSFOLD, Holmesdale Terrace, North Holmwood, Dorking, Surrey.

GARDENER (SECOND) Inside. — Age 25, experience in all branches. With good references from last and previous situations.—A. S., Glenavon, Saltford, near Bristol.

GARDENER (UNDER).—A young Man seeks situation in the garden, where one or more are kept. Nineteen months in last situation. Good character.—HUNNER, 1, Woodland Villa, Denham Road, Tolworth, Surbiton, Surrey.

GARDENER (UNDER).—Age 21; used to Lawn and Kitchen Garden. Five years in last place. Highly recommended. — G. CONNOP, Eastnor, Ledbury, Herefordshire.

GARDENER (UNDER), Inside and Out, or Pleasure Grounds.—Age 25; sixteen years' experience in all branches; can be well recommended.—F. BERRIMAN, Dutton Cottages, Station Road, Chertsey, Surrey.

GARDENER (UNDER), Inside and Out.—Age 22, single; five years in present place. Good character. Bothy preferred. — F. WATTS, The Gardens, Chacomb House, Chacomb, near Banbury.

GARDENER (UNDER), used to Pleasure Grounds and Kitchen Garden; help inside if required.—Age 25; two years' good character. Well recommended by Mr. REED, Broadwater, Oatlands Park, Weybridge, Surrey.

GARDENER (UNDER).—Age 22; experienced in Indoor and Outdoor Work; excellent character.—WILLIAMS, Stables, 7, Netherhall Gardens, South Hampstead, N.W.

GARDENER (THIRD, in a large place, or SECOND where four are kept).—Age 24, single; has thorough knowledge of Inside and Outside Work. Three years' excellent character from present situation. — A. LINTOTT, Wintershall, Bramley, Guildford, Surrey.

GARDENER (Under).—Age 21; willing to be useful; good reference.—H. MOORE, 13, Dagmar Road, Cheltenham.

TO NURSERYMEN.—ROSE GROWER, Inside and Out; over twenty years' experience; seeks re-engagement.—NEWMAN, 68, Commercial Street, Scarborough.

FOREMAN (or Second).—Age 28; fourteen years' experience. Active, industrious, and willing. Last two years as Foreman. Establishment broken up. Well recommended.—F. NASH, Amport, Andover, Hants.

FOREMAN, Inside or General.—Age 29, married; energetic and trustworthy. Experienced in every branch in large pushing establishments. Well recommended.—Care of Mr. Whenham, Speldhurst, Tunbridge Wells.

FOREMAN (Working).—Wishes a situation as FRUIT FOREMAN, or Second, in a large Nursery. Has a good knowledge of Roses and Shrubs. Good Budder, and well up in Grafting all sorts of ornamental trees. Low wages to commence.—Q. T., 41, Wellington St., Strand, W.C.

FOREMAN, or JOURNEYMAN (First), Inside.—Age 26; twelve and a half years' experience. Good character.—N. BARTON, Neatishead, near Norwich.

FOREMAN (Inside).—Age 27; private or Market. Good experience in Grapes, Peaches, Figs, Cucumbers, and Tomatos.—Mr. Clarke, Toddington, Winchcombe, can highly recommend W. French as above.

FOREMAN; age 26.—Mr. G. W. Marsh, Arle Court, Cheltenham, can highly recommend Thomas Waller as above. Thoroughly well up in both Fruit and Plant Houses.

FOREMAN (Fruit or General).—W. Speed, Penrhyn Castle, Bangor, North Wales, can, with great confidence, recommend his late foreman, W. Thorne.

FOREMAN.—Age 24; experienced in all branches, including Orchids. Two and a half years' good character from present employer; seven years' previous.—C. HARWOOD, The Gardens, Chatsworth.

FOREMAN, or JOURNEYMAN (First).—Age 25; twelve years' experience. Good references.—G. FROST, The Gardens, Swinton Park, Masham, Yorks.

FOREMAN.—F. Myers, Newbold Revel, Rugby, can highly recommend D. Jenkins, age 26, as above. Thoroughly experienced in the general routine of large establishments. Has been here over two years.

FOREMAN, or SECOND, in good private establishment.—Age 25; thoroughly experienced; is well recommended by T. Lockie, late of Oakley Court. Abstainer.—LOCKE, 24, Ingham Road, West Hampstead.

FOREMAN, age 25, in a good establishment.—Mr. G. Trinder, Dogmersfield Park, Winchfield, wishes to recommend his present foreman, who has been with him two years. Good previous characters. Life experience. Abstainer.—A. GRAY, Dogmersfield Park, Winchfield.

FOREMAN; age 25.—J. Sheddick, Gardener to the Hon. A. E. Fellows, M.P., Honingham Hall, Norwich, wishes to recommend C. Ettridge, who has been with him in the above capacity nearly three years. Highly recommended by Mr. Russell, of Wood Green Park, Cheshunt, Herts, where he previously served for over three years. Eleven years' experience Inside and Out; House and Table Decoration.

FOREMAN, age 25, single.—Mr. Norris, Head Gardener, Stone Park, Greenhithe, can with confidence recommend an energetic Man as above; has been with him two years and eight months.—F. STENT, Knockholt, Sevenoaks, Kent.

TO NURSERYMEN or FLORISTS.—A. BIX, Rose Cottage, Staines Road, Hounslow, having been FOREMAN GROWER for Robert Green, Crawford Street, W., nine years at his nursery, where all kinds of Foliage Plants are grown, seeks situation. Excellent references.

PROPAGATOR, GROWER.—Soft, Hard-wooded, Ferns, Carnations, Flowering Stuff. Age 26. Ten years' experience in Germany and England. Good references.—J. E. R., 41, Wellington Street, Strand, W.C.

JOURNEYMAN (Inside).—Age 23; good experience, and well recommended. The last two years in Park Place Gardens.—J. SLATTER, Park Place Gardens, Henley-on-Thames.

JOURNEYMAN, Inside and Out, or GARDENER (Second), in smaller estate.—L. Thomas, Head Gardener, Wavendon House, Woburn Sands, would be pleased to recommend a young man (age 23), as above. Excellent references from previous places.

JOURNEYMAN, Inside.—Age 24; seeks situation. Leaving through death of employer. Five and a half years' experience. Willing. Abstainer. Good references.—E. WICKENS, Southborough Lodge, Bickley, Kent.

JOURNEYMAN, in the Houses.—Age 23; Orchid, Stove, and Greenhouse Plants, &c. Five years' experience in good establishments. Good references.—J. JOHNSON, Shipton, Market Weighton, Yorks.

JOURNEYMAN, in the Houses; age 21.—S. Lyon can highly recommend F. Harris as above. Five years' experience under Glass, the last eighteen months in Plant-houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN, Inside.—Age 22; six years' experience. Two years in present situation. Bothy preferred.—L. DRAGE, The Gardens, Hill House, Saffron Walden, Essex.

JOURNEYMAN, Inside.—Age 21; six years' experience. Good character. Abstainer. Leaving for improvement.—Mr. Yule can highly recommend W. Marks, The Gardens, Hatch Park, Taunton, Somerset.

JOURNEYMAN wants place as Carnation Grower or otherwise.—Age 24; ten years' reference. Abstainer.—A. B., 153, Kennington Road, S.E.

JOURNEYMAN, in the Houses, under a good Foreman.—Bothy preferred; five years' experience.—HEAD GARDENER, 5, St. Germain's Place, Blackheath, S.E.

JOURNEYMAN (Inside).—Mr. Louth, Syndale Park Gardens, Faversham, can confidently recommend a strong, active youth, age 17, who is desirous of improvement.

JOURNEYMAN, Inside and Out.—Age 22; four years' good character.—E. BENNETT, Gardener, Chilham Castle, Canterbury, Kent.

JOURNEYMAN (First).—Age 22; seven years' experience in Private Gardens and Nurseries; good knowledge of the General Routine under Glass; excellent references from present and previous employers.—H. EAST, 5, Percy Terrace, King's Road, Mortlake, Surrey.

JOURNEYMAN, in the houses.—Age 23; eight years' experience in Fruit and Plant-houses. Good character.—E. ORPIN, St. Leonard's Street, West Malling, Kent.

JOURNEYMAN, under a Foreman, Inside, or Inside and Out.—Age 22; six years' experience. General work. Excellent references.—J. SMITH, Rocks Farm, Limpsfield, Surrey.

JOURNEYMAN, age 23.—Inside, or Inside and Out; good general experience. Total abstainer.—C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN, Inside and Out.—Mr. Osman can with confidence recommend a young man (age 23), as above.—C. TOMLIN, Gardens, Ottershaw Park, Chertsey.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; eight years' experience in good gardens. Excellent references. Disengaged. Bothy preferred.—ALFRED TYRRELL, 58, Queen's Road, Dalston, N.

JOURNEYMAN (First), in the Houses.—Age 22; six years' experience. Can be well recommended.—W. CLIFFE, The Gardens, Dale Park, Arundel, Sussex.

JOURNEYMAN; age 20.—Mrs. Stratford, Dugdale Merevale Hall, Atherstone, will be pleased to highly recommend C. Robinson, as above.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; good knowledge of Fruit and Plant culture. Two years present situation.—R. JENKINS, Little Kingshill, Great Missenden, Bucks.

JOURNEYMAN (First).—Age 26; eleven years' experience in good places. Excellent references.—W. WOOLLEY, Aldgate, Ketton, near Stamford.

JOURNEYMAN (Inside, or Inside and Out).—Age 23; nine years' experience; good reference.—E. G., G. Munton, The Nursery, Commercial Road, Eastbourne, Sussex.

JOURNEYMAN, age 20, seeks situation, as above, in a Gentleman's garden. Good reference; bothy preferred.—H. PAXTON, Wyck Hill Lodge, Stow-on-the-Wold, Gloucestershire.

JOURNEYMAN (Inside, or Inside and Out).—Age 22; life experience. Two years' good character from present situation.—R. THORN, Lower Compton, near Plymouth, Devon.

JOURNEYMAN (First), in the Houses.—Age 23; ten and a half years' experience. Good characters. Bothy preferred.—F. SNELL, Burnt Mill Corner, near Harlow, Essex.

JOURNEYMAN, in a good Establishment.—Age 21; bothy preferred. Five years' good character. Abstainer.—JAMES REYNOLDS, Westwood, near Guildford, Surrey.

JOURNEYMAN (Second).—A young Man, age 22, seeks situation as above. Two years in last place, and three previous. Good reference.—J. DANIELS, Hyde House, Chalford, Gloucestershire.

IRWIN AND RAPER, Leamington Spa, have a young man (age 19) wanting a situation under a Foreman in Gentleman's place. They can thoroughly recommend him, having been with them four years. Steady, honest, and industrious.

IMPROVER.—Young Man (age 19) seeks situation in Nursery or Garden, as Improver. Good references.—F. ROLCKE, care of H. Metson, New Street, Dunmow, Essex.

IMPROVER, Inside and Out.—Age 19; four years' experience; and can be well recommended; bothy preferred.—J. BRUMMELL, The Gardens Croxton Park St. Neot's Hunts.

IMPROVER.—A Gentleman wishes to recommend a Youth, age 18½, as above.—ARTHUR WARREN, Claygate, Surrey.

IMPROVER or GARDENER (Under).—Vicar recommends a youth, with knowledge of the work, as above.—VICAR, Fens, Whitchurch, Salop.

IMPROVER, Inside, or Inside and Out, age 19.—W. Jones, The Gardens, Park House, Wimborne, can strongly recommend a young Man as above. Four years' experience. Bothy preferred.

IMPROVER, in the Houses.—Age 18; two and a half years' good character.—R. COOKE, Shoot Street, King's Stanley, Gloucestershire.

IMPROVER, Inside, in a good Establishment.—Age 18; abstainer; four years in present place. Premium given. Good references.—A. ROBBS, Longford House Gardens, Lechlade, Glos.

TO GARDENERS.—A young man, age 18, seeks a situation in the Kitchen Garden and Pleasure grounds. Four years' experience; strong and willing.—HEAD GARDENER, Stone House Farm, Brampton, Reading.

TO GARDENERS.—Lady Louisa Howard will recommend Wm. Buckland, a youth, age 18, who requires a situation in a large Garden. Three and a half years in present situation.—WM. BUCKLAND, Hazeley, Newbury, Berks.

TO GARDENERS.—Youth, age 18, strong and willing, seeks a situation in a private garden. Good reference. Bothy preferred.—C. BREWER, Fenham, near Bury St. Edmund's.

TO GARDENERS.—A Youth (age 17), wishes to APPRENTICE himself in Gentleman's Gardens. Bothy preferred. Can be highly recommended. State Premium.—W. CONNOP, Eastnor, Ledbury, Herefordshire.

TO GARDENERS.—Young man seeks situation as all-round Pleasure Ground experienced, or help in Kitchen Garden. Excellent character from last employer.—E. BAKER, Rocks, Flimwell, Hawkhurst.

TO GARDENERS.—Situation wanted in the House; age 20; total abstainer; bothy preferred; left through death of employer; good reference.—H. B., 15, Stamford Road, Watford.

TO GARDENERS.—Gardener wishes to place his Son in good Garden. Premium given.—Address, in first instance, A. BUSHILL, 6, Merton Road, Stanford Road, Kensington, W.

TO NURSERYMEN or FLORISTS.—Situation wanted; age 22; good experience in growing Cut Flowers, Plants, and Fruit under Glass. Also decorating and Making-up. Good references.—C. W., 1, Wingmore Road, Tottenham, N.

TO NURSERYMEN and OTHERS.—Situation wanted by a young Man, age 24; eight years' experience in Vines, Melons, Cucumbers, Chrysanthemums, Roses, Carnations, Greenhouse Stove Plants, &c. Good characters.—H. B., 41, Wellington Street, Strand, W.C.

TO FLORISTS, NURSERYMEN or SEEDSMEN.—Competent hand, having been in the employ of three or four well-known firms, now seeks a permanent situation, where he would have to perform his duties systematically. Has had a good practice in Office, Shop and Nursery Work, also Travelling during the past eleven years. First-class references from past and present employers.—Further particulars can be had from TIDY, 41, Wellington Street, Strand, W.C.

ESTATE CARPENTER and Foreman, or otherwise. Situation required. Thorough practical experience in all Estate work. Seven years in present situation.—ELD. LEE, Glebe Cottage, Farnborough Hill, Farnborough, Hants.

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COWMAN, and GARDENER (Under).—Age 34, married; life experience as same. Seven years' good character from present place.—J. DAVIS, Elford's Cottages, Hawkhurst, Kent.

COWMAN, on a Gentleman's place. Thoroughly accustomed to Jersey Cows; over three years' good character from present employer.—F. CAPP, Wexham Park Gardens, Slough.

A GREAT BLESSING TO HUMANITY is without doubt a medicine composed of ingredients that, whilst it eradicates the germs of disease, strengthens the system. HOLLOWAY'S PILLS act in this manner, and in general debility, mental depression, and nervous irritability, there is no remedy which operates so beneficially. They purify the blood, give tone to the stomach, and thoroughly regenerate the system. They are mild in operation, although most powerful in removing disease. Delicate females and young children can take them with safety and benefit. It would be difficult to enumerate all the advantages to be derived by taking these wonderful Pills. No household should be without them, for there is no complaint which they cannot cure or relieve

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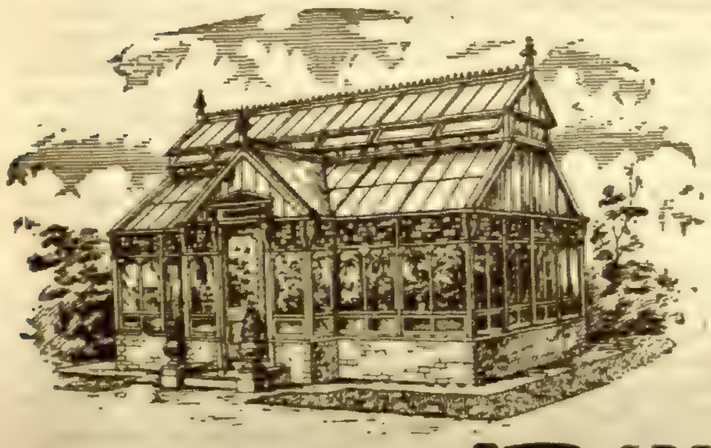

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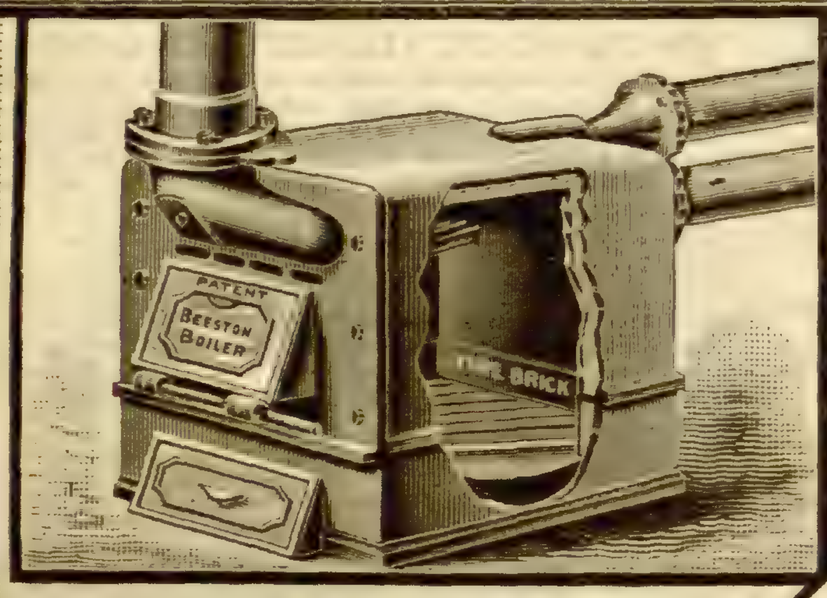

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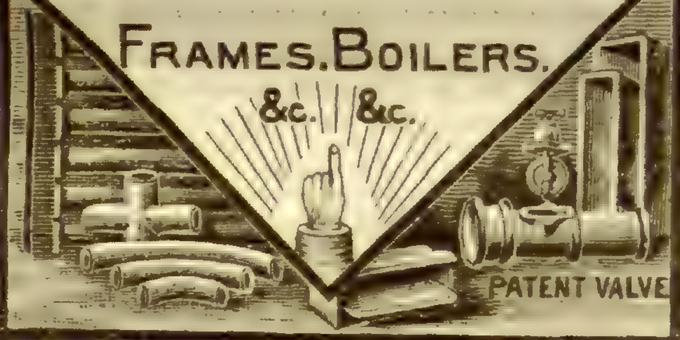

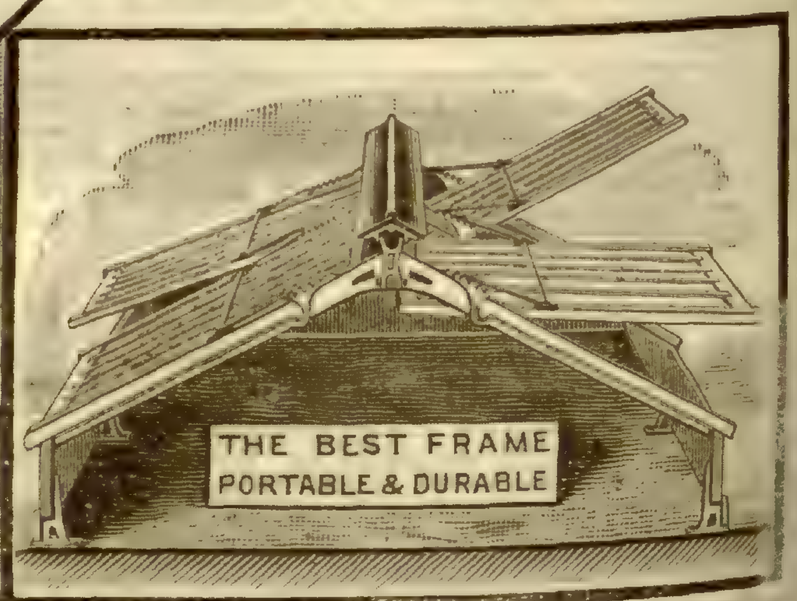

**FOSTER & PEARSON LIMITED
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

PRIMULA—THE LADY.—Never has there been such a distinct, useful, elegant and easily grown variety as this, it grows naturally into a lovely pyramidal shape, 18 inches to 2 feet high, thickly set with pretty white flowers, and which are freely produced throughout the winter; it is quite different to the ordinary kinds. Figured in the *Gardeners' Chronicle*, and is spoken of by all as an acquisition—now now. Also all our other kinds, together with our splendid strain of CINERARIAS, Single and Double, 1s., 1s. 6d., and 2s. 6d. per packet.
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IMPROVED RASPAIL, TRUE, well-rooted Cuttings, 3s. 6d. per dozen, to clear. Cash with order.—A. W. WARREN, Gloucester Nursery, Hampton, Middlesex.

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PRINCESS MAY, rich deep rose.
SIR CHARLES FREEMANTLE, rich deep rosy-pink.
SIR EVELYN WOOD, pale pink, freely striped deep rose.
The above 5s. each, now ready in fine plants.
THE CHURCHWARDEN, scarlet, will be ready in September, 5s. each.
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WANTED.—Choice GARDEN PRODUCE.
J. H. STEVENS Fruiterer, Sidmouth.

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Highest Market Prices. Prompt cash.

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Principally KENTIAS and COCOS PLUMOSA.
8 to 12 feet; some grand specimens.
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COLEUS, rooted cuttings, 5s. per 100. FUCHSIAS, rooted cuttings, 4s. per 100.
MAIDENHAIR, in 48's, good Stuff, 5s. per dozen.
All the above packed free for Cash with Order.
T. BAKER, Manager, Blandford Nursery, Upper Teddington.

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MANGEL-WURZEL and TURNIP SEEDS.
H. & F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of HOME-GROWN MANGEL-WURZEL and TURNIP SEEDS of 1894 growth, and raised from the finest-selected Stocks and transplanted Bulbs. Their prices will be found very advantageous to purchasers.
SEED-GROWING ESTABLISHMENT, WISBECH.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Wednesday Next.

FROM HOLLAND.

1000 Choice Named Standard and Dwarf Roses of good sorts, several thousand RASPBERRY CANES, and a variety of ORNAMENTAL SHRUBS and TREES.

A Splendid Collection of Hardy Plants and Bulbs, including CARNATIONS and PINKS, DAHLIAS, BEGONIAS and GLOXINIAS, LILIUMS of sorts, a Collection of HOLLYHOCKS, PYRETHRUMS, Choice PANSIES, PHLOX, MICHAELMAS DAISIES, IRIS, &c.

A Collection of Stove and Greenhouse Plants, Palm SEED, TREE FERNS, LILIUM AURATUM from Japan, PANCRATIUMS, AMARYLLIS, TUBEROSES.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 15, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT, MAY 17.

By Order of Messrs. F. SANDER & CO., St. Albans.

GREAT VARIETY of IMPORTED ORCHIDS

Over

3000 UNFLOWERED CHOICE ORCHIDS, of the FINEST SORTS KNOWN.

Including another fine consignment of

SWAINSON'S OLD LABIATA,

CATTLEYA LABIATA AUTUMNALIS VERA,

The True Autumn-flowering typical C. labiata.

The Grandest Cattleya Known.

Many grand varieties have emanated from our previous importations of this magnificent Cattleya, which is unrivalled for cut flower work. These plants come from the same district—Swainson's original Hunting-ground. Also—

ODONTOGLOSSUM GRANDE.

A further importation of this magnificent Odontoglossum just to hand in fine condition.

A Thousand Plants will be Offered.

This Orchid is now very difficult to obtain. Also—

ONCIDIUM SPLENDIDUM (True).

A really magnificent Orchid. A fine consignment of—

ODONTOGLOSSUM CITROSMUM,

in the finest possible condition. Also—

CYPRIPEDIUM VOLONTEANUM and C. DAYANUM, two of the finest foliage and flowering plants known.

We shall also offer—

TWO DENDROBIUMS from the NATIVE BURMESE STATES.

We believe both these Dendrobes to be quite new. One belonging to the Nigro-hirsutum group is called by the native the "Eucharis-flowered Dendrobe;" the other is in the way of Dalhousieanum, but is quite distinct.

Many other beautiful and popular ORCHIDS will also be included:—Vanda Kimballiana, Cypripedium Rothschildianum, Dendrobium Findlayanum, D. aggregatum, Lycaste cruenta, Odontoglossum Rossii majus, O. nebulosum, Dendrobium tortile, Maxillaria species, Cœlogyne species, Chysis species.

CYPRIPEDIUM INSIGNE MONTANUM,

from the same locality from whence C. insigne Sanderæ, C. i. Sanderianum, C. i. Ernestii, &c., were imported from. Also—

SOBRALIA MACRANTHA NANA,

and many other splendid Orchids.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, May 17, at half-past 12 o'Clock.

Catalogues may be had, and the Plants viewed, on the morning of Sale.

Cheltenham.—Royal Exotic Nursery.

IMPORTANT CLEARANCE SALE of EXHIBITION PLANTS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Heath & Son, who are giving up exhibiting, to SELL by AUCTION, without reserve, on the Premises as above, on WEDNESDAY NEXT, May 15, 1895, at half-past 12 o'Clock precisely, the well known Collection of SPECIMEN and HALF SPECIMEN EXHIBITION PLANTS most successfully shown at the leading Flower Shows throughout the country, comprising 30 beautifully grown Ixoras (including the huge I. Duffii), 20 grand specimen Ericas, Allamandas, Dipladenias, Bougainvilleas, Clerodendrons, Crotons, Franciscas, Boronias, Aphlexis, Phœnocomas, Lapagerias (Nash Court variety), Cycas revoluta, handsome specimen Palms and Ferns.

The plants may be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, the Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

Wednesday Next.

A consignment received direct, in splendid condition, of

1200 CANNA MADAME CROZY.

850 LILIUM SPECIOSUM RUBRUM, L. TIGRINUM FLORE-PLENO, L. MELPOMENE, L. KRAMERI, and others.
350 Perpetual-flowering TREE CARNATIONS, Uriah Pike.
160,000 Seeds of ARECA LUTESCENS.
2000 GLADIOLI GANDAVENSIS, fine hybrids.
HARDY BORDER PLANTS in variety, DAHLIAS, Double and Single BEGONIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 15, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

CATTLEYA SKINNERI, TEMPLE'S VARIETY, with ten bulbs and two leads, in perfect health.

MESSRS. PROTHEROE AND MORRIS will include 1 plant of the above in flower in their ORCHID SALE on FRIDAY NEXT, May 17.

On view morning of Sale, and Catalogues had.

Wednesday, May 22.

SPECIAL SALE of ORCHIDS in FLOWER and BUD.

MR. J. C. STEVENS begs to announce that his NEXT SALE of ORCHIDS will take place at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY, May 22. Gentlemen wishing to include Plants can send Lists up till the 15th inst.

Tuesday Next.

DENDROBIUM CŒLOGYNE, D. FALCONERI, D. DALHOUSIANUM, D. SPECIES, VANDA BENSONI, V. CŒRULEA, V. KIMBALLIANA, and TERRESTRIAL ORCHIDS; also

1 plant EULOPHIELLA CASIMIR-PERIER (very rare),
50 ,, PHAJUS HUMBLOTI,
1 ,, VIOLET CALANTHE, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Southwick, near Brighton.

TO MARKET GARDENERS and HORTICULTURISTS.

MR. GILBERT GARDNER will SELL by AUCTION, in a Marquee on the Estate, on TUESDAY, May 14, 1895, at 3 o'Clock P.M., precisely, several Plots of FREEHOLD LAND, specially adapted for the ERECTION of GLASSHOUSES, and for MARKET GARDEN PURPOSES.

The Purchase-money may be paid by easy instalments. Free conveyances.

Particulars and Conditions of Sale, with Plan, may be had of W. F. VERRALL, Esq., Solicitor, Worthing; and of Mr. GILBERT GARDNER, Land Agent and Surveyor, West Tarring, Worthing.

Westwood House, West Hill, Sydenham, S.E.

Close to Station.

MESSRS. EASTMAN BROTHERS will SELL by AUCTION, as above, on WEDNESDAY NEXT, May 15, at 12 o'Clock, the valuable COLLECTION of STOVE and GREENHOUSE PLANTS, magnificent Specimen Palms, Tree Ferns, Camellias, Crotons, Dracænas, choice Orchids, 60 Azaleas, Begonias, 90 dozen Bedding Geraniums, Marguerites, Gloxinias, &c. Also the GARDEN IMPLEMENTS, Iron Roller, Lawn Mowers, Forcing Frames, Garden Seats, &c.

On view Tuesday, May 14. Catalogues of the Auctioneers, 23, Bucklersbury, E.C., and at Forest Hill, Sydenham, and Anerley, S.E.

Extensive Unreserved Sale of Stove, Greenhouse, and BEDDING PLANTS, &c., at the Bonehill Nurseries, Tamworth.

LYTHALL AND WALTERS will SELL by AUCTION, on TUESDAY and WEDNESDAY, May 28 and 29, the whole of the immense stock of STOVE, GREENHOUSE, and BEDDING PLANTS, including many thousands of Geraniums, Pelargoniums, Spiræas, Fuchsias, Camellias, Azaleas, Roses, choice Ferns, Palms, Chrysanthemums, &c.

The GREENHOUSES, Pits, Frames, Potting-sheds, Office, Engine, and Boiler, and the Goodwill of the Nurseries, will also be offered in one lot, unless previously disposed of by Private Treaty.

For Catalogues and further particulars, apply to C. STARKEY, Esq., Tamworth; Messrs. T. ARGYLE AND SONS, Solicitors, Tamworth; or the Auctioneers, Bingley Hall, Birmingham.

WANTED to RENT, 400 to 600 feet run of GLASS near good market town.

A. H., 4, Bride Street, Liverpool Road, Highbury.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

FOR SALE or PARTNERSHIP, a valuable and promising FRUIT and VEGETABLE NURSERY, at Southend-on-Sea, Essex, held on favourable terms, and consisting of about 8 acres of excellent Land, of which 3 acres are well-stocked Market Garden Ground, and containing 6000 yards of Asparagus beds, about 4000 Fruit Trees, 3000 Gooseberry and Currant Trees, 3000 young Nursery Stock, ready for sale; and Glasshouses for Tomatos, Cucumbers, Grapes, Peaches, &c.

For further particulars, apply to Mr. A. A. TIMBRELL, Solicitor, 24, Martin's Lane, E.C., or to Mr. C. T. WILKINSON, Solicitor, Town Hall Chambers, Stratford, E.; or to Mr. HENRY TETHER, The Park Nurseries, Park Road, Southend-on-Sea, Essex.

Nurseries, Kent, close to Blackheath Station.

FOR SALE, a Bargain, First-class NURSERIES of 3½ Acres, of which 2½ Acres are Grass; 28 Greenhouses, also Dwelling-House, Stabling, Cottage, and Stores. Lease 65 years, at ground-rent of £95. Price moderate. Agents, Messrs. WM. R. NICHOLAS AND CO., Auctioneers, 60, Pall Mall, S.W.

TO NURSERYMEN and FLORISTS.—A suitable PIECE of LAND, about 2½ acres in extent, South aspect, situated in a Main Road (S.W. District), and surrounded by good houses. A run of fence, about 420 feet long, for Glass. A small residence would be erected upon the land, facing Main Road, to suit the occupier.

The site is ten minutes' from station and easy access to Town.

For plan and all particulars apply by letter, to LEA, 19, Buckingham Street, Strand, W.C.

NURSERY GROUND.—26½ Acres, close to a station, only 11 miles from London. Long frontage to the Railway; good soil; away from the smoke. Price, Freehold, £100 per acre.

DEBENHAMS, Land Agents, 80, Cheapside, E.C.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on The Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a small NURSERY, FLORIST'S and JOBBING GARDENER'S BUSINESS. Five Greenhouses heated by Hot-water, &c. Stock and Trade. A reasonable offer accepted.

Apply to W. H., Park Row Nursery, Greenwich.

FOR SALE, compact, well-stocked NURSERY, near large South-coast resort. Moderate rent. Immediate possession. Price £350, or offer. Apply to—

T., 41, Wellington Street, Strand, W.C.

LONDON.—By order of Executrix. In a most important Suburb. A well-established FLORIST'S BUSINESS with 15 Greenhouses. A low price will be accepted to effect an immediate SALE.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

FREEHOLD LAND, suitable for Nurseryman Brickfield and Ballast Pit, Factory, or Building.—Eleven acres, with Railway Siding adjoining Brimsdown Station, Enfield (10 miles from Bank). To SELL, LET, &c.

GEORGE BEKEN AND CO., Ground Rent Agents, 2, Circus Place, E.C.

ALBION NURSERY TO BE LET, June 24, 1895. Good condition, nearly Half-an-Acre, with several large Glasshouses 60 feet long; good state of repair; heated with hot-water; southerly aspect.—Apply, Mr. BATES, The Nursery, Thatched House, Hammersmith, W.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

TO LET, near Railway, good rich LAND, suitable for Nurserymen, Fruit Growers under Glass, and others.—Apply, by letter, H. FOURTEEN, Hertford.

To Nurserymen, Market Gardeners, and Others

TO LET or SELL, Five Acres of LAND, with House and Buildings, well stocked with Fruit Trees, both large and small.

G. TAYLOR, Sen., Bracebridge, Low Fields, near Lincoln.

TO BE LET, a NURSERY, FLORIST, and SEED BUSINESS: 1 acre of Ground, three Houses, and Dwelling-house with Shop. All in main thoroughfare. Market town in South. Stock, &c., about £150.

G., 41, Wellington Street, Strand, W.C.

To Fruit Salesmen, Market Gardeners, and Others.

THE ORCHARD at CHISWICK PARK to be LET for Season, containing about 13 acres, well stocked with thriving Fruit Trees in full bearing. Apply to—

EDWIN FOX AND BOUSFIELD, 99, Gresham Street, Bank, London, E.C.

Tomato, Cucumber, and Asparagus Growers.

A GREAT OPPORTUNITY.—Plot of Land, about 1¼ Acre, near Crystal Palace. Has a high wall on eastern side, high fence western. Most suitable for the erection of Forcing Houses and Frames. TO LET, on Lease.

Apply to 73, Farringdon Street, E.C.

VAN (Florist's) to be SOLD, at Barbican Repository, on TUESDAY, May 14, without reserve.

TO MARKET SALESMEN.—A comfortable BEDROOM TO LET, near Covent Garden; rent moderate.—Address, SADDINGTON, 32, Catherine Street, W.C.

WANTED, Offer for 300 IRESINE, 100 BEGONIAS, some 3 inches in diameter; also, a quantity of VIOLET PLANTS, 3 Double Varieties.

GARDENER, Trafalgar, Salisbury.

GOLDEN YEWS.—What more attractive in a Garden? Fine specimens, 4½ feet to 5½ feet high, 14 feet to 18 feet in circumference, 15s. to 21s. each. GOLDEN ENGLISH and IRISH YEWS, in great variety, 1 foot to 2½ feet, 12s to 30s. per dozen.

H. LANE AND SON, Nurseries, Berkhamsted, Herts.

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15 EUCHARIS MASTERSII for Sale, or Exchange, in from 12 to 15-inch pots.—Address the GARDENER, Fullbrooks, Worcester Park, Surrey.

NARCISSUS.—Grand Monarque Narciss, and the large-flowering Jonquil, Campernelli, exceptionally fine home-grown Bulbs, at very low prices.

T. GELL, Week Farm, Ventnor, Isle of Wight.

LOVEL'S YORKSHIRE STRAWBERRIES. Autumn transplanted, 25, 1s.; 100, 3s.; 500, 12s. 6d. Carriage paid. Descriptive LIST free.

W. LOVEL AND SON, Strawberry Growers, Driffield.

GERANIUM CUTTINGS, strong rooted.—Raspail, 6s. per 100, or 55s. per 1000. CHRYSANTHEMUM CUTTINGS, strong rooted, Elaine, Source d'Or, Presidents Hyde, 6s. per 100, or 55s. p. 1000. TOMATO PLANTS, Trophy, out of 60-pots, 5s. per 100. FERNS, Pteris tremula, out of 60-pots, 10s. per 100. Cash with order.

F. BOULTON, Beechenlea Nursery, Swanley.

TUESDAY NEXT.

MESSRS. PROTHEROE AND MORRIS, have received instructions from Messrs. ARNOLD WITT & Co., 139, Oxford Street, W., to SELL by AUCTION, on TUESDAY, May 14, at half-past 12 o'Clock precisely, a splendid Importation of

DENDROBIUM CŒLOGYNE.

A grand New Orchid, and the Novelty of the Season.

Also the unnamed **NEW TERRESTRIAL ORCHID**, an Imperial flower. It throws up a stately stalk several feet high, bearing 15 to 20 golden-yellow flowers. A distinct novelty.

Also D. FALCONERI, THUNIA MARSHALLIANA, VANDA PARISHI, V. BENSONI, V. CŒRULEA, CYPRIPEDIUM BELLATULUM, and VANDA AMESIANA.

ON VIEW MORNING OF SALE

The "NEW EASY" LAWN MOWER.

LIGHTEST RUNNING AND CHEAPEST ROLLER MACHINE.

THE LARGEST SIZE (24-INCH) EASILY WORKED BY ONE MAN.

Unexcelled Durability. *Made in all Sizes from* 10 *to* 24 *inches.*

UNSOLICITED TESTIMONIALS

Trelissick, Truro, March 4, 1895.

GENTLEMEN,—Twelve years ago I purchased the first "Easy" Lawn Mower. Since then I have had several machines from you, and it is only due to you that I should tell you how entirely satisfactory they have all proved. I have for several years worked two of your 24-inch machines fastened together, drawn by a mule, and worked by a man with long reins, and it is astonishing the amount of work they got over. In my opinion, the "New Easy" is the most easy draught, the simplest, and cheapest Lawn Mower extant.

WM. SANGWIN.

CUTS 24 INCH EASY.

Biggar, August 29, 1894.

GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.

ROBERT BOA.

UNSOLICITED TESTIMONIALS

The Gardens, Laleham House, Staines, June, 1894.

GENTLEMEN,—We have had "The Easy" now for six years, and it has done its work well, and easily worked by our man. I sharpen it once or twice a year, otherwise it has never been out of use, and never wanted repair.

THOS. ANDERSON.

The Gardens, Ravelston Black Hall, Midlothian, March 5, 1895.

All the three Machines I have had are working still, the first having been purchased seven years ago. I have not used any other for three years, as the men find them light and easy to work, as we have a very large extent of grass to keep, and the "New Easy" are fine running Machines, with rollers in front.

D. JARDINE.

Churwell, Leeds, August, 1894.

I have a "New Easy" Lawn Mower, pattern 1888, which I got from you in 1889. This is the sixth season, the machine has worked well (18-in.), and has cut ¼ acre lawn weekly by a lad since I got it, and it is good now.—SAMUEL ATKINSON.

Price Lists may be obtained through most Ironmongers or Seedsmen, or from

SELIG, SONNENTHAL & CO.,

85, Queen Victoria Street, and Lambeth Hill, LONDON, E.C.

Five 1st Prize Medals recently awarded in open competition.

Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

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MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
GARDENS, REGENT'S PARK.
SUMMER FLOWER SHOW, WEDNESDAY NEXT, May 15.
Gates open at 2 o'Clock. The Band will play from 3 to 6. Tickets to be obtained at the Gardens, and of the principal agents, price 5s. each; or, on the day of the show, 7s. 6d. each.

Royal Horticultural Society, 117, Victoria Street, Westminster, S.W.
GREAT ANNUAL FLOWER SHOW in the INNER TEMPLE GARDENS, May 21, 22, and 23, 1895.
Her Royal Highness the PRINCESS OF WALES will visit the Show on Tuesday, May 21. SCHEDULES may be obtained from the Secretary, Royal Hort cultural Society. Intending Exhibitors must return their entry forms by Friday, May 17, otherwise their names will not appear in the *Official Catalogue*; of which a free distribution of at least 15,000 is guaranteed.

BIRMINGHAM BOTANICAL and HORTICULTURAL SOCIETY (founded 1829).
A PANSY and VIOLA SHOW will be Held in The Botanic Gardens, Edgbaston, on WEDNESDAY and THURSDAY, May 29 and 30, 1895.
The CONFERENCE of Viola and Pansy Growers will be held in the Gardens, on Wednesday afternoon, May 29.
Schedules can be obtained from the Curator—
Mr. W. B. LATHAM, at the Gardens.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
The GRAND ANNUAL EXHIBITION of PLANTS and FLOWERS will open at the Gardens, Old Trafford, on the 31st inst. A SPECIAL EXHIBITION of HORTICULTURAL IMPLEMENTS and APPLIANCES will be held for a week in connection with the above. Medals will be awarded to meritorious exhibits. For further information apply to the undersigned at once. BRUCE FINDLAY.
Royal Botanic Gardens, Manchester.

BOROUGH OF SOUTHEND-ON-SEA HORTICULTURAL SHOW, in conjunction with the Essex Agricultural Show, will be Held on WEDNESDAY and THURSDAY, June 12 and 13, 1895. Valuable Prizes will be given. Full particulars and Schedules to be obtained of—
FRANK J. WOOD, Hon. Sec.
30, Alexandra Street, Southend-on-Sea.

WOLVERHAMPTON FLORAL FÊTE.—July 9, 10, and 11, 1895.
Open Classes: PLANTS, ROSES, FRUIT, PANSIES, & VIOLAS.
Schedules, &c, apply—
W. A. GREEN, Junr., Horticultural Secretary.

WOOD GREEN and DISTRICT HORTICULTURAL SOCIETY.
ANNUAL SHOW, SATURDAY, JULY 13, 1895.
The SILVER MEDAL of the Society will be awarded to NURSERYMEN and FLORISTS for MERITORIOUS EXHIBITS. E. J. WICKENDEN, F.R.H.S., Hon. Sec.
Heathfield, Bounds Green, New Southgate, N.

CARDIFF HORTICULTURAL SOCIETY (affiliated with the Royal Horticultural Society).
The SEVENTH ANNUAL SHOW will be Held on August 14 and 15, 1895.
Liberal Money Prizes, Cups, and Plate; 4 Medals of the Royal Horticultural Society, and the Society's Medals for Miscellaneous Exhibits. Full particulars and Schedules of—
66, Woodville Road, Cardiff. H. GILLETT, Sec.

SHREWSBURY GREAT FLORAL FÊTE,

AUGUST 21 and 22, 1895.
The Society Offers this year nearly £300 in Prizes.
SPECIAL CLASS FOR DECORATIVE ARRANGEMENT OF FRUIT. £51 in Prizes.
SCHEDULES are Now Ready, and may be obtained from the Hon. Secs., Messrs. ADNITT AND NAUNTON, Shrewsbury.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

CHRYSANTHEMUMS.—To clear, cheap, extra strong plants from open air of Lady Laurence, Lady Canning, W. H. Lincoln, and Source d'Or, at 4s. per 100, or 30s. per 1000, free on rail. Other best market sorts, our selection, same price. Cash with order.
GROGAN & RAVENSCROFT, Railway Nurseries, Worthing.

WINTER-FLOWERING CARNATIONS for Market Growers.—La Neige, pure white, remarkably free, 3s. per dozen, 10s. per 100, £4 10s. per 1000. Duke of York (May), largest crimson, grand for winter work, 6s. per doz. Uriah Pike, fine deep crimson, 5s. per dozen, 33s. 6d. per 100. All well-rooted stuff, fit for 3-inch pots. Cash with order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

BOUVARDIAS.—Best Market varieties; Vreelandii, Mrs. R. Green, P. Cleveland, &c., our selection in eight or ten sorts, 2s. 6d. per doz., 12s. 6d. per 100. Well-rooted stuff fit for 60's. Cash with Order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

WREATH, CROSS, and BOUQUET BOXES, PROPAGATING TRAYS, &c.
HORTICULTURAL TIMBER MANUFACTURER.
Prices on application to—
EDWARD TAILBY, 76, Summer Row, Birmingham.

7,000 TREE CARNATIONS.—La Neige and Miss Joliffe, 4*s.* per dozen, strong stuff, out of 60's.

5,000 BOUVARDIAS.—Strongly rooted, in great variety; most popular sorts; 2*s.* 6*d.* and 3*s.* 6*d.* per dozen. Cash with order.

JAMES GREEN, Reliance Nurseries, March.

TO THE TRADE.—5000 TOMATO PLANTS, "Crimson Cushion," out of Boxes; a free-setting variety from Ponderosa Stock. Now being raised for the first time in England. The "Crimson Cushion" is of a brilliant scarlet-crimson colour, almost seedless, flesh firm, and of a superb quality; also, a quantity out of pots.—Apply for terms to the MANAGER, Cable Experimental Farm, Sleaford, Lincs.

Geraniums, Lobelias, Verbenas, Heliotropes, &c.

JOHN SOLOMON offers, as in former years, established in single pots:—GERANIUMS, Mrs. Pollock and Sophia Dumaresque, at 21*s.* per 100; Silver Tricolor, Mrs. John Clutton, 18*s.* per 100; Silver Variegated, Mrs. Parker and Flower of Spring, 18*s.* per 100; best Bronze, 18*s.* per 100; Henri Jacoby, West Brighton Gem, Vesuvius, Madame Coulston, salmon, Mrs. Leavers, Queen of the Belgians, and Ivy-leaved, best sorts, 16*s.* per 100. LOBELIA, Emperor William, 2*s.* 6*d.* per 100, 20*s.* per 1000. Harrison's MUSK, 5*s.* per 100. HELIOTROPES, FUCHSIAS, and COLEUS, best Market sorts, 6*s.* per 100; in single pots, 12*s.* per 100. VERBENAS, MIMULUS, and single PETUNIAS, in single pots, 12*s.* per 100. Free on rail in London. Cash with order.
Oak Nursery, Forest Side, Chingford, E.

PALMS, FICUS, FERNS, &c., in any quantity.—PALMS, Mixed 6*s.*, 12*s.*, 18*s.*, 36*s.* per doz.

FICUS ELASTICA...		15*s.*, 18*s.*, 24*s.*	,,
MAIDENHAIR FERNS		3*s.*, 9*s.*, 12*s.*	,,
FERNS, in variety	2*s.*,	6*s.*, 12*s.*, 24*s.*	,,
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ARALIA SIEBOLDI	2*s.*,	6*s.*, 9*s.*, 12*s.*	,,
FLOWERING PLANTS, Mixed...		9*s.*, 12*s.* 18*s.*	,,
COLLECTION of PLANTS ...	4*s.*,	6*s.*, 9*s.*, 12*s.*	,,

Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

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ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—
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A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.

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Special through rates to all parts.

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NETS—NETS.—Tanned, Oiled, Waterproof, for protecting Strawberry Beds, Fruit Trees, &c., from Birds. Makes excellent Tennis boundaries.
200 yards, 8*s.*; second quality, 5*s.*
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Over SIX THOUSAND CASKS sold Annually
TO BE HAD PRICE 2/- PER GALLON. ONLY OF
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H. GILLETT, Florist, Sevenoaks.—"Used for three years for Tomatos, Cucumbers, Begonias, Geraniums, Ferns, and Palms, with very good results; prefer it to Peruvian; can highly recommend it as good and cheap." E. PARRY, Head Gardener, Castlemans, says: "I found it an excellent, cheap manure for Vines, Fruit trees, Roses, Carnations, Pot plants, and all kitchen-garden crops." Orders to the **Native Guano Co.**, Ltd., 29, New Bridge Street, Blackfriars, London, where pamphlets of testimonials, &c., may be obtained. AGENTS WANTED.

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Ask your Chemist or Seedsman for this make.

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Specially & most carefully prepared for Lawns, Croquet and Tennis Grounds, Cricket Grounds, Bowling Greens, Putting Greens, Golf Grounds, &c.

"The *Dicksons Lawn Manure* which I ordered from you has fully realised my expectations of it, and upon the Lawns where it has been used here the result has been very satisfactory. I consider your Lawn Manure to be a most desirable one for application to Lawns, either for renovating weakly grasses or for maintaining Lawns in a healthy and perfect appearance. Being so easily and quickly applied, and leaving no unsightly appearance or objectionable smell, it seems to be just the thing wherever Lawn Manure may be required."—Mr. ALFRED BARKER, Carrigoran.

PRICES, Carriage Paid, for quantities of not less than 1 cwt.

One Ton (in 1 cwt. bags), £12 10*s.* 0*d.*; Half Ton (in 1 cwt. bags), £6 10*s.* 0*d.*; Quarter Ton (in 1 cwt. bags), £3 10*s.* 0*d.*; One cwt. (in bag), 14*s.* 6*d.*; Half cwt. (in bag), 7*s.* 6*d.*; Quarter cwt. (in bag), 4*s.*; 14 lb. (in bag), 2*s.* 6*d.*; 7 lb. (in bag), 1*s.* 6*d.*; 2 lb. (in tin), 9*d.*

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It promotes a rapid, healthy, and robust growth to plants generally.

It is a clean and dry powder with very little smell.

The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

THE ANALYSIS SHOWS—

Insoluble Phosphate	35·74 per cent.
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Nitrogen	8·93 ,,
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Sold in Tins, 1*s.*, 2*s.* 6*d.*, 5*s.* 6*d.*, and 8*s.* each; and in Kegs, well secured, to prevent loss through exposure, 28 lb., 10*s.* 6*d.*; 56 lb., 18*s.*; 112 lb., 32*s.*

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BEESON'S MANURE,
Crushed Bones and all High-class Fertilisers,
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

C. BEESON'S MANURE.—Composed of Blood and Bone. The best Fertiliser for all purposes. Sold in tins, 1*s.*, 2*s.* 6*d.*, and 5*s.* 6*d.*; also in air-tight bags, ¼ cwt., 6*s.*; 1 cwt., 10*s.* Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.

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READILY SOLUBLE in COLD WATER.

Most valuable in keeping down filth, and destroying all kinds of Parasites infesting Plant-life.

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Special Quotations for large quantities.
OF ALL SEEDSMEN AND FLORISTS.

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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

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A Pamphlet on its use, with full directions for cleaning plants, &c., sent free on application.

Half Pints, 1/6; Pints, 2/6; Quarts, 4/6; Half Gallons, 7/6; Gallons, 12/6; Five Gallon Drums, 10/6 per Gallon, carriage paid.

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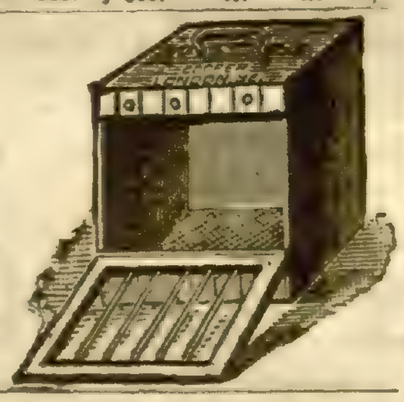

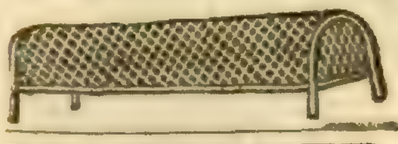

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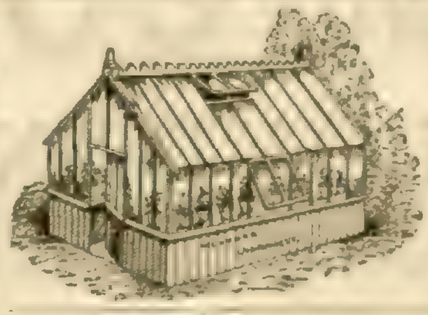

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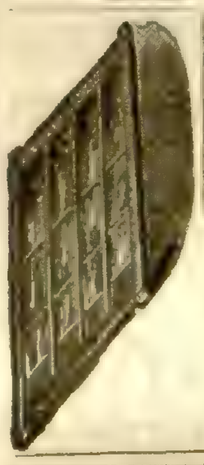

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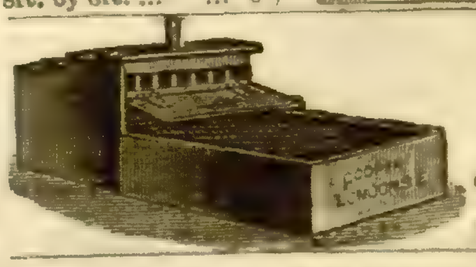

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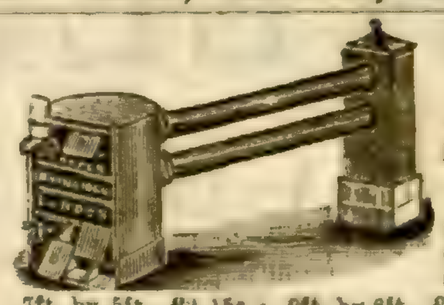

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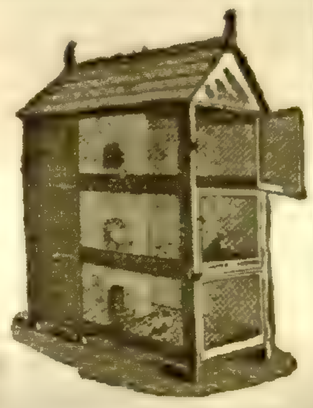

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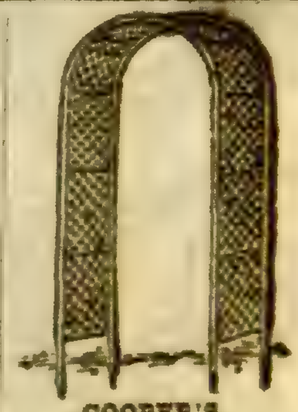

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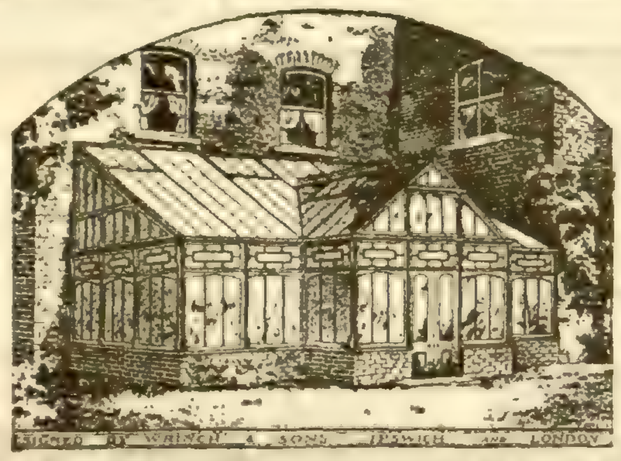

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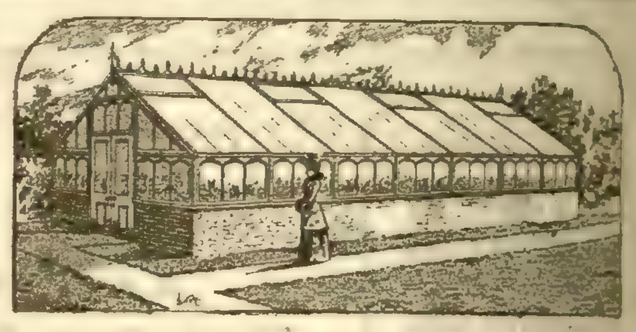

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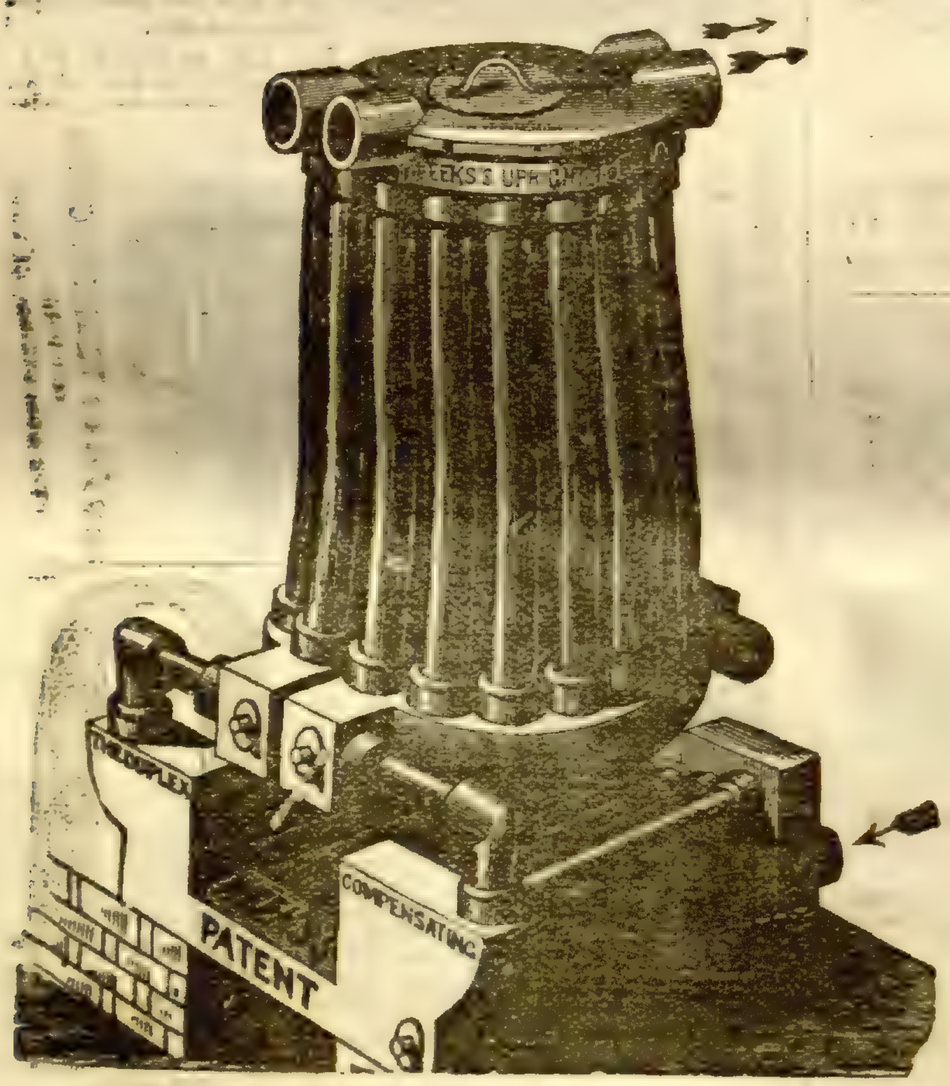

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THE
Gardeners' Chronicle.

SATURDAY, MAY 11, 1895.

THE WORLD'S GARDENING.*

THE Horticultural Congress of Paris in 1878 placed on its programme of subjects to be treated of "A Comparative Investigation of French and Foreign Horticulture." M. Charles Baltet, the well-known nurseryman of Troyes, entered the lists, sent in an essay, received a Gold Medal as a mark of the appreciation of the jurors, and was, moreover, awarded a prize of 10,000 francs (£400), in accordance with the will of the late Dr. Joubert de l'Hyberderie. The essay is now before us. It forms a goodly volume of 776 large 8vo pages, and is obviously not one which can be passed over lightly. It deals with so large an area—the whole world, in fact—and with such a vast mass of detail, that it is not possible for us to do more than indicate the general nature of its contents, and show incidentally their bearing on British horticultural industry.

M. Baltet divides his subject into three main subdivisions—Educational, Economic, and Ornamental. He studies the horticulture of forty-six different nationalities in various quarters of the world. Under the three principal aspects above-mentioned, he shows what was the condition of horticulture, what it is, and what it should be in the future.

For each of the seventy-seven countries (for in addition to the forty-six nations the colonies of several of them are separately treated) the author gives details concerning the area, the density of the population, absolute and relative; the soil and climate, the geographical, topographical, and economic situation, the facility of obtaining labour, the fiscal regulations, and the political stability.

In those countries where horticulture is most advanced, M. Baltet discusses in detail the following subjects: the way in which the State aids the cultivator, the State schools of horticulture and agriculture, the departmental chairs of agriculture (200 in France), the private schools and institutions wherein the science and art of culture are taught, the horticultural societies—metropolitan and provincial, the public lectures and demonstrations in horticulture (only just commenced here), the botanic and experimental gardens, the public gardens, the market garden industry, the practice of forcing flowers, fruit, and vegetables, fruit culture, floriculture, nurseries, seed-growing, landscape-gardening, the horticultural press, and the bibliography of gardening.

It is obvious that such a review could not have been made without assistance. Mr. Baltet has availed himself of the communications furnished by his friends and correspondents, and has derived further information from year-books and similar publications. A cordial but general acknowledgment is given of the author's indebtedness, but his work would have gained in

* "L'Horticulture dans les Cinq Parties du Monde." Par Charles Baltet. (Troyes: Faubourg Croncels, 28.)

authority had he indicated more particularly the sources of his information, and thus have enabled students, if they so desire, to pursue the subject at greater length.

Naturally, France and her colonies occupy the greater portion of the book, 251 pages being devoted to the mother country, and twenty-four to her colonies, among which latter it is significant to find already enumerated, Madagascar. In a preface written with vigour and eloquence, M. Baltet sums up the general results of his labours, shows what each country is doing, and points out that the greatest progress is being made in countries where individual enterprise is encouraged and supported by State aid. M. Baltet has, nevertheless, a warm attachment to the principles of nationality and of Free Trade. Of Poland, for instance, he says, "Ah! if the old patriots had been permitted to retain the use of their maternal language, how many horticultural schools and associations would there be to be enumerated!" Of the United States he writes:—

"It is a young nation vibrating with enterprise and energy, entering courageously into the extension of horticultural and industrial progress. 'Forward!' the portals of the Union are thrown wide open to emigrants, the laws tend to fix them to the land, and thus each year the agricultural population is increased by thousands of families. The Agricultural Department of Washington is divided into sections dealing with horticulture, pomology, botany, forests, seeds, chemistry, entomology, plant diseases, &c. The Department vigorously supports the individual efforts of cultivators between the Atlantic and the Pacific."

We regret our inability to reproduce the eloquent passage in which M. Baltet deals with the empire of Japan. We can only give the substance of his remarks:—

"Wiser than its neighbour (China), the Empire of Flowers throws open its gates. Hail to the home of the Camellia, the Hydrangea, the Lily, the Chrysanthemum—Japan! a veteran in horticulture, a victor in the lists at the Trocadero. From the uttermost East, its representatives have come to inhale the perfume of our Roses, to test the merits of our Pears and our Grapes; they occupy the benches of our lecture-rooms, they visit the gardens of Versailles, Ghent, Leyden, and of Kew. A nation of enquirers, refined and courteous, it asserts with a pride well calculated to stir our patriotism, 'We aspire to be the French of the East!' Japanese gardeners, you have bravely won your place in the Federation of International Horticulture!" In sober English, this reads like "tall talk," but in the original French it conveys no such impression, and, indeed, it embodies the truth.

An important subject for enquiry (among many others) is suggested in this volume, that is, as to the advantages of State aid in the promotion of agriculture and horticulture. In this country we rely mainly, or entirely, on private enterprise. M. Baltet urges that the State should second the efforts of individuals. In Holland and Great Britain horticulture receives little or no State aid, and yet in them both it is generally admitted that horticulture is in a forward state of development. England is nearly destitute of any school of horticulture, has few, if any, research or experimental stations, and till quite lately provided no means for the instruction of the rural communities in the practice of those arts by which they are expected to be able to live! France, on the other hand, has seventy-five or more agricultural stations, upwards of 200 competent teachers, and a fully-equipped school of horticulture at Versailles, besides numerous other establishments of a similar kind in the provinces, to say nothing of the provincial universities and faculties.

Germany, in all educational matters a long way ahead of us, reckons a large number of colleges and schools where technical education is carried out, in addition to sixteen universities, each with its botanic garden and botanic institute. Denmark, with a population less than half that of London, has five cultural schools encouraged by government aid.

It may be said that State aid such as is afforded on the Continent is natural in countries governed on autocratic principles, but is contrary to the feelings of more democratic countries. Let us turn, therefore, to the United States, which is about the most democratic government on the face of the globe. There we find the Department of Agriculture taking full cognisance of horticulture and its requirements with a staff of sixty experts and 1500 permanent assistants dispersed throughout the country. There are about fifty colleges, experimental and research stations, all receiving State aid; indeed, all officered by State officials, and most of them not confining their efforts to tuition and research, but scattering broadcast among those interested "bulletins" containing the most recent information on cultural topics, plant diseases, &c.

It would seem that whilst any interference with private enterprise in commercial matters is likely to be injurious, in such subjects as education and the collection and publication of statistics, governmental aid is essential.

The general results of M. Baltet's work show that during the last half century, "moral and material prosperity have been shown throughout the civilised world by the organisation of technical education, either officially or by private enterprise, by the establishment of nurseries, market gardens, orchards, flower gardens, forcing-houses, conservatories, and the like. The supply of the markets has been improved, and the consumer correspondingly benefited; parks and gardens have been placed at the disposal of the public; the thirst after novelties and the desire to extend the boundaries of knowledge have stimulated the enthusiasm of explorers and the patience of raisers, whilst business and scientific relations have created a bond of union between the horticulturists of all countries."

From what has been said, it will be seen that M. Baltet has compiled a work of reference which by many will be in constant use, which will evoke the gratitude of his colleagues, and, better still, powerfully promote the progress of cultural science and art—in other words, the general welfare.

NEW OR NOTEWORTHY PLANTS.

LÆLIA PURPURATA, var. ALBANENSIS.

This, the largest and most beautifully coloured variety of what is generally considered to be the showiest species of the genus Lælia, is now in flower at Messrs. F. Sander & Co.'s Nurseries, St. Albans, and as it is the handsomest flower which has yet appeared among their many importations of Brazilian Lælias, it is desired by Mr. Sander to connect it with the firm by its varietal name. To describe its beauties is impossible, but it may be said that it has the broad flat petals and large circular-fronted labellum, and other points desired in good varieties highly developed. At a distance, it resembles a large white flower, with an intensely dark purple labellum. Viewed closer, it is seen that the sepals and petals are white, with an exquisitely delicate tracery of light rose-purple over the whole surface. The tube is sulphur yellow with very fine dark purple lines, which lines follow toward the margin of the lip, making a darker veining on the intensely bright dark violet-crimson, and purple colour of the broadly expanded front of the lip, whose apex is lighter in colour than the sides and central portion. The spikes bore the one three, and the other four flowers; and so the remarkable size and beauty of the flower is fixed and not to be accounted for, as it might be if but one or two flowers were on the plant. *J. O'B.*

Odontoglossum crispum, "Sander's Monarch."

In general appearance this remarkably beautiful and distinct variety, perhaps, most nearly resembles the handsomely-spotted O. c. Stevensi, but its flowers are larger; it has a clear canary-yellow ground colour, and peculiarities in its marking which show it to be a distinct variety. The sepals are of a canary-yellow colour, tinged in places with lilac (the reverse side being the darker), and blotched with five or six smallish, confluent, chestnut-red blotches on their inner halves, and bearing a large blotch, composed of several smaller ones on the outer or apical portions. The broad, fringed petals are canary yellow, with several bright chestnut-red blotches situated about the middle. The lip is bright yellow at the base, and with a few minute purple lines at the sides, and small spots in the middle; a very large rich chestnut-red blotch appearing at the front, which has a cream-white margin. It resembles a good form of O. crispum, blended with some of the features of O. × excellens, and is a stately and beautiful thing. *James O'Brien.*

ORCHID NOTES AND GLEANINGS.

SEEDLING ORCHIDS AT OAKWOOD, WYLAM-ON-TYNE.

The seedling Orchids raised in the gardens of Norman C. Cookson, Esq., under the care of Mr. Wm. Murray, have become celebrated wherever Orchids are cultivated. I have visited the collection many times, and at various seasons, and always find something in flower that I never saw or heard of before. Some seed-pods ripening of interesting or curious crosses, and what to me is of never-failing interest, seedlings in all stages of development, from the tiny, almost microscopic plant, to the larger examples that have reached the flowering stage. Although the seedlings are the most interesting of the Oakwood Orchids, the system of propagation and culture pursued forms an object-lesson even to cultivators who have been dabbling in Orchids, as I have, for over thirty years. In the cool Orchid-house are some choice plants. Not having seen the collection for two or three years, it was not possible to overlook the improvement observable in the general health of the inmates, both Odontoglossums and Masdevallias. The distinct and pretty Masdevallia Courtauldiana × was raised by Mr. Cookson by crossing M. rosea with M. caudata Shuttleworthii; and at the time of my visit M. falcata was in flower, the flowers as large as those of a moderate-sized M. Veitchii, and of a uniform orange-yellow colour. It is a cross between M. Veitchii and M. ignea. The choice varieties of Odontoglossum crispum, such as the distinct and handsomely-spotted variety Cooksoni, are propagated much more freely than I thought was possible. A good many years ago seedling Odontoglossums were raised here, but they never reached the flowering stage. I believe Mr. Cookson raised seedling Odontoglossums as early as 1882, the pollen-parent being O. crispum, and the seed parent either O. gloriosum or O. Uro-Skinneri. Since that time, cross-bred Odontoglossums have been raised by Messrs. Veitch, and the parentage of O. excellens has been verified. I saw here a nice plant, obtained by crossing O. crispum with O. Hallii.

The greatest work has been done amongst Dendrobiums, quite a revolution having been effected in this genus. By crossing the handsome Dendrobium nobile nobilius with the distinct and well-marked D. Cooksonianum, a number of remarkably beautiful forms have been produced, some with petals of a rich amethyst-purple, and the lip intense maroon; others resembling Cooksonianum, having the petals blotched with maroon, as in the lip. This grand old Dendrobium is not yet excelled by any for decorative purposes; we have it in flower from January to June. Amongst the hybrid intermixtures are now to be seen many lovely varieties. A notable example is D. Sybil, raised by crossing the Chinese D. Linawianum with the Australian D. bigibbum, one growth well-furnished with flowers, was 2½ feet in length. The flowers are of large size, the colour of the sepals and petals a shade of rosy-purple fading to whitish at the base as in D.

Linawianum, no central blotch on the labellum, and the lateral portion is purplish. D. Doris is a cross between D. japonicum and the tropical species D. Dearii. The pointed sepals and petals are of pure white, with a part of the lip touched with brown, a very distinct Dendrobe. D. Bryan is a cross between D. Wardianum and D. luteolum; it has sepals and petals of a primrose yellow colour—the base of the lip is of a deep yellow tinge traversed with brownish lines. D. Vannerianum was also raised at Oakfield, as also by Mr. Vanner of Camden Wood, Chislehurst, and flowered in the latter's collection about ten years ago; it is a cross between D. japonicum and D. Falconeri. The sepals and petals are narrow and pointed, and of a purplish colour, the lip long and pointed, and furnished with a purple blotch. D. Owenianum is also a pretty variety, a cross between D. Falconeri and D. Linawianum.

D. Cassiope is a lovely variety, producing white flowers in abundance. Another handsome Dendrobium was obtained by crossing D. Ainsworthii (itself a cross) with D. nobile. A similar cross was obtained by Mr. Cypher, of Cheltenham, and the plant exhibited by him under the name of Apollo. This has been described in the *Gardeners' Chronicle* at p. 294 of the present volume. Another variety on the same page is named D. rubens grandiflorum. D. Apollo obtained and well deserved the award of of a 1st-class Certificate, when exhibited by Mr. Cypher on March 12 before the Orchid Committee. I also observed at Oakwood a very stately specimen of Phaius Sanderianus in flower, the spike nearly 4 feet in length, and the richly-coloured flowers indicating a very handsome species. Such a collection of seedling Orchids must afford unbounded pleasure to their possessor, and there must always be something amongst them which is either new or strange in colour or form; and something to please or instruct, in watching the development of plant and flower. It is due to Mr. Murray to add, that the Orchids have his most careful attention, and testify by their creditable appearance, as, indeed, does the entire place, to his cultural skill and rare perseverance. *J. Douglas.*

Fig. 81.—Senecio cruenta, and two of its modern developments. (see p. 588)

BELGIUM.

M. PAUWELS' ORCHIDS AT ANTWERP.

The houses of this lover of Orchids are remarkable for the excellent way in which they are kept, and the plants in them cultivated. The Orchids therein are now of great interest, notably, the specimens of Phalænopsis; a fine Cattleya amabilis, with one truss of flowers and two of buds; a beautiful Maxillaria Sanderiana; many excellent varieties of Cypripedium Chamberlainianum; a remarkable variety of C. Mastersianum, politum, chloroneurum, a large Odontoglossum Rossi Pauwelsianum, and a fine O. cirrosum maximum.

Orchids at Ghent.

Messrs. Vervaet et Cie. have some plants of Odontoglossum crispum flowering well, some of the varieties being worth describing. There is a variety of Cattleya Trianæi remarkable for the unusual size of the flowers; another is full in habit, very fine, blotched, spotted and speckled in an uncommon way; a third has pure milk-white flowers, with very small and regularly placed spots, the form well rounded; one Odontoglossum crispum bears a raceme on which all the flowers are abortive and exactly similar, the sepals are very small, white, with a fawn-coloured tinge, the petals are quite white, with two parallel rows of red spots on the edges; the lip is very delicately striped with red, and marked with two brownish-red and regularly placed spots. The flower would be very fine if of normal size. Messrs. Vervaet have also a fine Cypripedium selligerum majus in bloom; a beautiful Miltonia Roezli, and a Miltonia vexillaria with a very large and beautiful white lip. *Chas. de B.*

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THE ROSARY.

THE EFFECT OF THE PAST WINTER UPON ROSES.

(*Concluded from p.* 552.)

Before passing away from the south and west of England, there are yet two more records which are, I think, worth noting; one is from Mr. W. H. Fowler, in the lovely vale of Taunton. "My losses have been more severe than ever before; I think I told you that I put in some new trees last November, and re-arranged my beds. Most of my losses have been among the new trees, but some of my old ones have gone too. I think I have lost from eighty to a hundred standards. Not a single dwarf. The losses vary very much according to the variety. Comtesse de Nadaillac and Amazone seemed to have fared the worst. In these cases 40 per cent. is about the loss. Of Cleopatra I have lost one out of sixty trees. Madame de Watteville has suffered to about 25 per cent. Madame Elie Lambert seems quite hardy, and has come through without loss. Waban, on the other hand, has been severely treated. The Bride has stood well, and 10 per cent. will cover my loss. Maréchal Niel, one out of forty standards gone. They are all in a bed in the open. I have about 800 standards, so that 10 per cent. will be near my total loss. The lowest reading in the Stephenson screen was 6°; 2° on the grass. Those trees exposed to the north have suffered the worst." From Messrs. Jefferies & Sons, whose nurseries are situated on the Cotswolds, the following sad story reaches me:—"Our soil," he says, "is partly heavy on clay and some light loam; the lowest temperature was zero Fahr., and the Roses were not protected; of the standards about 50 per cent. are killed, and the remainder much damaged; of dwarfs, 50 per cent. killed to snow-level; of Teas and Noisettes, all are practically killed except the Dijon class. With regard to dormant buds, there is 30 per cent. loss in standards, and 20 per cent. in dwarfs; in Teas, 75 per cent. are killed in standards, and 50 per cent. in dwarfs; while Briars and Manetti stocks suffered considerably."

Passing away now to the districts north of the metropolis, one's thoughts naturally go to the Eastern Counties, and especially to Colchester, which one regards as the metropolis of professional, as Reigate is of amateur, Rose-growing. The well-known grower, Mr. Frank Cant, says:—"My Roses are on all kinds of soil, from gravel to strong loam; and, so far, I do not see any difference in the effect of frost; whether protected or unprotected, all have suffered equally; standard H. P.'s are all killed, and dwarf H. P.'s down to snow-line; dwarf Bourbons are not much hurt; standard Teas, whether protected or not, are all killed, but the protected dwarfs are not much injured. Dormant buds of H. P.'s on standards are very much injured, notably Horace Vernet and other darks, but the dwarfs are uninjured; where the standard Teas were protected they were not much hurt, but of the dwarfs, many are killed."

Mr. Orpen, the well-known amateur of Colchester, says, "The character of my soil is light loam; situation S.W., high and dry, 130 feet above sea-level. Only dormant buds of H. P.'s protected, the dwarf Teas were earthed up and covered with bracken; the standard Teas were mulched at roots and bracken put on the heads. I have no standard H.P.'s, the dwarfs were nearly killed to the snow-line, and some were killed outright; the dwarf Teas were not seriously hurt, but I cannot find an inch of sound wood on the standards I have tried—but I hope some of them may break again from near the union. As to dormant buds, the dwarfs which had a little bracken thrown over them appear to be absolutely safe; the standards, both H. P.'s and Teas, look very sadly, but I think they will come right. The standards were mulched and buds protected by barley-straw." The Rev. A. Foster-Melliar writes, "The majority of dwarf H. P.'s are cut to the snow-line. Almost all Briar cutting stocks, which were very good and strong, and put out for budding in November and December, are killed. I have not uncovered all my plants (of course this was written some weeks ago), but I fear my losses are very serious, but it is too early yet to estimate the damage thoroughly."

From Cambridgeshire, Mr. Burrell writes, "My soil is heavy yellow loam; the lowest reading of thermometer was zero. The H.P. standards and dwarfs are much damaged in many varieties, but there is quite enough sound wood at the base, and they are now pushing up buds, while some varieties are not damaged at all. Plants of Teas, both standards and dwarfs, protected with clippings of Arbor-vitæ, passed through safely; climbing Teas and Noisettes, unprotected, are mostly killed to snow line. Dormant buds look all safe and sound, and I think no losses from frost either of Teas or H.P.'s. No buds lost on dwarf stocks protected, buds on standards very small percentage of loss. Hybrid perpetuals on standards have stood well without protection. Practically, no losses worth mentioning. The plants facing north are very little damaged compared with those fully exposed to sunshine, which was brilliant."

From Hertfordshire, a county which has done so much for popularising the Rose, and which will ever be associated amongst rosarians with the names of Rivers, Paul, Lane, Francis, &c., Mr. Geo. Paul, jun., writes, "The frost has done us very great damage; the hybrid Teas seem among the worst." From West Herts, Mr. Mawley writes, "There is not a bit of sound wood in my Rose garden above the snow-level, but as yet I have not come across a single H.P. which has been killed outright." From Derby, Mr. Boyes writes, "The dwarf Tea Roses protected with soil 4 or 6 inches high, apparently uninjured. The H.P.'s, all dwarfs not protected, except for an inch or so with soil, killed down to the snow line; below, the wood sound and good. Dormant buds starting well, and apparently uninjured." I have little news from the North of England, but from "bonnie Dundee" Messrs. Croll send the following communication:—"Our soil is loamy, inclined to clayey loam; our lowest temperature 2° below zero, and that for three nights in succession. Standard H.P.'s were nearly all killed; dwarf H.P.'s cut to the ground in most cases, but plenty of wood left to start from. Teas and Noisettes, standards and dwarfs, nearly all killed. We received from the South a lot of very fine standard Teas, which we protected with straw, the only time we protected any Roses for twenty years, and we will never do it again, the protected ones being the worst. Early-budded Teas are all right; we would say no worse than usual, but it is rather early yet to speak definitely."

Lastly, I give one testimony from the north of Ireland, from the celebrated firm of Alex. Dickson & Sons, of Newtownards:—"The frost has wrought sad havoc here. Fortunately, we could not get much planting done, otherwise our Rose stocks would all have been killed; as it is, we have lost about 30,000 Manetti and Briar cuttings. All our standard Roses have been killed, and, I fear, most of our standard buds; on the other hand, we have a splendid crop of dwarf buds. Again, all our dwarf plants have been killed back to within a few inches of the ground." It is somewhat remarkable that in the North of Ireland, which is so strongly affected by the Gulf Stream, there should have been so much frost, and consequently so much damage done.

Such, then, are the testimonies of growers both amateur and professional. It is doubtless difficult to draw conclusions which will bear upon all cases, but there are some things, I think, which they do teach us: firstly, that standards are a very risky investment for any Rose-grower. I know that exhibitors of Teas say that they can get no such blooms as from half-standards, but I cannot quite understand why it should be so, and certainly, when in severe winters the losses are so considerable, it may well be questioned whether it would not be better to trust to the dwarfs. Secondly, on the subject of protection, the evidence is somewhat perplexing, but I think the differences of opinion may be somewhat due to the manner in which the protection is done. Owing to the scarcity of straw last year, a good deal of grass and leaves was used for litter in the pig-styes; this was afterwards thrown out and used for mulching the Roses, the consequence was, it laid more closely round the stem than the ordinary stable litter, and I think, probably protected my Roses better. I am quite sure that earth drawn up around the collar of the plant is a good thing, and although there may be a good deal of trouble about mulching and protecting, I think the preponderance of evidence is in its favour. Thirdly, I do not think that we shall hear much after this winter of the hardiness of Tea Roses; it will be noticed that almost everywhere, where damage has been done to H.P.'s, it has been greatly exceeded by that done to Tea Roses; and it seems to have been almost impossible to keep alive in any way some of the more tender varieties. But it is also clear, I think, that they suffer less at some considerable elevation, and that, in fact, one about 400 or 500 feet above sea-level is the place they like best. There is one inference to be drawn from all this information which all rosarians must bear in mind, viz., that Roses must be increased in price; it is not like the partial collapse of an industry, or the failure in a certain district, but it is well-nigh universal. The Rose-growing districts of France have also suffered, and consequently all things being taken into consideration, we cannot expect that Rose growers will be able to supply their customers on the same terms as before.

It is, of course, premature to say anything as to the prospects of Rose exhibiting, but one thing, I think, is clear, that it will be a difficult time for the small amateur grower, and should anything like the frost of last year come at the end of this month, May, deplorable indeed will be their condition—but at present we must wait. *Wild Rose.*

THE SLAUGHTER OF THE INNOCENTS.

It is some years since Roses have suffered to anything like the same extent as from the zero frosts of this February, 1895. The paucity of sunshine in the previous autumn, as well as the moisture and mildness of the weather until February, proved, as these conditions always do, the worst possible preparation for such hard freezing.

In not a few cases in different districts, rather widely apart, the bush wood of Roses and many other shrubs appeared, after their fight with zero temperature, as if they had been scorched by fire. In others the Rose shoots and boughs were rent asunder, or had all the appearance of having passed through iron vices. The blemished and bruised discoloured shoots have all the symptoms of having been squeezed and injured from without, though probably the greatest injury arose from the sudden expansion of thin and watery sap from within. Be that as it may, the actual results may almost be described as appalling, were it not for the fact that hope springs immortal in the rosarian's breast.

Before, however, noting the present poor state of so many of our favourite Roses, let me cite a few cases that have recently come under my notice, of the soundness of these views.

In most cases in which early planting was practised, the Roses have stood the frost better than where the plants had not been recently lifted or transplanted. So generally has this seemed to be the case, that a formula might be tabulated; thus, the less and the thicker the sap in Rose trees or bushes, the more hardy, and *vice versâ*.

The greater safety of Roses in the north in comparison with more southern and western sites confirms the same view. It also affects the hardiness of Roses in at least two other ways. It may arrest and hence help to ripen or mature growth earlier in the season, and if it does so, this earlier and higher ripeness is better for the Roses than a heavy artificial protection.

Colder sites also double or many times multiply the fall of snow. Now, most of our Roses are safe under a snowy covering. We do not say snow is not cold. But anything under it can hardly sink

far below 32°, and there are few of our Roses that take any harm under a regular temperature of this sort. That it is the sudden and severe changes of temperature rather than its absolute severity that cripples and kills so many Roses is abundantly proved by the fact that the severest injury to life and limb is often found on the warmest walls, and in the coolest localities. For many years the writer grew Tea and other Roses on every available aspect and site, and noted after every slaughter or injury among Roses through cold, that those taken and those left were chiefly the very opposite of what might have been expected.

To state some of the extreme cases, Maréchal Niel lived longer in fine flowering condition on an east aspect than any other; while sheer south and extreme warmth, or protection of site, seemed least favourable to the longevity of Roses. *Rosa.*

Rose Kaiserin Auguste Victoria.

On the occasion of the meeting of the Verein zur Beförderung des Gartenbaues, Berlin, March 28, a surprising lot of blooms of this variety of Rose were shown by H. Ed. Crass, the exhibitor stating that at that season, when the importation of Italian Roses began to recede, this variety fetched good paying prices, which four to six weeks earlier would not have been the case. The plants had been forced but little—54° to 58° Fahr.

The variety is very hardy, even in Germany; free in growth, and the blooms well formed. The general secretary drew attention to the fact that the practical Americans made use of it largely, whole houses being planted with it.

BIENNIAL LILY OF THE VALLEY.

Mr. W. Roberts thinks that a mistake was made when I wrote in the *Gardeners' Chronicle* for March 30 that one of the advantages of Fricke's new variety of Lily of the Valley consisted in the fact that root-stocks flower in the second year, whilst root-stocks of Lily of the Valley can generally only be forced when three years old. So I asked Mr. Fricke, immediately after I had seen Mr. Roberts' remarks, what the real state of the case was. He gave me the following information, which I translate word for word:—"I have had the variety about four years, and showed it for the first time at a meeting of the Potsdam Horticultural Society; a copy of the minutes of that meeting shall be sent you in a few days. In February of this year (1895) it flowered again, and was exhibited at the meeting of the Berlin Horticultural Society. The writer in the *Gardeners' Chronicle* is quite right in expressing a doubt whether triennial culture can be thus shortened into a biennial one. Notwithstanding his doubts, I affirm that the root-stocks are really of biennial growth. I classify the root-stocks when they are cleaned, and the flower root-stocks are separated in this way: I divide the strong root-stocks, which will not flower, from the feeble ones. The latter I cultivate for three years, whilst the strong ones I cultivate for two years. These—I mean those cultivated for two years—are the best root-stocks for forcing."

I have also questioned Mr. Perring, Inspector of the Royal Botanic Garden at Berlin, who told me that a biennial system of cultivating the Lily of the Valley had been practised there for several years; but it is, as he says, necessary to pick out the strong root-stocks, which do not flower, and to cultivate them in a wide space, and in good nutritious soil.

It may be advisable to add some general remarks about the shortened system of cultivating those plants, which flower only after a more or less long period of growth. At first I intended to add these remarks later on, but I think a question of such high interest is worth discussing in its various phases, and further, at this season, experiments can still be begun.

I considered the question suggested some years ago by the reflection that there must be in the plant an amount of nutritive matter in certain definite proportions, if the plant is flowering, or to speak more accurately, if the plant is forming those growths, which later will develop into flowers. Also there must be a quantity of nutritive matter in a certain proportion to ensure that these growths develop as flowers, and this the numerous malformations show us, especially those ranged under the category of chloranthy. If this is right, I argue that then perhaps it may be possible to give to the plant artificially those nutritive matters in the necessary proportions. But there arise some weighty questions, of which I mention only the following—what is the influence of the different nutritive matters upon the life of the plant, and what are the proportions to use?

Now, we know, that nitrogen is favourable to vegetative growth, especially to that of the leaves. On the other hand, we know that a manure containing potash and phosphorus helps to produce flowers and fruits. This knowledge will help us very much in answering the question whether it is possible to abridge the process of vegetative life, and to hasten the reproductive life of the plants; to force the plants to give us their flowers in an earlier stage of their life than under normal conditions. I think this question must be answered in the affirmative; it is possible to force the plants to flower earlier.

Now, what are the means to attain this end? Certainly, no general rule can be given, as plants are so very different in constitution. It is, I think, necessary to find out the peculiarities of each plant by separate experiments. But some general directions may be given showing how to shorten the experiments. The first is, to find out for each species what is the time of year in which those growths are formed, which later on become the flowers. It is well known that these growths are often formed very early, but it is also well known that the time of formation is very distinct for each species, if not for each variety. At this date, which I should like to call the critical date, at which the future flowers are formed, it is necessary that the plant should receive these nutritive matters, which are necessary for forming the primords [rudiments of the flower]. Results of experiments, which are not yet complete, give the following indications:—The plants are manured with a solution of nitrate of potash, one part to a thousand; given at first at intervals of about a week, then at shorter and shorter intervals, so that at last the plant receives the solution instead of pure water. In this way the plant becomes stronger and stronger, and able to take larger quantities of nutritive matters. The nutrition must increase as music rises from the pianissimo to the fortissimo. It is not necessary to remark that the soil in which the plant is cultivated must be a nutritive one. But it is necessary to nourish the plant by nitrate of potash in such a way that the highest energy of growth is reached at or immediately before the critical date. Then give the plant a solution of pure phosphate of potash, two or three parts to the thousand. I will not say that this will always produce the desired result, but I may say that different plants have been found to be well satisfied with such a mode of cultivation. Fuchsias flowered so freely that the plants were densely set with flowers. I must add that all plants cannot be grown in this way. The most striking examples of this which came under my notice were Chorozema of different species, which were killed by mineral manure in a few days. I dare say that in like manner as mineral manures may supply a substitute for the warmth of the soil in certain systems of cultivation, as I showed by experiments some years ago, the time of vegetative growth may also be shortened in certain plants by the use of mineral manures. Agriculturists make large use of mineral manures, and it is wonderful that the sister science, horticulture, still makes so little use of them. Horticultural experiment stations, which should experiment in this direction, would be as valuable as regards gardening as the agricultural experiment stations have been for agriculture. But up to the present there is no such experiment station for horticulture alone. *Dr. Udo Dammer, Friedenau, Berlin.*

INSECTS ON FRUIT TREES.

The Board of Agriculture being advised that caterpillars and other insects are present in numbers on fruit trees, consider it desirable to republish information with regard to remedial measures to be taken against them, which have at various times been suggested in particular cases.

Upon examination of fruit trees, and especially Apple, Plum, and Damson trees, it will be seen that caterpillars of several species of moths, but chiefly of the Winter-moth, are at work eating the leaves. The caterpillars of the Winter-moth at first are greyish, with black heads, and so small as to escape notice unless attention is specially directed to them, but when they are noticed in orchards and fruit plantations, it is most important that steps should be taken at once to check their progress. In their later stages the caterpillars are green, or yellowish-green, with whitish stripes and brown heads, and nearly three-quarters of an inch long.

It should be noted that syringing the trees infested with caterpillars has proved advantageous in many places in previous seasons; it has been more particularly useful in respect of Plum, Damson, and small Apple trees, and fruit bushes. The large old Apple trees are rather beyond the reach of ordinary garden engines used for this purpose, and it is only in hop-growing districts where hop-washing machines are generally available that the systematic syringing of large standard trees has been adopted. These machines can be moved about easily enough in orchards. In plantations, with fruit bushes under the large standard trees, it is more difficult to move them about, and to get the supplies of liquid brought through the thick undergrowth.

The mixtures recommended for syringing fruit trees are—

1st. The extract of 7 lb. of quassia, obtained by boiling quassia in water, to 100 gallons of water with 5 lb. of soft soap.

2nd. The extract of 5 lb. of quassia, to 100 gallons of water, with 5 lb. of soft soap and 5 pints of paraffin, well stirred.

3rd. The extract of 4 lb. of quassia to 100 gallons of water, with 4 lb. of soft soap and 4 pints of Calvert's carbolic acid, No. 5.

4th. Six pounds of soft soap and 2 lb. of finely ground Hellebore, and a quart of paraffin, boiled and well stirred together. This is sufficient for 100 gallons of water.

The soft soap is dissolved in a tub with hot water. The quassia chips are boiled in water and put into another tub. Where paraffin is used it should be well stirred up with boiling soap and water before it is mixed with the cold water. Water-carts or ordinary barrels or wine casks set upon frames with wheels, should be brought full of water to where the materials are being prepared, either at the farm buildings or in an extemporized shed with a copper in it, and the requisite amount of dissolved soap and other ingredients added. Knapsack and other hand machines can be used for small Apple trees, Plum and Damson trees, and for Filbert and Cob-nut trees.

It is important that syringing should be commenced early. Directly there are signs of infestation the process should be begun. As the hatching out of caterpillars is not simultaneous, but is extended over some days, the syringings must be renewed if necessary.

Some fruit growers in several parts of the country have tried the cheap arsenical insecticides used extensively in the United States and Canada. These have not yet been generally adopted in this country, on account of their intensely poisonous properties, although from experiments made with them they have been proved to be most effective here.

There are two special substances of this nature. The one, "Paris Green," or "Emerald Green," is strongly recommended by American and Canadian entomologists. It costs from 10*d.* to 1*s.* per lb. A trial of this is advised. Great care must, however, be taken to observe strictly the regulations laid down for its use, or injury will be caused to the foliage.

Paris Green should be obtained in a damp state, or paste form, which is better and safer than powder, and used at the rate of 1 lb. to from 180 to 240 gallons of water, according to the age and condition of the leafage. The mixture must be kept well stirred in order that the solution may be maintained at an uniform strength, as the Paris Green falls to the bottom. It is not advisable to spray with arsenical solutions when the trees are in full blossom, unless the attack is very severe; in this case the solution must be weakened.

As the object is not to dislodge the caterpillars, but to poison their food, the arsenical solutions should be made to fall, like gentle rain, upon the leaves. For this purpose fine "rose" jets should be used.

The other arsenical compound is "London Purple," obtained in the manufacture of aniline dyes, and composed of lime and arsenious acid. One pound of London Purple should be mixed with from 200 to 260 gallons of water, and kept well stirred, being applied in the same manner as the Paris Green, sprayed upon the trees in the form of a heavy dew, or mist, and not squirted violently upon the leaves. London Purple can be obtained in a fluid form ready for mixing with water. It is as poisonous as Paris Green.

Stock must not be put on grass in orchards where these arsenical solutions have been used on the fruit trees until a considerable period has elapsed and rains have fallen; nor must these dressings be used where Gooseberries for early picking, and herbs and vegetables for early use are grown under the trees.

Three or four days will elapse before the effect of these solutions is apparent, and, probably it will be found necessary to repeat the applications.

These solutions can be put on with Hop-washing engines, ordinary garden engines, knapsack distributors, hydronettes, and other pail engines. Syringing with Paris Green, London Purple, and the other solutions recommended for the caterpillars might in some degree be efficacious against the Apple-blossom weevil (Anthonomus pomorum), frequently present in large numbers, and the Apple sucker (Psylla mali), which causes much harm in many localities. *Whitehall Place, S.W., May,* 1893. *Reprinted April,* 1895.

BERLIN.

ASCOCHYTA PISI, AN INJURIOUS PARASITE ON PEAS.

It is well known that a number of parasitic fungi are loosely adherent to the seeds, and thus become dispersed. Another class of parasitic fungi grows in the testa of the seed. Whilst the fungus in the first case can easily be destroyed by certain solutions, this is a more difficult matter in the second case. But there are also instances in which the fungus grows within the embryo itself, and here it is quite impossible to destroy the parasite without injuring the embryo. Such cases are the more unfortunate as the embryo may still be so healthy that it is capable of germination, and that the development of the young plant proceeds to a greater or less extent, and also that the parasite is so minute, that its presence is not noticeable until the plant suddenly dies. This is the case with Ascochyta pisi, a parasitic fungus, which last year destroyed some Pea plantations in Pomerania. The fungus has been well known for a long time, but only as destroying the Pea-pod. As Prof. Frank showed at the last meeting of the Royal Horticultural Society of Berlin, the fungus adheres also to the embryo. It is very difficult to recognise the infected seeds when dry, but becomes more easy to do so if the seeds are laid in water for twenty-four hours. In that time the fungus forms a fine mycelium, which covers the swollen seed like a fine white skin of about 1 mm. in thickness. The seed then resembles a fly covered by Saprolegnia. The young plants grow to a height of about 1½ to 2 feet, and appear to be quite healthy. But suddenly they dry up at the base, owing to the ravages of the fungus.

Scilla maritima.—A gigantic bulb of this species, imported from Algeria, and weighing 8 kilogrammes, was shown at the last meeting at the Royal Horticultural Society of Berlin. The bulb did not grow directly on the sea-shore, but half-an-hour from it amongst the rocks on the hills in loamy soil.

Ontario Apple, and Apple von Lunow.—These two very showy Apples are to be very highly recommended, as they ripen in April. The first, an American variety, may be compared with the white Winter Calvil. The second is a novelty about 3 inches in height and diameter, of conical form, bright yellow, with scarlet blotches. It was found in the hamlet Lunow, in the Mark of Brandenburg. *U. D.*

FLORISTS' FLOWERS.

THE FIRST BREAK IN THE CHRYSANTHEMUM.

The methods of cultivation pursued in the production of large blooms for exhibition or otherwise are identical. The first break is always an important point in the plant's existence, and plants are ruined at this period by the inexperienced cultivator more than at any other. Even cultivators of some experience are usually glad when this stage of Chrysanthemum culture is passed, there being fewer chances of mishap afterwards. I fear that some of those who do possess the requisite knowledge fail to make use of it at the right time. The failure to cultivate a Chrysanthemum with success can usually be traced to mistakes made at the first break. It is perhaps well to begin by defining the garden term "first break." I may here observe that I am not now writing for those who wish to become successful exhibitors, or grow fine flowers for conservatory-work. It is difficult to say anything fresh on Chrysanthemum culture, but so many new readers of the *Gardeners' Chronicle* are taking up the cultivation of this plant, that a few hints for their guidance will not be amiss. The orthodox method of producing large blossoms is to allow the plant to grow from the cutting uninterruptedly until branches come out of the stem naturally. This formation of branches is called in garden parlance the "first break," and the cause of it is the forming of a flower-bud at the top of the stem, which arrests further onward growth in that direction, and forces branches to start from below in the axils of the leaves. This, then, is the explanation of the term "first break." There is no hard-and-fast time when this first break should take place, for much depends upon the variety itself, the age of the plants, and their management from the cutting stage onwards. Some varieties make their first break at about 1 foot above the soil; others grow 3 feet before the flower-bud forms at the end of the stem, many varieties showing a flower-bud in the month of April, and a greater number in May, while naturally-tall growers will not do so till the month of June is well advanced. Some varieties will throw ten side-shoots or branches from one stem. All of these shoots would in due time develop flowers; but as the object of the grower is the production of large blooms, a limit must be placed on the number of growths upon a plant. It is at this stage that the number of blooms each plant should carry has to be determined. The orthodox number is three for those varieties which have large blooms, and in the case of small-flowering types of the Chrysanthemum, such as Lady Selborne among Japanese, and Mrs. G. Rundle among incurved varieties, six blooms are not too many for the plants to bring to perfection. Some cultivators keep to a single stem, thinking that by having one bloom on a plant it will be very superior; that, however, is not my opinion, and I have spent much time in growing plants with one bloom, and at the last moment an accident has ruined my prospects with regard to a plant, or plants, with the result that a whole season's labour was thrown away. Perhaps a bird alighted on the flowering-point, and broke it off; or an earwig took a fancy to the succulent morsel. Three blooms on one such plant, then, is the number I favour generally. Directly the shoots are strong enough to be handled, three of the most promising should be selected for being retained, and the others pinched off. The best and strongest shoots are usually those nearest the flower-bud. By promptly removing all shoots not required, the energy of the plant is directed to those that remain. The flower-bud that is the cause of the first break must be pinched out directly it can be seen, no good purpose being served by allowing it to remain. A neat stake should then be placed to each plant, and the three shoots made secure with ties of bast loosely, yet firmly. This will prevent any loss of shoots by wind or otherwise. Any loss of shoots at this time means, of course, loss of bloom. It is very important that the plants be not crowded whilst in growth, and the growth should be rendered as solid and firm as possible, and this can only be brought about by exposure to sun and air. Experience shows that it is useless to expect even moderately good blooms from plants whose shoots are ill-matured. The cultivator of incurved blossoms knows that upon the state of the wood depends the whole success or otherwise of his chance on the exhibition-table, and he therefore begins quite early to mature the shoots of these varieties. *E. Molyneux.*

COLONIAL NOTES.

FRUIT-GROWING IN VICTORIA.

A meeting has been lately held in Melbourne between the Minister of Agriculture and representatives of fruit-growing industry, more particularly with regard to the export trade, and the question of freights and packing. A resolution was ultimately passed expressing the opinion that unless some considerable reduction be made in the freights, the result will be disastrous to Victoria. The opinion was expressed that unless the freight was reduced to 2*s.* 6*d.*, the fruit export industry would never be a great success.

Queensland.

Queensland Ti-tree Bark is stated to be the best material for packing. It is much better than Cork-dust. This latter information is mysterious. Books tell us that the Ti Trees are species of Cordyline or Dracæna, but if so, how about the bark? Perhaps some of our Australian friends will take pity on our ignorance of their vernacular, and tell us of what the packing really consists.

CULTURAL MEMORANDA.

AZALEA MOLLIS.

This is a well-known valuable plant, capable of being forced into bloom at an early date. It is not, however, to the forcing of the plant that I wish to refer, but to its treatment after the bloom is over. This consists of simply picking off the dead flowers, and growing the plants in heat, keeping the soil well supplied with water (including diluted liquid manure), and syringing them overhead until plenty of flower-buds are formed on the new growth, after which they should be gradually hardened off, afterwards standing the plants out of doors to ripen the wood.

Pilea muscosa (Artillery Plant).

An interesting plant, owing to the fact that when in flower a series of explosions take place at short intervals, the smoke (pollen) following each explosion being plainly visible. The plant is useful decoratively, being of compact, graceful, and branching habit, with small obovate entire leaves. It may be easily increased from cuttings inserted in small pots filled with light mould, with surfacing of silver-sand, watered, and placed anywhere in heat. When rooted, pot off singly into small 60-size pots, watering the soil and returning them to heat, affording shade during the hottest part of the day, till established, then gradually inured to sunshine and air.

Reidia glaucescens.

This pretty stove-plant, of small proportions, is not grown so much as it deserves to be. It is

of upright, slender growth, with bluish-green, Mimosa-like leaves, the diminutive flowers forming at the base of the leaves. The plant is propagated freely from stubby side-shoots put in the ordinary way in heat, as recommended for Pilea muscosa. Sandy loam and fibry peat in about equal parts will be found a suitable rooting compost. *H. W. Ward.*

PLANT NOTES.

GREVILLEA ROBUSTA.

Looking in recently at the Botanic Gardens at Cambridge, where visitors will always find much of beauty or of interest, either out of doors or in the fine open ranges of well-furnished glass-houses, I found an unusually fine specimen of this graceful plant. Considering the grace and beauty of Grevilleas, of which there are many species, it is rather surprising to find them so little and so seldom grown, unless for foliage plants in a small state. And yet there are few greenhouse plants more readily raised from seed or cuttings, if inserted at the right time, or more easily grown. While for the clothing of walls, pillars, rafters, and arches, few plants can equal or excel Grevilleas. And yet I have known several good gardeners who have never seen these plants in bloom, unless at Kew, or in other botanical gardens.

This is the more surprising as they are about as easily grown as a Cytisus. The contrast between the two species may be said to be between glare and grace, and the glare of the gold has won by ten-hundred to one or more. In other words a thousand Cytisus are bloomed annually to one Grevillea. This proportion would assuredly be greatly altered if visitors to botanic gardens at this season of the year would enquire for Grevillea robusta and other species in flower. The specific name will probably surprise the uninitiated; for though we have such species as elegans, elegantissima, &c., few can beat the normal species for the extreme gracefulness of its drooping flowers.

For changes of habit or of colour, the following species may also be grown:—G. alpina (alpestris), G. Fosteri, G. Drummondi, G. fasciculata, G. aspleniifolia, G. Manglesi, G. lavendulacea, G. l. rosea, and G. glabra. The fine specimen in the Botanic Garden, Cambridge, is planted out, and has a free head, which suits it admirably. Grevilleas also form model rafter plants, sweeping back to the ground lines with inimitable grace and elegance. The flowers also have great persistency after cutting, if the simple precaution is taken to cut the stems afresh every second day they are in water. Cut sprays in vases and baskets in living rooms have thus been kept fresh and beautiful for a fortnight or three weeks after cutting.

There should be money in Grevilleas in bloom in a small state to the first enterprising florist who succeeds in putting them on the market in quantity, in sizes but little taller than the market samples of Cytisus racemosus. *D. T. F.*

Fig. 82.—DAHLIA HOUSE AT ROTHESAY.

BEGONIA SEMPERFLORENS GIGANTEA CARMINEA.

This is a form of Begonia semperflorens shown at Reading Horticultural Society's show. Whatever may be its right name, it is a plant that is deserving of the attention of gardeners. It flowers freely during the month of March, and is therefore an acquisition to the inmates of the warm greenhouse. The growth is free. The colour of the blossoms a bright rosy-carmine. It tells particularly well in a mass. *E.*

RANUNCULUS GLACIALIS.

This rare alpine plant is coming into splendid bloom in Messrs. Backhouse's Nurseries, York, some flower stems possessing as many as five or six blooms. It is very seldom that one sees this rare Ranunculus in such good condition—indeed, some persons find the greatest difficulty in keeping it alive. At York, it does best in well-drained raised beds sloping to the south; the soil is a fertile loam intermixed with sand and leaf-mould in equal parts. The chief point to observe is, to afford a well-drained site for the plants, good loam, and abundance of water whilst growth is being made. It will be in flower for four or five weeks to come. *W. A. C.*

A DAHLIA-HOUSE AT ROTHESAY.

In fig. 82 is represented a house in the nurseries of Messrs. Dobbie & Co., which, during the spring, is devoted exclusively to the raising of Dahlia cuttings. It contains during the spring months about 10,000 ground-roots, and the number of cuttings obtained from these is very large. These are not struck in the same house, but those to be rooted on the place are sent to other houses, specially constructed. A large proportion, however, are sold as cuttings to the trade and to private growers. It must be a matter of great convenience, when raising cuttings on a large scale, to have all the stock-plants together, and arranged so that they are all examined so easily as those shown in the house we figure.

POLYANTHUS AT HAMPTON COURT.

The visitor to the gardens at Hampton Court this spring has had an excellent opportunity of observing the effect of intelligent selection and cultivation when applied to one of our commonest flowers, and we imagine that no gardener has seen the splendid display of the spring bedding there without feeling admiration for the success with which it has been carried out, even though he may be unwilling to admit that the best use has been made of spring-flowering bulbous and other plants, when he sees that the majority of the beds are filled mainly by varieties of a single plant.

Entering the gardens by the Lion Gate from Bushey Park, the principal promenade and flower-garden, which runs by the side of the palace, is well known, the large beds being always gay during spring and summer. At the present time these beds are filled with seedling Polyanthus, among which are mixed a few single-flowered crimson Tulips, which being in full flower, and a few inches taller than the Polyanthus, relieve to great advantage the rather flat appearance that the last-named plants would have if planted alone in such large beds.

The strain and quality of these Polyanthus is excellent, and such a strain planted in immense quantities produces an effect that one rarely sees from Polyanthus. Mr. Graham informed us that he obtained some seed three or four years ago, and since then he has made it a study to improve the strain by selection and cultivation as far as possible. The laced varieties are but little used, only a bed or two are occupied by gold-laced sorts. In the other beds are myriads of shades, from a good yellow to pure white. Take the best type of the whites, and we have a flower nearly 1½ inch across, with a bright yellow eye, and counting the spikes on one of the best plants, there are found to be about thirty now in flower, beside some late ones yet to be thrown. Next in preference is a distinct yellow form, the same shade that is seen in some of the richer-coloured Cowslips, but with good-sized flowers, only slightly less than the white ones. Between these two forms the gradations and variations are very numerous and good. There are fifteen large beds, and on the opposite side of the path a long border under an east wall of the palace. The cost and labour in filling these with Polyanthus is of course trifling, and this is a very strong recommendation for these plants.

The seed is sown out-of-doors in April without any protection except a net against birds. The seedlings are now just coming through the soil; they are transplanted as soon as large enough into some good rich soil, and put 4 inches apart. As soon as the summer bedding is removed, the plants are put out permanently into the beds. It is essential that

the seed be sown in good time, and the plants grown quickly afterwards, so that they may make fine large plants before they are put into the beds. They like a rich deep soil and liberal treatment, and if they be accorded this, and a continual and intelligent selection is practised, such as Mr. Graham has successfully pursued, the result is satisfying; but if a selection of the very best plants were not always made to obtain the seed from, the strain would very soon deteriorate, and then the value and repute of the plant would be minimised. It is pretty certain that if this display which Mr. Graham has furnished could be more generally seen, the plant would become a popular one to many gardeners who make at present but little use of it as a spring bedder. An effort is now being made to obtain a bright crimson strain with large flowers, to give a contrast to the yellow and white forms, and in a couple of years it is likely this will be done.

EASTER IN THE ISLE OF WIGHT.

We are so accustomed to associate the thought of our southern islands with that of a mild climate, that on a recent visit—after an absence of five-and-twenty years — the backwardness of the spring flowers was almost as surprising as the signs of the wholesale ravages of the late winter. Though Easter was in the middle of April, and I remained in the island until the 24th, I did not see a single specimen of Arum maculatum or A. italicum with its spathe even half formed. The Cowslips were only just beginning to open, as were also the Marsh Marigolds and the white Dead-Nettle. The Dog's-Mercury was still in bud, the lesser Celandine in the full glory more characteristic of March; and on the Ventnor cliffs, facing south, only a few Wallflowers out, and the Spur-Valerian just showing red.

The results of the winter are certainly very striking. Over the whole of the downs, whatever the aspect, the Furze has been almost entirely killed to the ground. I should be glad to have the opinion of others as to the best mode of treating it under these circumstances. Would it not be well to burn off the dead tops? Comparatively few specimens of Euonymus, which are so luxuriant here, have been altogether killed; and where the nipped tips have been clipped, a beautiful pale-coloured young growth is coming on. Bay-trees seemed to me to have suffered more, many being killed. All Conifers have suffered, but the Austrian Pine perhaps the least. To see Yews nipped by frost was certainly a strange sight. The columnar habit seemed in some cases to have protected the Irish Yews. Late frosts had caught the flowers of Ash and Elm, and I noticed many of the fertile spikes of the Giant Horsetail (Equisetum maximum) so common on the "blue-slipper clay" (Gault), blackened in the same way.

The little Moschatel (Adoxa moschatellina) already out, is so frequent in the hedgerows as to be quite characteristic of the island; but the Harts-tongue Ferns were showing no signs of life. One plant which is strikingly abundant is the Common Madder (Rubia peregrina). I have found it on the cliffs near Swanage, but never saw it so luxuriant as it has been here on the Undercliff. Its withered remains appear clambering by their recurved prickles over the Brambles to a height of 5 or 6 feet above the ground, and it certainly affords a good example of this method of obtaining light and air for a weak-stemmed plant among stronger-growing vegetation. Though generally evergreen, it has certainly not been so this year; whilst for several winters now our Evergreen Oaks have well-nigh forfeited their claim to the name. *G. S. Boulger.*

TREES AND SHRUBS.

CHOISYA TERNATA.

One of the finest hedges of this plant to be found in England is at Veitch's Nurseries, at Exminster, South Devon. The hedge is about 80 feet long, 6 feet high, and 6 to 8 feet through. The plants have come safely through the winter, and do not appear to have suffered more than usual. Choisya out-of-doors always has a more or less seared look in April, for it does not like the frosty east winds and blustering weather of March. It does well in the open in Devonshire, and flowers profusely. As a conservatory plant it is of great value, for its shiny trifoliate leaves make it a bright decorative subject even when out of flower. *A. H.*

THE BULB GARDEN.

TULIP WHITE JOOST VAN VONDEL.

I have looked upon White Pottebakker as the best single flowered Tulip for pot culture, but I think it will have to give way to Joost Van Vondel, for not only are the flowers larger, but the colour is more lustrous. *E. M.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

OPEN-AIR CUCUMBERS AND GHERKINS.—Seeds should be sown by the first week in the month. In some gardens these plants are still grown in quantity, and the fruits are always acceptable at all but the best tables. They are best when grown on a flat ridge consisting of stable-dung and leaves, and if this be made now, it will be fit for the reception of the plants when these are large enough to be planted out. The soil may consist of the enriched staple of the garden, or of loam and decayed dung. Let it get warmed through before the plants are put in. Plant at from 5 to 6 feet apart under hand-lights, shading a little at first from bright sun, and closing the lights early in the afternoon after moistening the foliage. Remove the lights at the end of the month, or early in June. Gourds and Pumpkins of all kinds may be grown in the same manner.

KIDNEY OR DWARF BEANS.—Sow in quantity, according to requirements, once in three weeks from this time onwards to the end of June.

SCARLET RUNNERS.—The main sowing of these Beans may now be made, making another sowing in a fortnight. Plants raised in pots, if hardened off, may be planted in a warm situation, and earthed-up, staking the rows, and fastening the bine to the stakes. Neal's Ne Plus Ultra is a good Bean, and one that is large enough for exhibition when well grown.

CAPSICUMS.—These plants should be potted on in readiness for planting in the open air (in warm districts) towards the end of the month. The situation selected for them should be as warm as possible. In the colder parts of this country Capsicums should continue in the pots, and be grown under glass always. Aubergines or Egg-plants succeed under the latter mode of treatment; and both may be repotted from time to time till, in the middle of June, they have got into 8-inch pots. Choose a sandy, well enriched loamy soil, and cultivate them liberally, freely using the syringe in warm weather.

SWEET BASIL.—Sow seed in pans or boxes, and prick out the seedlings when an inch high into other pans or pots, finally planting them in the open air at the end of the month. It is a plant that likes a warm situation, and as dried it forms a much called for flavouring herb. It may be grown from seed sown from June to August, and the leaves used in the fresh state throughout the winter.

TURNIPS.—A large bed of Turnips may now safely be sown of Veitch's Purple Top if for culinary use, and some of Snowball or Dobbie's Selected if for exhibition. Top-dress the land with lime and burnt garden-refuse, and as the season advances choose the coolest land in the garden for the Turnip crops.

LETTUCE AND ENDIVE.—Another planting of these may be made, and by preference on a warm border. Cold frames in which are young plants should have the lights removed by day, and also at night if there be no risk from frost. A sowing of Endive seed for early use may be made on a border facing east, on soil that is in good heart and well drained. The Green Curled is a good variety to sow at this season, the plant not being so liable to bolt as some of the larger-growing or the Batavian Endives. Sow the seed in very shallow drills, drawn at 6 inches apart, after thoroughly working the soil, and raking it level and smooth. Endive may also be sown in seed-beds and transplanted.

THE ROOT-HOUSE.—Old Potatos will require much looking to. Remove the growths; also from Turnips, Beet, Carrots, &c., as if these are allowed to form long sprouts, flavour and tenderness are soon lost.

STACHYS TUBERIFERA.—Notwithstanding the trouble involved in preparing this root, it is a valuable second-course vegetable, and one which may be made use of in winters like the past, when variety in vegetables generally was not obtainable. Set out the roots in lines 1 foot apart, and 3 inches in the lines. Be careful when lifting the crop to gather up every tuber or bit of one.

SEEDLINGS.—Brassicas generally, if seed was sown as advised, will be ready for pricking out. For this purpose, a warm border should be selected, not too rich, but the land should be well worked and pulverised. Throw the border into 4 feet beds, with 18-inch alleys between, and prick out the seedlings at from 4 to 6 inches apart. The plants if drawn carefully from all over the seed-beds will leave a lot of plants in the latter which will be greatly improved by the increase of space. The main crop of Celery may be pricked out, and if a heated pit can be spared for them, they will recover from removal quicker than is possible in cold frames. Afford a light, friable, rich compost, and do not crowd them together.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

CHRYSANTHEMUMS. — These plants, if well-rooted, will now require to be potted into 6-inch pots. Use good turfy loam, leaf-soil, and coarse sand, with a good sprinkling of bone-meal. Pot rather firmly, and leave plenty of room for water. Care should be taken to disturb the roots as little as possible. Syringe the plants twice a day during bright weather.

BOUVARDIAS should now be cut back and placed in the warm greenhouse. Water them three or four times to thoroughly soak the soil, and afterwards syringe two or three times a day. When they have made 1 inch of growth, most of the old soil should be shaken away, and the plants put in much smaller pots, using a compost of good peat, loam, leaf-soil and sand. When the plants have rooted well, shift them into pots two sizes larger, or they may be planted out on a well-prepared border towards the middle of June. Stop the shoots at every second point until the beginning of September. The plants should not be left outside later than the end of that month.

POINSETTIAS should now be cut back to within 6 or 8 inches from the soil, where the wood is hard and ripe. Give three or four good waterings, and place them on a shelf in the stove where they may receive plenty of light and sun. Cuttings should be taken with a heel when 3 inches long and placed in a propagating-frame or a hot-bed of not more than 90° bottom-heat, and 70° top-heat at night. The cuttings should be closely shaded until rooted.

WINTER-FLOWERING BEGONIAS.—Cuttings of Gloire de Sceaux, Gloire de Lorraine, John Heale, and other varieties should now be put in. The best plants are always produced from suckers taken from the base of the plants, but if the stock is limited any of the young shoots will suffice. Insert them singly in small pots filled with fine loam and peat, and plenty of sand. Afford them a good watering when they are put in, and this will be sufficient until they are rooted.

WINTER-FLOWERING PELARGONIUMS.—Cuttings will now be rooted, and should be potted off into small pots, using loam and leaf-soil, with a little

coarse sand. Place them close to the glass in the greenhouse until rooted, afterwards removing them to a cold frame.

PRIMULAS.—Sow the main portion of seed in shallow, well-drained pans filled with sifted loam leaf-soil and sand, and cover with a piece of glass. Place the pans in a warm frame or on the greenhouse shelf, and keep them shaded until the seedlings appear, when more light should be given, but not direct sunshine. The first batch of seedlings, if large enough to handle, should be pricked off into other pans or pots. Afford a good watering after this is done, and place them in a warm frame near the glass where they may be closely shaded until the roots have entered the fresh soil, when air should be carefully admitted.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

PHALÆNOPSIS.—By this time the greater number of such species as P. Schilleriana, P. Aphrodite, P. amabilis, P. Esmeralda, P. Sanderiana, P. intermedia Portei, &c., will have passed out of flower, and begun to make new leaves, and to show renewed activity at the root. This is therefore the proper season for ascertaining if new baskets, pots, or cylinders are required, or if the potting materials needs to be renewed, which must be done if it be decayed or likely soon to decay. It will sometimes happen that the old sphagnum-moss grows too luxuriantly, and when that is the case it retains more moisture than is good for the plant, and should be replaced with new, otherwise the putrescent "spot" to which the Phalænopsids are liable may show itself, causing great disfigurement of the plants. Should "spot" appear on the leaves, cut out the affected parts and dust the wound with powdered charcoal or flowers of sulphur, afford no water at the root for a short space of time, and keep the air of the house rather dry. Phalænopsis roots are easily susceptible to injury in repotting, &c., and the operation needs to be carefully done, separating them from whatever they adhere to without violence. The better method is to immerse the pot or basket in a bucketful of tepid water for a few minutes, then with a thin-bladed knife detach the roots one by one. In re-basketing a plant, always make use of a new basket, the young roots attaching themselves more readily to new wood than to old. If an old basket is to be used again, the wood should be well scraped and made clean. A basket should be filled to about three-fourths of its depth with new or clean crocks, placing the plant in the centre of the basket, with the collar raised considerably higher than the top-rod, then proceed to spread out the roots and carefully work clean-picked sphagnum-moss and crocks in about equal proportions amongst them, pressing it moderately firm, but not so as to injure the roots, finishing off with a thin layer of living sphagnum moss, and so that it has a beehive shape, the plant being at the apex. These much-admired plants should have a position afforded them on the shady side of the East Indian-house or in the mixed plant stove. After re-basketing, &c., very little water will be necessary. On no account should the plants be saturated, as that would speedily lead to the decay of the roots beneath the surface; but sprinkle the moss and the sides of the basket with tepid rain-water applied with a fine rose water-pot. Keep the sphagnum alive in this way until new roots have established themselves on the basket itself. Meanwhile the young leaves will have increased in size and thickness, and it is then time to afford a more abundant supply of moisture. Thrips do much harm to the Phalænopsis, but with such a remedy as that mentioned in last week's calendar, they may be completely eradicated. Periodically washing the foliage of the plants with a sponge and clean rain-water goes a long way towards the successful cultivation of these plants.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

MELONS.—Without clean healthy foliage, fine-flavoured fruit is impossible; the plants, therefore, should receive no check, or suffer for the want of water at the roots at the first sign of the fruit changing colour, but they must be supplied with sufficient clear water to keep the foliage healthy. They may also be syringed on bright afternoons up to a few days of cutting the first fruit, but the house must not be closed for some time afterwards, so as to allow time for the bulk of the moisture to escape. See that there is no strain on the stalk to cause the fruit to break away from it during the process of ripening. Give plenty of air in fine weather, and do not quite close the top-ventilators at night. Allow the night temperature to fall to 65°.

MID-SEASON CROPS.—Young plants are growing quickly, and require daily attention to stop and regulate the shoots. As the plants will be expected to carry more fruit than the earlier ones, they should not be planted closer than 4 or 5 feet apart. Melon plants should be planted out as soon as they are ready, or they quickly suffer a check. Make mounds of fresh-cut turves, using a little fine soil about the roots. To enable a plant to carry from four to six fruits, stop the shoot when the second wire is reached. Several growths will result, and these in turn must be stopped until sufficient wood is made to secure the number of fruit required. The best time to fertilise the blooms is midday, when the flowers are fully expanded. I have generally found the small male flowers, which cluster round the stem of the plant, are the best. Syringing the plants should be discontinued for a few days until it is seen that the desired number of fruits is set and commencing to swell, when plenty of heat and moisture may be given. Ripe fruit may be expected in about six weeks after setting. When the fruit attains the size of a cricket-ball, support should be given it, and there is nothing better for this purpose than square pieces of inch netting fixed to the wire with pieces of string at each corner. Top-dressing should always be done in small quantities, making each addition as firm as possible. Pure loam, rather heavy than light, is the most suitable compost for Melons; never shade the plants, and only give manure-water or other stimulants when the plants are carrying crops of fruit. Plants in pits and frames will require the same general treatment as that given above. Continue to cover the lights with double mats at night, and close the lights early in the afternoon. Place young fruit on pieces of tiles, or inverted plant saucers, and in giving water at the roots see that the temperature is not less than 85°. Add fresh linings of stable-litter, if necessary.

CUCUMBERS should be looked over every other day, in order to stop and tie down young growth. Remove all male flowers and weak growths, also thin out any shoots likely to become crowded. Keep the house well charged with moisture, and little ventilation will be necessary. Cut the fruit as soon as ready, which will relieve the plants. The plants should receive a good soaking about twice a week at this season. Diluted liquid-manure may be given freely; soot-water is beneficial to the plant, but is apt to make the fruit bitter. Top-dress the borders occasionally with fresh horse-droppings.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

INSECTS THAT INFEST ROSES.—The cleansing of the plants of the various insect pests, to which the Rose is subject at this season, is an important matter. Aphis or greenfly, which, if not checked in time, soon rob the plants of their vigour, and spoil the beauty of the blossoms, should be killed by sticky washes that are not repelled by their powdery coats, and one of the best of these is Quassia-chips and soft-soap, 4 oz. of each to 1 gallon of soft-water, boiled in an iron pot for ten minutes, straining off the chips before use. It may be applied with a syringe cold, or the shoots wetted with a whisk-broom, or dipped in the mixture. Red-spider is not often troublesome at this season to Roses in the open ground which are planted in rich soil, well supplied with weak liquid-manure in periods of dry weather. Roses on walls, or in dry situations, are much more subject to be infested, the indications of which are a yellow tinge in the foliage, which soon falls off. Against red-spider nothing is so effective as a mulching of short manure, frequent root-waterings, and a vigorous application of the garden-hose or engine. The Rose-leaf-hopper is sometimes a very troublesome pest. They are small yellowish-white insects, about one-tenth of an inch long, that infest the lower sides of the leaves and flowers, giving a white-spotted appearance to the first. The insect has long hind legs, by means of which it can leap great distances, and this makes it difficult to deal with in the open air. A good remedy is to wet the leaves underneath, and dust them with white Hellebore-powder, or that of the Pyrethrum (Keating's flea-powder). The Quassia and soft-soap solution is also effective. The Rose-caterpillars or leaf-rollers are at times very destructive if means are not taken in time. The rolled-up leaves should be nipped with the finger and thumb, and the plants dusted over with powdered Hellebore-root, which latter is a good preventative. In some parts of the country the Rose-bug, the Rose slug-worm (also Pear slug-worm), the white grub or May-bug at times infest the Roses in countless numbers. These various pests should be killed, and small insect-eating birds encouraged about the garden, nothing being better as destroyers.

MILDEW.—Some varieties of Roses are often greatly disfigured by the attacks of this fungus, and although it is commoner in the autumn than in summer, the sudden changes we are liable to in the spring will cause its appearance then. The best remedy is to wet the leaves and then dust them with flowers-of-sulphur, or use some kind of mildew-destroyer, or that made by boiling 2 lb. sulphur and 2 lb. quicklime in 10 quarts of water for 20 minutes, straining it off, and when using it, adding one wineglassful of the mixture to 4 gallons of water. The Roses must be frequently syringed with this, and every part wetted. A good preventative of mildew is to well mulch the soil with rich manure, and afford washings with clear water, and frequent root waterings of the same, alternating these with liquid-manure.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

DISBUDDING AND THINNING THE SHOOTS OF THE APRICOT.—All the trained trees on walls and fences should have some of the breast-wood removed by pinching the shoots back to a leaf or two, and in the case of those which spring from the part of the branches which is next to the wall, they should be cut clear away, or rubbed off with the hand. It is good practice to perform this sort of operation at weekly intervals, so as to cause no serious check to the growth of the trees. The lateral shoots, some of which will be laid-in when sufficiently long, should also be reduced in number. Those laterals that must be removed should be stopped at the third or fourth leaf, they will then develop in fruit-bearing spurs, if all subsequent growth from them be stopped at the first joint. Any weakly or unfruitful spurs or shoots may now be cut away, replacing them by others, but being careful to avoid all crowding of the shoots.

PROTECTION AGAINST FROST.—The tree coverings may now be removed generally, excepting in very cold districts, where it should for the present be only dispensed with in part, taking it off during the day, and replacing it at night, or at least if frost appears imminent. If the trees are very thickly set with fruit, thinning must begin forthwith, first taking all that are very small or mis-shapen, and those which cannot develop into good fruit owing to their being squeezed between the wall and branches, repeating the thinning at intervals till a sufficient number have been removed. The late thinnings are useful for tarts, &c., and should be kept for these purposes. Old Apricot trees should be sparingly thinned of fruits, a certain quantity usually falling from them at the stoning, whereas the fruits on young trees seldom drop to any great extent. The varieties with large fruits may be allowed a distance of from 5 to 7 inches from each other, and 3 to 4 inches for the smaller-fruited ones. Trees bearing freely will require a good watering with liquid-manure occasionally, loosening the surface of the border with a fork before affording it, and mulching with stable litter afterwards as a check on evaporation. Examine the trees for the light green-coloured maggot or leaf-roller (Tortrix). When rolled leaves are noticed, crush the caterpillars or the chrysalis within between the thumb and finger with a quick motion.

DISBUDDING ORCHARD TREES.—Standard and other trees which are branch-thinned in the winter make a quantity of shoots, and most of these must be removed, doing this frequently during the early summer, any neglect in this respect causing the crowding up of the crown with useless growths. Where unmanageable overgrown spurs have been removed, many shoots will now be produced from the dormant buds, and these must likewise be removed by rubbing them off with the exception of one or two of the strongest which may, when they have made five or six leaves, be pinched back to the second from the base. These pinched-back shoots will form in a year or two spurs that will replace those which were removed.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, May 14—Royal Horticultural Society's Committees, at Drill Hall, James Street, Westminster.

FRIDAY, May 17—Royal Botanic Society, Lecture.

SHOW.

WEDNESDAY, May 15—Royal Botanic Society's Summer Show, at Regent's Park.

SALES.

TUESDAY, May 14—Orchids, at Protheroe & Morris Rooms.

WEDNESDAY, May 15—Lilies, Cannas, Begonias, Dahlias, &c., at Protheroe & Morris' Rooms. Important Clearance Sale of Exhibition Plants, at the Royal Exotic Nursery, Cheltenham, by order of Messrs. Heath & Son, by Protheroe & Morris.

FRIDAY, May 17—Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—54°.3.

Sports and Seedlings.

An interesting discussion is being carried on in the columns of *Nature*, as to the origin of the garden Cineraria. On the one hand, Mr. Dyer asserts that the varieties now so numerous originated by selection from Cineraria cruenta only; on the other, Mr. Bateson brings forward an imposing array of evidence from horticultural publications tending to show that more than one species has been concerned in the production of this favourite flower. This we imagine to have been the general opinion till the appearance of Mr. Rolfe's article in these pages in 1888, vol. iii., p. 657, illustrated by a woodcut, which we reproduce on p. 581. We are not in a position to be able to test the validity of the statements made by Mr. Bateson as Mr. Dyer has done, but we refer to the matter as illustrating the necessity of cautious experiment and accurate record. Our readers will not have forgotten the discussions as to the origin of the Auricula which took place at the first Primula Conference, discussions which led to no definite conclusion. If the Cineraria is the modified descendant of Cineraria cruenta only, there is an excellent opportunity of demonstrating the fact, for the plant is well cultivated at Kew. It is so well cultivated, indeed, that, if we mistake not, the plants already show evidence of modification as a result of good cultivation only. At any rate, it can hardly be said that our illustration on p. 581 adequately represents the plant as it may be seen now in No. 4 house at Kew.

The main object of the discussion to which we have alluded, we take it, is to ascertain the importance of gradually accumulated selection as a factor in the evolution of new forms, as compared with the variation induced by cross-breeding. This is a question to the solution of which horticulturists are in a position to contribute. Assuming the history of the Cineraria to be open to question, no such doubt as to the origin of the present race of tuberous Begonias exists. The original species have been introduced within the memory of the present generation. The details of the crosses that have been effected have been so accurately recorded that we suppose the history of these plants is better known than in the case of any other similar plant, unless it be the greenhouse Rhododendrons of Messrs. Veitch, studied by Mr. Henslow. So great has been the modification in the case of the Begonias, that Mr. Fournier, a highly competent botanist, considered them of sufficient value to constitute a new genus, which he called Lemoinea. It is interesting also to note how the new race has supplanted the parent species, hardly one of which is now seen in gardens even at Kew. These Begonias, then, afford excellent material for use in the discussion of the questions alluded to. Whilst the Begonias offer a marked instance of the variation due from intercrossing, many forms of Anthurium Scherzerianum were produced by selection only, prior to the irruption of numerous varieties as a result of cross-breeding. So also the innumerable forms of the Chinese Primrose are variations from the uncrossed species, and it is noteworthy that no success has at present rewarded the efforts of Messrs. Sutton to cross the original species, which has been introduced only comparatively lately. That they will eventually succeed we can hardly doubt.

It would be well if scientific writers would either abandon the employment of the terms "sport" and "sporting," or if they prefer to retain them that they would limit their application to bud-variations proper. Among gardeners, although the terms are often loosely used, yet there is a predominant tendency to confine the expression "sport" to those asexual variations which occur suddenly on the vegetative shoots without obvious cause. It is clear that such changes are in a different category from sexual or seedling variations either of specific or of crossed origin. Mr. Bateson, we see, uses the term sport in reference to Cinerarias—he means seedling variations; we have never seen a "sport" in the restricted sense of the term, i.e., a bud variation in a Cineraria, though we have been on the look-out for such productions. We do not recall any instance of an asexual bud-variation in an annual plant or in any plant grown and treated as an annual. They may, of course, exist; but with a tolerably large experience, we cannot recall such a case. In perennial plants, and especially in those whose predecessors have been cultivated for centuries, as the Rose, the Camellia, or the Carnation, "sports" are frequent. These plants have been crossed and re-crossed from time immemorial, either designedly or accidentally. The "sports" seem to be in such cases the result of atavism, or a dissociation of previously-blended characteristics. Seedling variations may be due to the same cause.

It is, of course, necessary to distinguish between those seedling variations which are the result of recent and designed cross-fertilisation, and those which occur in plants which may have been crossed at one period of their existence, not recently, but long ago. If the notion that sports result from an unmixing of previously blended characters be true, then self-fertilised plants should not produce sports, a point worth attending to if opportunity occurred, but one fraught with difficulty, for who could tell whether or not a self-fertilised plant might not have been crossed at some time?

Fig. 83.—Schinus molle at Grahamstown, S. Africa.

Schinus Molle.—By the courtesy of Mr. Charles Gowie, of Grahamstown, we are enabled to give a representation of a fine tree of this species standing in front of an African farm-house at Bowden, Fish River, Albany, in Cape Colony (fig. 83). The tree is about twenty-five years of age, and was grown from seed brought from Rome. In the left-hand corner is shown an ostrich, these birds being kept on the farm. Few trees strike the attention of the visitors to the Riviera more than the so-called Pepper-trees. The elegance of their pinnate foliage, and the beauty of their clusters of yellowish-green flowers and orange-red berries, amply justify this attention. The leaves are so full of resinous juice that if thrown into water the resin-containing cells burst, and the resinous fluid is ejected, diffusing an agreeable fragrance. The tree is frequently grown here in botanic gardens, and

much interest is evinced by visitors in watching the movements of the leaves when thrown into water, the sudden expulsion of the resinous fluid giving rise to currents in the water. In accordance with the perversity of popular names, it has nothing to do with Pepper. The word Molle, or Mulle, is stated to be the Peruvian name for the tree.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione will take place on Tuesday, May 14, at 6 P.M., when the subject for discussion will be "The Cultivation of Fruit and Early Vegetables in the Canary Islands for the English Market," to be opened by Dr. D. MORRIS, M.A., C.M.G.

houses are on the west side of the old range nearest the Palm-house. They are each 70 feet long, 24 feet in width, and 14 feet high to the ridge of the roof. Running north and south behind them is a corridor, which will extend along the whole range. The part completed is 80 feet in length by 10 feet in breadth, and with a concrete wall 17 feet in height. In the

FIG. 84.—SCHINUS MOLLE. (SEE P. 588).

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, May 14, when a large show of hardy flowers, Daffodils, &c., is anticipated. At 3 P.M. Dr. MORRIS, of Kew, will deliver a lecture on the "Plants and Gardens of the Canary Islands." The lecture will be fully illustrated by lantern slides.

ROYAL BOTANIC GARDENS, EDINBURGH.—The improvements at the Botanic Gardens, Inverleith Row, which have been in progress for the last year or two, have (says the *Scotsman*) been advanced another stage by the completion of two of the new plant-houses. It is intended to remodel the whole of the greenhouses, and the beginning which has been made will give an idea of the scale upon which the scheme is to be carried out. The two new green-corridor there is a central path 6 feet in width; on each side of it are beds for flowers, and on the wall and over the glass roof shrubs and creepers will be trained. Each of the new houses is divided into two halves. One house is intended for Orchids, and in a section of it will be those which require a warm temperature. In the other will be reared those that need a cooler atmosphere. In like manner the other house will be reserved for stove plants. The houses,

which have been constructed by Mackenzie & Moncur (Limited), are of a light and airy character; and already the plants and flowers put into them have shown the greatest benefit from the improved conditions thereby afforded. Many of them are growing in a way never seen before in the old greenhouses. The heating-pipes, which are connected with a central system, are carried under the paths in a tunnel large enough to admit a man going along it to examine them periodically. The paths are laid with grooved granolithic pavement, and under the staging in the Orchid-house is a shallow trough with water, to keep the air moist and cool. At the back of the conservatory a small annexe has been specially set apart for the culture of Filmy Ferns, and at the extreme west end of the greenhouses an octagonal house will be built as a fernery. To the north of the Filmy Fern annexe is a large potting-shed, and a room for the foreman gardener. The cost of the new houses has been £1800; they have been carried out under the personal supervision of Prof. Bayley Balfour, who hopes to have the corresponding houses at the other end of the corridor finished this year. The open space between the two new houses has been made into a Daffodil and bulb-garden; that at the south side of the west-most house will be a Veronica-garden. The prolonged frost of the winter has told very severely on many of the shrubs in the open air—even the Ivies having been browned to quite an unusual extent. The long spell of severe weather was utilised by Professor Bayley Balfour setting his staff to clear out some of the dense thickets of shrubs and trees in the old pinetum, in the vicinity of the rock garden, and in other parts, to complete the circular walk now connecting the Botanic Gardens with the Arboretum, and to begin a boundary walk which will extend from the Arboretum-gate eastward to the Botanic Gardens at Inverleith Row. For the Arboretum, a definite plan of planting specimen trees has now been agreed on, but it will not be proceeded with for a short time yet, until ground recently trenched for them has in some degree consolidated.

National Rose Society.—A meeting of the committee will be held, by permission of the Horticultural Club, at their rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 14th inst., at 3 P.M., to draw up a list of judges for the three exhibitions, and for the transaction of other business. There will be no meeting of the General Purposes Committee.

Veitch Medals.—We learn that the presentation of the Veitch Medals will be made at the meeting of the Royal Horticultural Society on Tuesday, June 11, at 3 P.M., by the President, Sir Trevor Lawrence, Bart.

Colchester Rose Show.—We gather from the *East Anglian Daily Times* that one of the great local events of the coming summer will be the Rose and Horticultural Show to be held at Colchester next month. It is a revival of a former very successful show held in the town, and has been given a semi-official character by the fact that the Mayor is President, and the members of the Corporation are patrons. The committee, of which Mr. O. G. Orpen, the well-known amateur rosarian, and Mr. P. R. Green, are Hon. Secretaries, have just issued the schedule of prizes.

An Anonymous Donor of £80,000.—The Parks and Gardens Committee of the Liverpool Corporation met on Wednesday last and visited the recreation ground in Wavertree, presented to the city by an anonymous donor at the last council meeting. Votes of Thanks were passed to the generous donor, and it was stated that he had expended over £80,000 on the purchase and laying out of the land.

The Surveyors' Institution.—A general meeting of Members, convened under Article 42 of the Charter, will be held at the Institution, on Monday, May 13, at 7.30 P.M., to consider and, if approved, confirm Amendments in or additions to Bye-Laws 3, 4, 23, 24, 25, 26, 27, 38, 39, 56, 57, 62, 64, and 65, as unanimously passed at a general meeting held on Monday, April 29, 1895, and set forth in the Agenda-paper already issued. The next ordinary general meeting will be held on Monday, May 13, when a paper will be read by Mr. R. E. Middleton (Fellow), entitled "Village Water Supplies." The chair to be taken at 8 o'clock. Notice is given that the Annual Dinner of the Institution will take place at the Holborn Restaurant (Venetian Room), on Monday, May 27, 1895, at half-past 6 o'clock precisely. Several of Her Majesty's Judges, and other distinguished persons, are expected as guests. Member's dinner tickets may be obtained at the Institution. In order to provide for the comfort of the Members, it is requested that the intention of being present at the dinner be intimated to the Secretary on or before Monday, May 20.

"Botanical Magazine."—The plants figured is the May number are:—

Kniphofia Northiæ, Baker, t. 7412.—The most robust and Aloe-like of all the species of this genus. Grahamstown. Hardy in South England. Kew. See *Gardeners' Chronicle*, 1891, vol. ii., p. 66.

Vaccinium erythrocarpum, t. 7413.—Leaves deciduous, corollas elongate, petals ultimately revolute, berries globular, blue. Alleghany Mountains. Kew.

Argylia canescens, D. Don, t. 7414.—A very remarkable Chilian Bignoniad, with an erect tuberous stock, from which proceed herbaceous branches with long-stalked, deeply bi-pinnatifid, hairy leaves, and terminal heads of yellow flowers Each corolla is golden-yellow, with blood-red streaks; tube 1 inch long, glandular pubescent, narrow at the base, then dilated, ansub campanulate; limb 1¼ inch in diameter. Kew.

Veronica Hectori, Hook. f., t. 7415.—An erect under-shrub, 2 feet high, with small imbricate, scale-like, broadly-ovate leaves, and clusters of pale lilac flowers. New Zealand, at an altitude of 7000 to 8000 feet. Edinburgh Garden. Kew.

Cypripedium Charlesworthii, Rolfe, t. 7416, *Gard Chron*, 1893, ii., fig. 70. Arracan. Kew.

"Science Gossip," for May, published by Simpkin, Marshall & Co., contains many articles of interest to science lovers. The Rev. W. H. Dallinger has a note on "Melicerta ringens," illustrated by several beautiful drawings of this small though interesting denizen of our ponds. Messrs. Wanklyn & Cooper write on "Argon;" Mr. Thos. Leighton has an article on "Geology of the Isle of Wight;" and Dr. Guppy writes on "Stations of Plants and Buoyancy of Seeds." Mr. Rudolf Beer has an interesting illustrated article on "Root Nodules on Leguminous Plants." Besides articles there are reviews of books, science gossip, and accounts of science abroad. The botany, geology, microscope, and zoology sections seem to be well appreciated.

Fruit from the Antipodes.—Since our last issue, one of the P. & O. Company's fruit steamers has arrived from Hobart, Melbourne, and Adelaide. From Hobart there are 22 393 cases and 212 half-cases; from Melbourne, 894 cases and 32 half-cases; Adelaide sends 121 cases; or, altogether, 23,408 cases, and 244 half-cases of Apples.

Birmingham and District Amateur Gardeners' Association.—Mr. W. B. Child (Acock's Green) read a paper on "The Anemone," before the members of the Association, Wednesday, May 1. He gave a list of the varieties most suited to the locality, which included St. Brigid, appenina, blanda, alpina, fulgens, and stellata, and gave full cultural directions for each particular variety. A discussion followed, and Mr. Child was accorded a vote of thanks. There was a good show of plants and cut flowers.

The Late Frost.—The injury to shrubs and trees usually considered hardy, and of course, to known half-hardy shrubs, has been so great, that it is advisable for the Scientific Committee of the Royal Horticultural Society to procure information from various parts of the country on the subject. Mr. Henslow's exhaustive report onthe effects of the winter of 1879–80 and 1880–81, renders unnecessary on the present occasion, anything more than a list. Olearia Haastii has suffered in some places, whilst in others, it is uninjured. At Kew against a south wall, the Pomegranate is not hurt; Ficus repens, partly protected by the house from which it has escaped, is only injured where fully exposed; Rhododendron Colletianum has expanded its pretty trusses of white flowers on the rock-work.

"Finger-and-Toe."—In the last number of the *Proceedings of the Royal Society*, Mr. Massee has an interesting paper on the Slime-fungus (Plasmodiophora), which causes the disease in the roots of Crucifers. Healthy seedlings grown in soil that had previously produced diseased plants succumbed to the disease, whilst those grown in sterilised soil remained free. As many common cruciferous hedge-weeds are liable to the same disease, Mr. Massee recommends the extirpation of such weeds from hedgerows near Turnip-fields. We hope he would not exclude Wallflowers, Stocks, or Rockets from our gardens (the first is certainly attacked by the disease). The development of the slime-fungus is favoured by acids, and checked by alkalis; hence, a dressing of lime, or the application of a potash-manure, are recommended.

Imperial Horticultural Society of Vienna.—Dr. Masters has been elected a corresponding member of the Society.

"The Wild Flowers Collecting Book." The Sketches and Directions prepared by F. Edward Hulme, F.L.S. (London: Cassell & Company)—This publication is issued in Parts, each of which costs 4*d*., and contains an illustration and short description of twelve English wild flowers. Each picture faces a blank sheet, on which the collector is intended to fasten his specimen when gathered and dried, and on which he is also to write the time and place of his discovery. Short and clear rules for preparing the specimens are included in the introduction to each part, and the series, as a whole, may well tempt those who like plants to gather and arrange them thus. We hope it will not induce the collector to neglect more detailed works, which will tell him the botanical names and special peculiarities and life-histories of his favourites, but rather that, if he pursue the science at first merely from a desire to fill these pretty books, he will be led on by them to learn more and more about his subject, and perhaps, some day, to form a larger and more complete herbarium. In any case these pages, which do not profess to give room for more than the flowers of each specimen, are novel in design, and praiseworthy in aim. For young collectors they are particularly suitable. It would greatly add to the value of the work if the student were encouraged to dissect and draw the details of the several flowers. At first they would be rough and inaccurate no doubt, but these defects would be soon remedied by practice. Artistic drawings may be reserved for their proper sphere, and the student need not be discouraged if his sketches are not artistic, provided they convey accurate ideas to his own mind.

Isle of Thanet Horticultural Association.—Mr. Walter Searles, Secretary of this Society, informs us that the committee, who are now preparing the schedule for the show to be held on Wednesday, August 14 next, have decided to offer a number of prizes for cut blooms and fruit, open to all comers. To aid those exhibitors who reside at a distance, they are prepared to see that all boxes are returned to the senders. Any of the exhibits may have prices affixed to them, and be sold after 6 P.M.

"The English Dialect Dictionary."—It may well be imagined that a work so entitled, and further defined as being "The Complete Vocabulary of all Dialect Words still in use, or known to have been in use, during the last two hundred years," is no small one, either in scope or in actual size. It is computed that the dictionary will be completed

eight years after its actual commencement, and this time seems short rather than long when we hear that the American dialects are to be included as well as those in use in Great Britain, which have been and still are being studied and noted with a view to publication by the English Dialect Society, and other workers. Philologists will find this Dialect Dictionary most valuable; so, indeed, will other thinkers and writers. Local plant names and gardening terms will occupy no small space therein, and reliable information concerning these and other technicalities has been collected from all districts. The editor proposes to furnish, not a bare list of words, but information concerning their distribution, age, and source. Explanatory articles will be interpolated here and there; in fact, the whole work is to be made as complete as possible. The editor, Prof. Joseph Wright, is desirous to set to work before the MSS. at his disposal (already amounting to over a ton in weight) grows altogether unmanageable. It is proposed to issue the first two parts of the Dialect Dictionary in 1896; other parts to follow at intervals of six months.

The Importation of Bananas into America.—In a recent Consular report from Baltimore, it is stated that of all the tropical fruit now imported into the United States, the Banana reaches there in the largest quantities. Its cultivation for the foreign market in Jamaica only dates back about twenty years, and it is from that colony that fully eighty-five per cent. of those consumed in the Atlantic States are now derived. There are at present four steamships exclusively employed in the Banana trade with the port of Baltimore, and which can land their fruit from Port Antonio in a little over five days, and almost as fresh and green as when cut. A proportion of each cargo is disposed of in the city of Baltimore, but the largest part is transferred to heated or refrigerated cars, according to season, and sent by rail as far west as Chicago. In connection with the Orange culture in Florida, it is stated that the crop which is the chief source of supply for the eastern States was completely destroyed by the severe weather, and that the growers are actually buying Oranges in California to meet their engagements.

Horticultural Instruction.—An interesting experiment in teaching practical gardening is being tried at Bournemouth, thanks to the liberality of T. G. Rooper, Esq., one of H.M. Inspectors of Schools, who has undertaken to defray the expenses of the venture. Twelve pupils of the Boscombe British School have each a plot of ground (20 feet by 14 feet), which they cultivate under the superintendence of a skilled instructor, Mr. W. Heath. The boys, whose ages range from twelve to sixteen, work on the allotments from 3 30 to 5 o'clock on three afternoons a week, and although operations were only commenced on March 25 last, the land has been thoroughly cleaned, and seed-sowing is in progress. Each boy has a complete outfit of tools, which, as well as all the other necessaries, such as manure, seeds, &c., are provided by Mr. Rooper. Miss C. Agnes Rooper, who is much interested in the work, frequently visits the plots, and gives valuable hints and suggestions.

Torquay Horticultural Society.—We regret to learn from the *Exeter Evening Post* of May 2, that owing to lack of interest on the part of the public, this Society is to be wound up. A meeting with this object in view was called on Thursday, May 2, at No. 1, Vaughan Parade, under the chairmanship of Mr. W. Fane Tucker. The chairman stated that the Society had been in existence about 50 years. Those who had undertaken the management had devoted much time and trouble to the work, and he regretted that it was found necessary, owing to lack of public support, to wind up its affairs. The chairman concluded by moving that the Society be wound up, which was duly seconded and carried. A sub-committee was appointed for this purpose, and if there is any balance it should be handed over to the Gardeners' Relief Fund.

A New Strawberry.—We received lately a few fruits of Messrs. Laxton Brothers' new variety of Strawberry named Leader. It is the result of a cross between their Latest-of-All and Noble, is of conical and sometimes cock's-comb shape; as to colour a bright crimson, and, so far as we could judge from the much-damaged fruit, injudiciously packed in cotton wadding, it is of a very sprightly good flavour. It is surmised that it will excel as a forcer, as well as crop well out-of-doors. On this last point we hope to be able to speak at a future time. It is, as regards colour and flavour, an advance on some recent varieties sent out.

Sisal Hemp (Agave rigida, var. Sisalana) at Vera Cruz.—In a report on the trade and commerce of Vera Cruz, reference is made to the Henegren or Yucatan hemp, which has become more generally known of late as Sisal, stated to be from the fact that the fibre was first exported from Sisal, a small coast port about 27 miles west of Progreso. In view of the low price that has ruled for Sisal hemp for some time past, it will be of interest to know that the export from Vera Cruz varies from 19,000 to 45,000 bales per month, the average weight of each bale being about 350 lb. It has been remarked that this year 1895 will have the maximum quantity of land under hemp cultivation in Yucatan, which means that the production of hemp has reached its limit. Under the existing circumstances of low prices, high monetary exchange, and scarcity of the Indian labour, many of the farmers are planting Maize instead of replanting hemp. New lands, as well as old hemp-growing areas, are now being used for growing Maize and other products.

Glass Bricks for Constructing Plant-houses.—Some glass bricks of the system Falconier were exhibited from the glass works, Adlerhütten, in Penzig, Silesia, at a recent meeting of the Vereins zur beförderung des Gartenbaues in Berlin. These bricks are intended to be used in constructing the walls of plant-houses and winter gardens, and they are made out of blown glass, and closed under 500° of heat. They possess internally a hollow of about one-third of their entire contents, which being filled with rarified air, acts as a non-conductor of heat. They are joined together with cement, by which a rigidity is obtained which points to the possibility of their being employed as roofing in semicircular form, without any use being made of iron as a supporting structure. In houses built of this material, there must be many advantages not obtainable by other modes of construction with other materials, including greater economy in heating. No windows are necessary, although for the purpose of enabling a person to look outside, these fittings might be supplied.

"The Journal of the Royal Horticultural Society."—The April number just published is perhaps hardly equal to some of its predecessors; nevertheless, it comprises some interesting papers such as Mr. Pettigrew's account of the Vineyard and Wine Making at Cardiff Castle, Mr. Shea's lecture on Chrysanthemums, Mr. Backhouse's lecture on Filmy Ferns, &c.

The Kew Museums.—An official guide to the Museum No. 2, which contains the Monocotyledons and the Cryptogams, has been published at the cost of a few pence. It may be had at the gardens, or from Messrs. Spottiswoode & Co. As it includes products derived from Palms and Grasses amongst others, it will be seen that the present instalment is an important one. A thoroughly comprehensive work on economic botany is still wanting. The present catalogues might well serve as the nucleus for such a work.

Beeton's "All about Gardening."—This new "Dictionary of Garden Work" is really a fresh and enlarged edition of a popular book. It contains nearly 600 pages of letter-press and over 500 illustrations, and the price is only half-a-crown. The information contained in it is reliable, succinct and up-to-date, but we would suggest that more care should have been paid to the proof-reading. This would have prevented such errors as Daphne cucorum (!), for Cneorum, Arabia for Aralia, and many similar ones. Both professional and amateur gardeners will, however, find the instructions contained in this book useful, and will welcome this revised edition. The publishers are Messrs. Ward, Lock, & Bowden, Warwick House, Salisbury Square, E.C.

Natural Hybrids of Narcissus.—"I am sending with this," writes Mr. Engelheart to Mr. Baker, "a small Narcissus, which I think will interest you from its history. You are well acquainted with the plant called N. triandrus pulchellus. It has been for a very long time in cultivation, though a scarce plant, and has always been set down as a variety of N. triandrus, and a "species." Ten or twelve years ago it occurred to me that it was probably a natural hybrid between N. triandrus and N. jonquilla. I was led to this supposition by noticing that it had a perceptible jonquil-scent, also that it was sterile, N. triandrus being abundantly fertile, and hybrids of jonquilla (*e.g.*, N. odorus) being sterile. Mr. Maw and others opposed this view, so I set to work ten years ago to raise plants from N. triandrus × N. Jonquilla. Batch after batch of my seedlings died before flowering, for I have found hybrids of N. Jonquilla very difficult to raise. At last a potful of seedlings from this cross has bloomed this spring, and I now send you flowers. I see no distinguishing character whatever between this artificially-bred flower and N. triandrus pulchellus. The peculiarity of the corona being whiter than the perianth, the jonquil scent, the leaf-character, and all other features are present. So I think you may quite confidently write down 'N. triandrus pulchellus' as being a natural hybrid of N. triandrus and some wild Spanish or Portuguese form of N. Jonquilla. There is a wild plant, N. Jonquilloides (I think of Willkomm), which very probably grows together with N. triandrus in some district of the Spanish peninsula. *George H. Engleheart.*" Mr. Baker, commenting on this specimen, says:—"The specimen sent exactly agrees with the plant figured under the name of N. triandrus var. luteus, *Bot. Mag.*, t. 1262, which is Ganymedes pulchellus, Herb. *J. G. B.*"

A New Hybrid Egg-Plant.—Mr. Hart writes from Trinidad:—"Among seedlings of Melongena or Aubergine (Solanum melongena), L., there lately appeared in our gardens a plant with the shrubby habit of the Aubergine, or Egg-Plant, and with similar flowers, but bearing fruit having the exact form of a deeply sectioned Tomato, and of a bright red colour. The size of the fruit is about 2 inches in its widest diameter. The interior of the fruit has more the appearance of the Egg-Plant than the Tomato, but there is a likeness to both. It would make a very good decorative plant, as the fruit appears to be of a more lasting character than either the Egg-Plant or the Tomato. I should be glad to know if anyone has seen a similar production. *J. H. Hart, Supt., Royal Botanic Gardens, Trinidad, W.I.*"

Publications Received.—*Bulletin de l'Association pour la Protection des Plantes*, Geneva (1895), containing prose and verse contributions from M. H. Correvon, M. N. Alboff, and others, and various reports and communications relating to the business of the Association.—*Insect Life:* U. S. Department of Agriculture (Washington), vol. vi., No. 5, including Special Notes, Bees, the San José or Pernicious Scale (Aspidiotus perniciosus), complete Life-History of the Sugar-Beet Web-worm (Loxostege sticticalis), Notes from Correspondence, and General Notes. Vol. vii., No. 2, which includes a Brief Account of the Rise and Present Condition of Official Economic Entomology, Notes on Insecticides, Economic Entomological Work in the Parks of New York City, Mealy-bugs and their Allies, and many other items. No. 3, containing Damage by the American Locust, Chinch-bug Observations in Iowa in 1894, the Maple Pseudo-coccus (Pseudo-coccus

aceris), a New Sawfly which is injurious to Hollyhocks, a New Pear Insect, and numerous other contributions.—*Report of the Assistant Pomologist for* 1893, by Wm. A. Taylor, U. S. Department of Agriculture (Washington). This records the work done during the year, the condition of the crops and climate, a note on the Uncertainty of Varietal Names of Fruits, Descriptions of Promising New and Wild Fruits, &c.—*The Journal of Mycology.* Devoted especially to the Study of Fungi in their Relation to Plant Diseases. U. S. Department of Agriculture (Washington). Including Treatment of Pear-leaf Blight in the Orchard, Prune Rust, an Improved Method of Making Bordeaux Mixture, Reviews of Recent Literature, &c.—*Reports of Observations and Experiments in the Practical Work of the Division.* Made under the Direction of the Entomologist, U. S. Department of Agriculture (Washington). Division of Entomology, Bulletin No. 32. This contains Reports on Injurious Insects in Nebraska and adjoining Districts, on Some of the Injurious Insects of California; Entomological Work in Oregon and California, with Notes on Australian Importations; on the Insects of Missouri for 1893, the insects of the season in Iowa in 1893, and on Insects Injurious to Forest Trees.—*Bulletin of the North Louisiana Experimental Station, Calhoun, La.* Wm. Stubbs, Ph D, Director. Second Series, No. 33. Tobacco, by J. G. Lee, Assistant-Director, giving directions how best to plant, manure, and cure Tobacco.—*The Russian Thistle (Salsoli Kali, variety Tragus)*, by James Wilson. Bulletin No. 26, 1894, Iowa Agricultural College Experiment Station, Ames, Iowa; giving an account of how to rid the land of this pest (by burning over stubble and fields to destroy the seed), and also an account of the botanical and microscopical structure of the plant.—*Iowa Agricultural College.* Bulletin No. 27, 1895, containing various articles, notably one on Potato Scab and its Prevention; and recommending as efficient soaking the tubers in various preparations containing such ingredients as corrosive sublimate, hydrochloric acid, and Bordeaux Mixture. So far (the Report says), "corrosive sublimate is the best remedy known. Bordeaux Mixture is promising."—*Nature Notes*, the Magazine of the Selborne Society, May number, containing much of interest to lovers of Nature. Editor, James Britten, F.L.S.—London: John Bale & Sons, 85 to 89, Great Titchfield Street, W.

Book Notice.

Cellulose.

A work of considerable merit under the authorship of Messrs. Cross & Bevan (Longmans & Co), has recently appeared upon the important subject of Cellulose. The work is an outline of the chemistry of the structural elements of plants, with reference to their natural history and industrial uses. It contains a vast amount of valuable scientific matter, and covers an exceedingly wide range. The volume is enriched by fourteen illustrations, reproduced from sections of typical raw materials, which are designed to convey an outline view of their general feature of structure and arrangement in the plant, and which will be found useful to elucidate the text to which they refer.

Cellulose is known to be the predominating constituent of plant tissues, and may be shortly described as the structural basis of the vegetable world. The ordinary flowering plant is a complex structure, and its several parts are also complex.

The cells exhibit an infinite variety of form, the main lines of differentiation necessarily conforming with variations in functions. The growing cell is of a nitrogenous nature, the living functions depending upon its protoplasmic contents. The authors, however, deal rather with the cell-wall or envelope of the cells, to which the term cellulose has been applied as to a chemical individual, although, in fact, there are many varieties of cellulose, and the term is taken as denoting a chemical group.

The celluloses are found to present the following characteristics: They are colourless substances, insoluble in all simple solvents, non-nitrogenous, having the constitution of carbo-hydrates. Their composition is represented by the percentage numbers—carbon, 44·2; hydrogen, 6·3; oxygen, 49·5. These figures show the composition of the "ash-free" cellulose, of which cotton cellulose is taken as the type.

The celluloses of the plant would, so far as they have been investigated from the point of view of chemical constitution, group themselves as follows:

(*a*). Those of maximum chemical resistance, which comprise in addition to the typical cotton cellulose—which, it is to be noted, is a seed hair—the following fibrous celluloses which constitute the bast of exogenous flowering annuals, viz, of Flax (Linum usitatissimum), Hemp (Cannabis sativa), China-grass (Rhœa and Boehmeria species), and of the lesser known Marsdenia tenacissima, Calotropis gigantea, Sunn Hemp (Crotalaria juncea).

(*b*). Those of lesser chemical resistance. Celluloses of this class are much more widely distributed in the plant world than those of the cotton type; they appear, from recent observations, to constitute the main mass of the fundamental tissue of flowering plants, in which they usually exist in intimate mixture or combination with other groups more or less allied in general characteristics. Of this group the following have been more particularly investigated:—(1), Celluloses from woods and lignified tissues generally; (2), Celluloses from cereal straws, from Esparto, &c.

(*c*). This includes the heterogeneous class of non-fibrous celluloses, which the authors define as of low chemical resistance, being easily resolved by boiling with dilute acids, and being also more or less soluble in dilute alkaline solutions.

Physiological research has shown that there are a large number of cellular as distinguished from fibrous celluloses, which are readily broken down by the action of enzymes (ferments) within the plant itself whether as a normal or abnormal incident of growth. Thus in the germination of starchy seeds, the cell walls (cellulose) of the starch-containing cells are broken down, as a preliminary to the attack upon the starch granules themselves, to form the supply of nutrition to the embryo. In an exhaustive investigation of the germination of Barley, Messrs. Brown and Morris have recently thrown a good deal of light upon this particular point which they emphasise in these words—that the dissolution of the cell wall invariably precedes that of the cell contents during the breaking down of the endosperm, is a fact of the highest physiological importance, and one which for the most part has been strangely overlooked. A similar, but abnormal dissolution of cell walls is that which occurs in the attacks of parasitic organisms upon the tissues which they invade. These processes are well known to physiologists, who, however, generally regard "cell-wall" and "cellulose" as substantially identical terms. The chemical differentiation of the substances comprising the cell-wall is, on the other hand, an entirely new field of research; but although investigation has not gone very far, the results are sufficient to show that the celluloses of this order are enormously diversified.

Compound Celluloses.—The compounds constituting the fundamental tissues of plants, may be broadly classified in correspondence with the three main types of differentiation of the cell-wall, long recognised by physiologists, viz., lignification, suberisation, and conversion into mucilage. Of these three groups the ligno-celluloses stand first in order of importance, not only are they by far the most widely distributed, but they have a physiological and a special chemical significance, which mark them out as the arena of some of the most interesting processes presented by the many-sided synthetical activity of the plant-cell.

Of the ligno-celluloses, there are two well-defined types (1), the bast fibre of the Corchorus species, known in commerce as jute. (2) The woods, i.e., the lignified tissues of perennial stems. The former, being a simple tissue and an annual growth, is a more promising subject for the investigation of the general chemistry of lignification than the woods, which are, of course, complex structures and subject to continuous modification with lapse of time, and in adaptation to the varying necessities of the plant. The wood of the Coniferæ is of very great industrial importance, not merely for its uses as timber, but as the raw material for the preparation of the "sulphite wood-pulp," now produced on an enormous scale in connection with paper industry. The ultimate fibre of these woods is of greater length than that of the Dicotyledonous woods, and in addition there are well marked features of distinction in chemical composition from the latter.

Industrial Uses.—The industrial uses of the celluloses are of wide and varied range. They depend, however, largely upon the external and physical properties of the natural products; but if less obviously, certainly in a not less important degree upon the special chemistry of these substances. Their industrial value again depends upon the conditions of supply, the agricultural questions of yield, and the economic questions of production and preparation in a fit state for the further manufacturing operations by which they are finally shaped for use. *J. J. Willis, Harpenden.*

Home Correspondence.

THE CAMELLIA AS A HARDY SHRUB.—It would be interesting to know how Camellias planted in the open ground in any part of the country have borne the severe weather. I have seen at Belvoir small plants doing well on the sunny slopes where Mr. William Ingram used to work out so many charming pictures; but such a sheltered position hardly affords sufficient testimony to the hardy character of the plant. Mr. A. Mongredien, in his *Hardy Trees and Shrubs for English Plantations*, states that the Camellia, if protected the first two or three years after being planted out, when once established, proves in the climate of London quite as hardy as the common Laurel, and blooms as profusely as in a conservatory. It may be said that London is too far south to afford a real test of the hardihood of the Camellia in more northern localities; and the probability is that very few specimens have been planted there in the open, except against walls. If any one has knowledge of plants standing in the open in the midlands and north, and could give information as to whether they received injury during the past winter, it would possess a general interest for planters. In Japan, its native country, it is a lofty-growing tree, of a hardy character, where, as Thunberg assures us, "the cold is intense, snow falling, water freezing, and the thermometer falling many degrees below freezing point." Probably the atmospheric conditions in Japan are drier on the whole than in this country; but here, and especially in Ireland, where the Camellia has, perhaps, been more planted in the open air than in England, it is important that the growth should terminate by beginning of August, so that plants may have the benefit of the heat and dryness of that month, and part of the following, to complete the ripening process of the wood—and there is a certain risk in a too early growth, as there is danger of the young shoots being injured by late frosts. Some Irish plants have been found at times to flower sparingly, the lack of bloom being attributed to unsuitable weather in the late summer, and, as a result, the wood is imperfectly-ripened. I remember when in Ireland, in 1869, seeing some fine specimens at Castle Martyr, near Youghal, the seat of the Earl of Shannon; but they were planted next a south wall, in a well-prepared border, and they had protection during severe weather in winter. I was informed they had flowered freely in the previous spring, and that they did so almost invariably; certainly they were fine plants, and by referring to a note made at the time, I find the sorts included the old double white, imbricata, reticulata, Lady Hume's Blush, Rosa Mundi, and several others. I should like to have information as to their condition at the present time. There are some fine specimen Camellias at Glen Eyre, Southampton, the residence of Colonel Eyre Crabbe; they were planted over thirty years ago, in a compost compounded of bog-peat, loam, and clay—a mixture that, so far as this southern locality is concerned, appears to suit them exactly. Being desirous of knowing how the plants had fared during the past winter, I enquired

of the veteran gardener at Glen Eyre, Mr. Thomas Stewart, who planted the trees, who states:—"Our Camellias have stood the past winter pretty well; there are a few which have suffered a little, but others look so well that no one would know from their appearance they had passed through such a trying time; they stood it much better than some of the shrubs and the common Laurel." Mr. Stewart adds, that the trees are later in flowering this year than usual, which might have been expected. *R. D.* [The bushes at Kew are little, if at all, injured. Ed.]

THE EFFECTS OF THE WINTRY WEATHER.—It is perhaps a little too early to estimate the losses sustained by nurserymen and others in the matter of reputed hardy evergreen trees and shrubs, for while some are killed outright, others, though greatly injured, show signs of growth; but their apparent vitality will be put to a severe test when a spell of hot dry weather sets in. It is likely it will not be until after midsummer that we shall realise what the full results will be. When recently in the south I paid a visit to the nurseries of Messrs. W. Balchin & Sons, at Hassocks, to see how their large stocks of evergreens were affected. The Hassocks nursery is on a slope to the south, but open to gales from north-west to north-east; the soil a medium loam 4 feet in depth resting upon clay. The lower portion of the slope appears to be somewhat sheltered, and it is here the intensity of the frost was most felt, possibly because the soil was moister than at the head of the slope, while the growths of shrub and tree were less tempered through exposure. Of evergreen subjects, the Portugal Laurel, common Laurels of all varieties, evergreen Oaks, Arbutus, Laurustinus, Veronicas, and the sweet Bays are very brown; the common Laurels severely damaged. On either side of the road, leading from the entrance gates to the houses, there are some magnificent standard Portugal Laurels with wonderful heads, but they are much browned on the exposed side, though scarcely disfigured on the lee side. On the coldest night experienced the thermometer was at 4° below zero, for several nights it fell to zero, and the wind was piercingly cold the whole time; and Araucarias and Wellingtonias on the low ground suffered severely, so did Cupressus macrocarpa and Abies Douglasi, Biotas of sorts, the golden especially, but among Coniferæ, Thuia Lobbi fared worst—fine young specimens 3 to 5 feet in height, are in many instances quite dead. It would appear that the last winter proved the most destructive experienced since the nurseries were established many years ago. Of the Coniferæ that are little harmed, mention may be made of Cupressus Lawsoniana and its variety lutea, Pinus austriaca, P. Laricio, and the Retinosporas, the latter appearing comparatively untouched. Rhododendrons and Hollies, much cut about in some places, look remarkably well here. Is it possible to deduce from a wide experience of the effects of the winter—that is, by means of knowledge drawn from different parts of the country—any suggestions as to the hardihood of evergreen trees and shrubs likely to be valuable to planters in the time to come? Conditions of position, exposure, soil, dryness or moisture of atmosphere, and others, have, no doubt, to be considered in drawing anything like satisfactory conclusions; still, some statistics might be compiled not without a practical value. In addition to the severity of the frost, the bitter wind has also to be reckoned with. *R. D.*

PRIMULA VULGARIS.—It would appear from the remarks of "D." (p. 495) that there is cause of fear lest the common Primrose should become exterminated, or at least, scarce, in some localities, where it has been plentiful. There is no question but that this plant in its wild state is reproduced chiefly from seeds, and the gathering of its flowers in a wholesale way, year after year, must eventually tell its tale. But I doubt if individual plants in their natural haunts are so short-lived as your correspondent appears to think; at least, I have reasons, which I give, for thinking otherwise. There are about 1800 acres of park, some of it woodland, here, where large breadths of Primroses and Wood Anemones used to be beautiful features in spring. For fourteen years, however, previous to last winter (when they were killed down) this was overrun by rabbits; in fact, it might be truly designated a rabbit-warren. During this time a Primrose, or an Anemone blossom, could scarcely be found, the buds being consumed as fast as they grew, and consequently, increase of Primrose plants from seed was almost impossible. Nevertheless, at the present time flowering-plants of both of the above-named are apparently as plentiful as formerly, and afford a charm to the place, which is appreciated more than it ever was. Many of the Primula plants are from 1 to 2 feet in diameter. The Wood Anemone in blossom, when seen as here, covering acres of woodland, is a sight not to be forgotten. *T. Coomber, Gardener, The Hendre, Monmouth.*

NATURAL SEAKALE. — Although there is no reason why a cottager or an allotment-holder should not grow Seakale and enjoy it as well as anyone else, yet I was somewhat surprised to find on the Richmond allotments recently that several persons had planted rows of root cuttings last year, and this spring had been cutting from them capital blanched heads that would have done credit to any grower. The rule generally was to plant three or four rows fairly close together, and then in the winter take out a trench on either side, and cover up to a depth of about 6 inches with soil. That at Richmond is somewhat light, and enables the Kale to be admirably blanched. One allotment-holder who, perhaps, had the best, and very fine it was, told me that he could sell any quantity at 5*d*. per lb. That is not a bad price, and would give a good return from a rod of Kale bed. Still, all these persons did not sell, for as one grower remarked in his quaint way, "Me and the missus likes it, as well as anybody else," and pleasant indeed is it to find that the family as represented by the missus gets a share of that excellent vegetable, which has too long been esteemed a luxury. Probably, more than ever, the value of good Seakale roots has been forced upon gardeners generally through the mischief wrought by the hard winter amongst green vegetables. It will be a good thing if everyone who has garden ground takes to its cultivation more largely. By-and-by, perhaps, these enterprising allotment-holders will learn to grow Seakale more largely, and lift some for early blanching. The Richmond group of 20 acres of allotments will well repay a visit in a few weeks, say about the middle of June. Their culture affords ample proof of the way theoretical instruction in gardening has been utilised. *A. D.*

PROFITABLE WOOD MANAGEMENT. — I am pleased to see Mr. D. F. Mackenzie ventilating his ideas on this subject in the *Gardeners' Chronicle*, but I doubt his opinion that landowners will not "take seriously" the opinions already expressed by some writers in your pages against planting for profit in this country under existing conditions. Landowners *do* look upon planting as one of the most hazardous of speculations. It is notorious, both in England and Scotland, that (with the exception of those who derive large incomes from adventitious sources, such as factories, a portion of which they spend on their recently-acquired estates, and those who are obliged to plant to some small extent periodically), planting is at a standstill, or worse, if compared with the timber going down. The indifference shown by landowners on the subject of forestry is manifest in many ways, and the sluggish progress of the proposed "Chair of Forestry" fund has often been pointed to as an example. Mr. Mackenzie's remarkable estimates of profits from woods have often been published. I think he has stated that they amounted to hundreds per cent. in some cases, and here is a curious commentary on his statements. Both Professor Balfour and Mr. Mackenzie are notable members of the Scottish Arboricultural Society, and both are perfectly familiar, it may be presumed, with each other's ideas, as published in the acknowledged organ of the above Society; but what does Professor Balfour say in his exhaustive paper published in the very latest issue of the Society's *Transactions*? I speak from memory, having lent my copy; but I believe I am quite correct in stating that the Professor (who has no extravagant ideas on the subject) declared that of suppositious valuations and estimates of profits from woods there was no end, but a real *bonâ fide* debtor and creditor's account from any estate could not be got for love nor money. The only trustworthy example he had discovered he had got "by the favour" of the Laird of Raith, now at the head of the Arboricultural Society, and the example was some small 20 acres in a remote locality. Is not this strange of the Professor, with Mr. Mackenzie at his elbow? Why not furnish Professor Balfour with the very information he has been vainly searching for so long? I fear the same may be said of some foresters, as the late Mr. Baines once said in the *Gardeners' Chronicle* of the limekiln advocates. They were like the vendor of a "patent hair-restorer"—said vendor having only about three hairs in the nape of his own neck—as a testimonial; so some foresters are very free with precept, but sparing in their practice, restrained probably by their employers, who know better. Has Mr. Mackenzie invested in Dr. Somerville's proposed syndicate to plant for profit? or has he induced any landowners to invest? I believe a margin of profit can be got from crops of timber of certain kinds grown in a certain way, and not too far from the consumer; but it is a fact that vast tracts of Scotch Fir and Spruce, &c., in the North of Scotland, could hardly be given away at the present time. I was in Perthshire last December on estates, and from what I was told by well-known estate agents, controlling half-a-dozen estates, things were worse even than I imagined. It is a puzzle even to Scotch landowners now why foresters go on planting miles and miles of Scotch Fir and Spruce, and so little of the more useful kinds—which grow equally well. I am afraid to say how many acres upon acres of Spruce and Firs I saw laid flat by the gales of the best pit-prop size, and left to rot on the ground, although such timber was being daily delivered on the Firth of Forth ports from abroad by hundreds of thousands of feet. The varied accounts given by different persons of the results of timber-growing render it imperative that such examples as Mr. Mackenzie gives (12 000 feet to the acre) should be named. On this point Mr. Mackenzie has always been one of the most reticent. Will he tell me, privately or otherwise, where his wood is? I would try to see it. *J. S. W.*

JADOO FIBRE.—This potting material is fast increasing in public favour, and, so far, experiments with different kinds of plants grown in it have had successful results. I have seen a mixed collection of conservatory plants, including Azaleas, Pelargoniums, Ericas, Richardias, Ferns, Cactus, Spiræas, Lachenalias, Auriculas, and many other subjects, planted in Jadoo, and all were healthy and flowering well. What surprised me was the small amount of root space plants grown in it required, and the consequent small weight as compared with similar plants grown in mould. I measured a Pelargonium, one of a batch of two dozen, all much alike. The pot was 3¼ inches in diameter, and the plant showing a large number of flower-buds, was 23 inches through. It looked quite top-heavy. Cuttings seem to strike very readily, and seeds germinate freely in Jadoo. It is capital stuff to grow seedlings in, for the material being fibrous, when the young plants are pricked off they take with them some of the parent soil, and seem never to feel the check of removal. At Teignmouth, where the Jadoo Company have their works, it is used in many of the gardens in the neighbourhood, and in Mr. Hannaford's nurseries there are several specimen Coniferæ doing well in it. *H. E.*

THE VIRGINIAN CEDAR (JUNIPERUS VIRGINIANA).—In all probability the largest tree of this kind ever felled in Britain was that cut down a few days ago on some building land at Esher, in Surrey. The curiously spiral stem, which was perfectly straight for 23 feet in length, contained 51 feet of timber, but the whole contents would be much greater, while the head of foliage was wide, massive, and singularly beautiful. The timber, which is used in England for lead-pencil making under the name of "pencil or red Cedar-wood," was dark-red towards the centre, with a broad band of deep yellow (Barberry yellow) around the margin. It cut readily, and was deliciously fragrant; indeed, the latter was so powerful that two friends who examined the tree with me could distinctly detect the aroma at fully 30 feet away. *A. D. Webster, Boxmoor, Herts.*

THE EDUCATION OF GARDENERS.—Although I stated in the last issue that a gardener's head is of more use than his hands, and although I do all possible to assist in the education of those over whom I have any control, I should hesitate to say that all gardeners could be educated to advantage. They are to a great extent recruited from a class not easy to educate, the majority cannot be considered anything but labourers, and their natural capacity and preliminary training exclude them from the possibility of ever becoming gardeners in the true sense of the term. This is not surprising, when the average wages paid are taken into consideration; a man capable of becoming a passable gardener, is not likely to be content with the wages of a common labourer, and having more sense than to attempt to get up demonstrations and strikes, he watches his opportunity, and usually finds some other employment which pays better. The work is under-rated, and the pay is too low to attract the best class of men. No doubt the present rates of payment are

sufficient for the class employed, and the man who gets 20s. per week is usually not worth any more; the trouble is, that a really competent man is worth as much as a skilled workman in any of the mechanical trades, and very few of the employers will pay at this rate, although they pay highly for other luxuries, which give much less pleasure and satisfaction. The average standard of wages is so low, and the opportunities of rising are so few, that the class of men really needed, fight shy of the work. The position is a difficult one, and in my limited experience, I have found many otherwise good men, who were hopeless as regards systematic education, other than what is picked up by rule-of-thumb and general blundering. *T. F.*

FRUIT PROSPECTS.—I am glad to say we have this season a very good promise of all kinds of fruit. Peaches and Nectarines, both on south and west walls, have bloomed well, and thanks to the fine dry weather, have set an abundant crop of fruit. I have never seen the trees more healthy, nor so free from green-fly. Pears, both on walls and standards, are blooming grandly. The flowers stand out well, being both bold and beautiful. Apples are not yet out, but there is a good promise of most varieties. Cherries are one mass of bloom so that the trees fairly droop with blossom—this applies to sweet kinds and Morellos. The latter is much esteemed here; when dead ripe, they make handsome dishes, and are much relished as dessert. Strawberries, both yearling and two-year old plants, are very satisfactory, but we find the former have much the stronger blooms—really, I think, to grow for quantity we should make annuals of them, plant yearly. I find, to change the blood about every five years, is a step in the right direction. Gooseberries and Currants are laden with healthy young fruit, and I hope will keep free from caterpillars, the busy enemy we have among the Gooseberries. We used to be bothered with bullfinches—in that case we paint over thin stakes, and lay them at the top of the bushes. When the birds get caught, or frightened, they fly away with the thin stake, and never trouble you again. It is very seldom I have caught them alive. *R. Gilbert, Burghley Gardens.*

THE EFFECT OF THE LATE FROST IN SOUTH-EAST CORNWALL.—Your correspondent, J. W. Moorman, writing on this subject on p. 555 should have come to the district south-west of Plymouth, where vegetation is even worse blasted. Round this neighbourhood there is scarcely a plant of the common Gorse that is not dead down to the ground-line. Rhododendron ponticum, even in the woods, where it is used as a covert plant, is hard hit; the Berberises have suffered severely; plants of Rhododendron Nobleanum, R. caucasicum, and R. arboreum have dropped their buds, but otherwise are uninjured; Camellias have suffered; a fine Sequoia sempervirens in the pinetum is browned by the piercing east winds to which it was partly exposed. Trees of Cryptomeria elegans are browned, whilst C. japonica and Lobbii are both untouched; Pinus Menziesii, P. Smithiana, and others are all uninjured. I attribute our losses to the heavy gales we experienced from the east rather than to frost, as only 11° were registered. We are about 3 miles from the sea, as the crow flies, and very much exposed on the eastern side. *Chas. Page, Boconnoc Gardens, Lostwithiel, Cornwall, May 6.*

NURSERY NOTES.

MESSRS. F. SANDER AND CO.'S NURSERIES, ST. ALBANS.

The introduction of Orchids and other plants, and the raising of hybrid forms, are the chief occupations of the St. Albans firm. Immense quantities of Orchids arrive continually at the nurseries, and the consignments like those "just in" from Mexico and India show each species in such quantity as to lead one to speculate as to their destination; but as Mr. Godseff, the nursery manager, says, "It is only with easily-procured plants that such large consignments are possible. With the collectors sent specially after new things, as, for example, the recently-introduced Dendrobium speciosissimum, it is generally another matter—few plants for much outlay."

Passing through the long series of glass-houses which connects the ends of those that form the main block, and which is now in several divisions in which the temperatures can be varied, one comes to the commodious houses devoted to the cultivation of new species of Orchids and to Orchid hybridisation. In one of these houses it was interesting to observe the numerous large seed-vessels on the Lælias, Cattleyas, and most of the other genera which have been crossed with the most diverse things. On the pots or baskets containing these seedling plants are numerous tiny hybrid plants, some of which may bear flowers that will excite wonder and admiration; but doubtless by far the greater number will perish, for no matter how freely a sowing of Lælio-Cattleya, or similar crosses may come up, there is a continual dropping off of individuals during the years necessary to reach the flowering age. A few of the prettiest at present in flower are Cattleya × Prince of Wales (× fimbriata ♀, Mossiæ Wagneri ♂), with its wax-like white flowers, and delicately rose-veined lip; Lælio-Cattleya × Frederick Boyle (C. Trianæi ♀, Lælia anceps ♂), a most remarkable and pretty cross; Phaius × Owenianus (bicolor Owenæ ♀, Humblotii ♂), the charming little yellow-and-purple P. bicolor Owenæ being in bloom beside it; P. × Marthæ (Blumei ♀, tuberculosus ♂), of a delicate nankeen yellow and rose colour; and the beautiful Miltonia × Bleuana nobilior, by far the most handsome of its class among the Banner Orchids. Placed ready for crossing are some grand forms of Cattleya Skinneri, with fine flower-heads, each flower closely resembling C. Lawrenceana; the extremely rare Phalænopsis Sanderiana alba, which has pretty white flowers; P. speciosa var., with singular-looking flowers, the three upper segments being white, and the three lower ones purple; a grand form of Lælio-Cattleya × Schilleriana; the true Lælia præstans, the handsome Cattleya × Barberryana (intricata × superba), and many another showy and rare variety. Coming into bloom are a number of strong plants of Sobralia × Veitchii. In the cooler house, which is alongside of the one we have left, were flowering plants of those charming hybrids, Masdevallia × Henrietta, M. × Kimballiana, and M. × Courtauldiana, all Shuttleworthii hybrids; M. × Hincksiana (tovarensis × ignea), M. × Heathii (Veitchiana × ignea superba), and the singular M. melanoxantha, illustrated in the *Gardeners' Chronicle*, March 23, p. 339.

Other new plants in bloom were the pretty, white, and fragrant Bollea Schroderiana, the quaintly-marked Batemania peruviana, a true Batemania, and not to be confounded with that section of Zygopetalum known in gardens as Batemannia, as will be observed in our illustration at p. 561, May 4; the white Dendrobium Dimneanum, recently shown at the Royal Horticultural Society, which the labels on the several plants in flower indicate, were imported by the firm in 1890. Even more rare and beautiful than some of the new plants are the tall white and purple Dendrobium veratrifolium, Lindl., some of which carry five and six erect spikes and numerous flowers of a good size. The handsome Dendrobium Schroderi, the finest of the D. densiflorum section, of which not one plant in a hundred bearing the name in gardens is of the true variety; the clear white Vanda teres alba, and the great white Lælia-like Dendrobium Johannis, several of which will soon be in bloom, were likewise remarked.

Passing through the houses containing the general collection, we noted in the cool-houses a grand show of Odontoglossum, chiefly O. crispum, of the true Pacho type; O. Pescatorei, O. triumphans, O. nevadense, O. cirrhosum, O. nævium, and hybrids such as O. excellens, O. Wilckeanum, O. Andersonianum, &c., but the most striking by far were the white forms of O. crispum, and a few spotted ones, among which was a remarkable variety with a light-yellow ground.

In the Masdevallia houses there were noted in flower forms of M. Harryana, M. ignea, M. Veitchiana, and that showiest of Masdevallias, M. V. grandiflora, M. caudata, M. radiosa, M. Houtteana, M. bella, M. Chimæra, M. × Chelsoni, &c. In another cool house the eye was greeted with a brilliant display of Sophronitis grandiflora, and overhead the sprays of Oncidium Marshallianum, O. varicosum, and O. Forbesii, among which is a plant of the rare O. F. Borwickianum, more than half of whose labellum consists of bright golden-yellow. The original was illustrated in the *Gardeners' Chronicle*, April 26, 1879, p. 525, and its second appearance after so long a time is interesting. The long house filled with plants of Miltonia vexillaria will soon be in flower from end to end, and the hundreds of specimens are in fine health.

In the Cattleya-houses was remarked a fine show of Cattleya Schroderæ, C. Mendeli, C. Lawrenceana, and some of the earlier forms of C. Mossiæ; and the house, which is almost filled with Lælia purpurata and other Lælias, had a grand display of these plants, all of which are excellent; but the L. purpurata albescens is much the finest.

In the several other houses were noted more or less in bloom Spathoglottis aurea, S. rosea, both of very free growth and flowering habit; interesting varieties of Dendrobium nobile, and D. fimbriatum, one large specimen of D. f. oculatum with scores of racemes of flowers; D. thyrsiflorum, the pretty and sweet D. hedyosmum; a fine quantity of D. Palpebræ ... [illegible], the pretty yellow-flowered D. dixanthum, the true Lælia grandis, now a scarce plant; while the L. tenebrosa, a species discovered while searching for it, is common; Cœlogyne Dayana, C. tomentosa, and C. Swaniana, all of the same class, but very dissimilar; the little rose-coloured Lælia crispilabia; L. harpophylla and L. cinnabarina, the white and fragrant L. glauca, not by any means a common plant, and one which hybridists ought to make use of freely; the very singular Angræcum Fournierianum, and a number of the elegant white A. Sanderianum, among which appears one with salmon-coloured flowers, Cælia [illegible], numbers of Lycaste Skinneri and L. plana, Ada ... [illegible], ... [illegible], &c., and in the houses set apart for species and hybrids of Cypripedium, a seemingly endless variety, the result, in many cases, of bewildering combinations. Two peculiarities in batches of hybrids which Mr. Godseff says that he has particularly remarked, are the occasional production of a startling novelty out of a batch which has proved up to that time tolerably constant and not remarkable, and the occurrence of practically identical results from different crosses. These facts teach two things—first, not to condemn a batch of seedlings until all of them have flowered, and second, not to name a cross on the strength alone of the difference of parentage. A remarkable instance of the variation indicated was remarked in the very dissimilar forms of Selenipedium × grande obtained from several batches which are now flowering at St. Albans.

The New Plant House.—These were reached by traversing a long house filled with Sarracenias, Dionæas, and other insectivorous plants, which at present are in fine condition, and with fresh foliage and some flowers. In the corridor a quantity of the compact-growing, brilliant mauve Bougainvillea glabra Sanderiana, which seems to be always in flower, and which by pruning or training may be had in bushes of any size, was observed; a batch of handsome new Coleus, some hybrid Streptocarpus, and the bright orange-scarlet Hippeastrum equestre major, which it is intended to cross with some of the species of Hippeastrum, which the firm have imported, with the hope of thus obtaining a new race, and breaking the monotony of form observable among modern varieties.

In the first warm house we remarked a fine show of Anthuriums, chiefly A. Scherzerianum and A. Andreanum varieties and crosses, and a beautiful lot they are, with their spathes of various shades of scarlet, white, and white speckled with scarlet. Two of the best are A. Scherzerianum Wardianum, with a spathe 8 inches long by 4 inches wide, and A. Sanderianum, an extraordinary form, with a large shield-shaped foliaceous spathe—that is to say the spathe resembles a bright green leaf with red scarlet centre and veining. Arranging admirably with the Anthuriums were numbers of the new white Eucharis × Stevensii; and the silver and green

Dracæna Sanderiana, of which it is said that the great demand does not admit of a heavy stock of the plant being worked up.

In a house filled with Begonias, the set of Begonia Sander's "Winter Queen" varieties, still beautiful in foliage and flower, were noted; some of the new "pillar" Begonias showing well, and among the dwarf-flowering kinds, a charming little plant—Begonia de la Reine—whose small green leaves are almost hidden by heavy sprays of rose-pink flowers.

Nepenthes, or Pitcher plants, and Bertolonias, Sonerilas, and others, usually denominated "Jewel Plants," occupied the next house. Caladium rubescens, with narrow spathulate green-and-red leaves, is a handsome variety; plants of Impatiens auricoma were covered with their yellow flowers; a batch of the singular Arisæma fimbriatum, and another of the rich globular-headed scarlet Hæmanthus Kalbreyerii, were remarked.

THE BEST DAFFODILS FOR MARKET.

It is some years since Mr. Jas. Walker commenced to plant Daffodil bulbs on his land at Ham Common for producing flowers for market, and his intelligent application to the business having been rewarded with success, it follows that he has acquired considerable experience, including a practical knowledge as to which are the best varieties for supplying bloom for market purposes. When calling at his establishment on the forenoon of a warm sunny day last week, when a fair proportion of the floral harvest was yet unreaped, Mr. Walker's greeting was linked with an observation that he was then "marking" a few varieties which, from one reason or another, he found to be inferior as market sorts to some others. Instead of taking notes of these, however, we preferred to accompany Mr. Walker over his collection, and to note varieties that he had found to be worth planting, and if planted, worth keeping in a market garden. There are many circumstances to be considered when judging a variety as to its market value, and the following amongst others: the variety must possess a good constitution, or in the market gardener's words, it must be a "good doer," a free-flowerer, and it must certainly produce a bloom that will sell. Now, every market man knows that when he has a new variety of any plant to place on the market he must wait to see whether or not it will sell or "take," and he must not always be guided by his own or anyone else's idea of what is prettiest. If he does, he may have cause to regret it, and may perhaps say hard words about the B. P. Again, it is never desirable to keep two varieties with somewhat similar flowers, which bloom at the same time; but, on the other hand, it may be advisable to have a variety with flowers similar to and inferior to another one, but which is a few days earlier or later in blooming. All these and other considerations have been well noted by Mr. Walker before he came to the conclusion that, for the present at any rate, the varieties given below are the best, and the essential ones for the market grower. The bloom from several of the best known and early varieties had been harvested, including princeps, Golden Spur, Tenby, and others.

Edward Leeds is not one of the best trumpet kinds, but it is late, and, in this respect, useful; Emperor, Empress, and Horsfieldii are, of course, thoroughly good. The last-named somewhat resembles Empress, but is quite distinct, and rather earlier. Bicolor grandis is late, and the flower very good. Minnie Hume, with a large white perianth, and short spreading lemon-coloured cup, is considered the very best in the Leedsii group yet planted largely. Princess Mary has been planted more largely than any other of the single incomparabilis section, and is highly esteemed; the perianth is pale cream, and the fine cup is much suffused with orange-scarlet—it is a grand flower, and the plant a good grower. Cynosure is also good. Of the Barri section, none of those yet planted in quantity is better than conspicuus, with fine yellow perianth, and pretty orange-scarlet-tipped cup. Mr. Stevenson has a white perianth and yellow cup, fringed with scarlet when very fresh only. Maurice Vilmorin has a creamy-white perianth, and orange-scarlet-tipped cup. The Poet's Narcissus (N. poeticus) is a capital market sort, and the best of the varieties is Poetarum, being a magnificent white Pheasant's-eye, with the cup uncommonly coloured with scarlet. Of the Burbidgei group, the variety Jno. Bain is a good one; perianth white, with short orange-coloured cup. Then there are double varieties, such as Orange Phœnix and Sulphur Crown, excellent flowers for market, and very pretty.

Nelsoni major of the Nelson group has given satisfaction, the perianth is white, and the cup yellow.

Passing from these which have all been proved of high-class market value, we notice a number of newer kinds which Mr. Walker is testing on a border, some of which he is increasing as fast as possible for planting in the open field. One of these is J. B. M. Camm, which bears a drooping flower, the perianth white, and the trumpet soft pale yellow; this is an excellent flower, and the stock is being "worked." Then there is Madame de Graaff, with rather a larger trumpet than the last-named; also grown for general planting. Captain Nelson will be added to the yellow-trumpet section, and C. J. Backhouse is to be used also—the perianth of this is yellow, and the cup deep orange-scarlet. Beauty is another one to be increased, it has a very large yellow perianth and short cup with much orange. Gloria Mundi will make an excellent market kind, and will be planted when the stock is large enough. The same may be said of Leedsii Beatrice, and Mrs. Langtry, the latter has a white perianth and lemon cup, is extra floriferous, and has an uncommon constitution. Katherine Spurrell of the same section is a good flower, perianth large, white; cup, yellow, very wide; a better bloom than Mrs. Langry, but the bulbs increase slowly. Yet another of the Leedsii section is Magdeline de Graaff, and this is esteemed worthy of increase. Duchess of Westminster is one of the best of all single white Daffodils, and has very large flowers, cup tinged with orange-scarlet when first opened. A variety of N. poeticus, named grandiflorus, is a splendid flower, white, the cup tinged or suffused with a shade of crimson. Such are the varieties of Narcissus which find favour with Mr. Walker. Some are omitted from notice that are very early-flowering, but those given represent the bulk of the collection.

In the 70-acre field in which the Daffodils are grown there are also quantities of Pæonies and other hardy plants. Fruit-trees of the leading market kinds have also been very largely planted, and in each case may be seen the result of the very careful and liberal cultivation which Mr. Walker extends to all his plants. Thorough deep-ploughing, liberal manuring, and good cultivation generally, are putting this enthusiastic cultivator into a very favourable position for answering the oft-repeated enquiries—Does fruit-growing pay? Does market-gardening generally pay? Evidently, very much depends upon the man who is at the helm.

SOCIETY.

EASTBOURNE.

May 7 and 8.—This was a very successful show, and the floral hall at the Devonshire Park was a blaze of colour. Mr. J. Carpenter, gr. to H. Dewhurst, Esq., was 1st for a tastefully arranged circular group, having some fine examples of Lilium Harrisii, Crotons, Spanish Iris, with a few Orchids and Ferns comprised the remainder. Mr. Jupp, gr. to Alderman Boulton, was a close 2nd, and he also took 1st for stove and greenhouse plants.

A fine piece of Dendrobium thyrsiflorum was the chief object among a collection of Orchids from Mr. C. S. Wadey. Mr. Mills, gr. to B. Fox Watkins, Esq., showed a nice collection of stove and greenhouse cut flowers, the best of which were Dendrobium thyrsiflorum, Cypripedium barbatum, Vanda suavis, Odontoglossum triumphans, and Cymbidium Lowianum. Messrs. Fuller, Carpenter, Gore, and Jupp were 1st respectively, in the order of their names, in fairly well contested classes, for four Ericas (Cape Heaths) and Cinerarias, Pelargoniums, Spiræas, and four Azalea indica varieties in flower, Lily of the Valley and Mignonette. Mr. G. Watson and Mr. Jupp were very heavy prize-takers in the classes for plants.

Cut Flowers.—For stove and greenhouse kinds, Mr. W. Mills, gr. to B. Fox Watkins, Esq., was a capital 1st; Mr. A. E. Brook taking similar honours for a collection of hardy flowers and for Roses. Mr. Gore was 1st for Carnations.

Strawberries, in pots, were above the average, Mr. Gore beating Mr. Putland here, but having to succumb to Mr. T. Fuller in a class for picked fruit.

There were numerous smaller classes, but much the same winners figured all through, now and again changing places. Miss Nellie Symons and Miss Annie Stanton were the only competitors for table-decorations, and won in like order. A good concert was held as a further attraction, and brought together a numerous company. The Duke of Devonshire sent a number of plants from Compton House Gardens, not for competition, as also did Mr. T. Durrant Young and Mr. Scott. Mr. Young contributed cut blooms of Tulips, many of which deserved special attention. It was, as a whole, a good show, and we hope to find the financial position of the Society considerably improved.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

District.	Temperature: Above (+) or below (−) the Mean for the week ending May 4.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1895.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1895.	Rainfall: More (+) or less (−) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1895.	Rainfall: Total Fall since Jan. 1, 1895.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	44	5	— 13	+ 265	2 —	52	14·0	29	27
1	2 +	49	7	— 61	+ 422	3 —	64	8·1	43	32
2	2 +	46	1	— 12	+ 288	3 —	70	9·0	44	30
3	1 +	55	1	— 20	+ 397	4 —	65	6·8	53	33
4	1 +	50	5	— 46	+ 380	2 —	57	7·7	55	30
5	0 aver	56	4	— 95	+ 336	4 —	54	6·7	55	31
6	0 aver	47	5	— 49	+ 373	2 —	70	9·7	40	28
7	1 +	47	0	— 58	+ 309	1 —	62	9·2	51	30
8	0 aver	51	1	— 102	+ 339	3 —	61	10·7	61	37
9	0 aver	51	6	— 99	+ 280	3 —	76	10·0	37	28
10	1 —	52	4	— 134	+ 198	2 —	66	11·8	51	31
*	1 —	55	0	— 120	+ 248	3 —	71	9·4	64	44

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending May 4, is furnished from the Meteorological Office.—

"The *weather* during this period was fine, bright, and dry generally. Some rain, however, occurred in the extreme west and north during the earlier part of the week, and at nearly all our stations during either Tuesday or Wednesday.

"The *temperature* was rather above the mean over the major part of Great Britain, but only just equalled it in 'England, S. and S.W.,' as well as in 'Scotland, W. and

Ireland, N.,' while in 'Ireland, S. and the Channel Islands' it was slightly below the normal. The highest of the maxima, which occurred on very irregular dates, ranged from 70° in 'England, S.W.,' and 67° in 'England, S. and Ireland, N.,' to 62° in 'England, N.W.,' and to 59° in the 'Channel Islands.' The lowest of the minima were recorded, as a rule, either on May 2 or 3, and varied from 28° in 'England, S.W., and 30° in 'Scotland, E. and Ireland, N.,' to 36° in 'England, N.E.,' and to 41° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts. In 'England, E. and S.,' the fall was extremely slight.

"The *bright sunshine* was rather less than the normal in 'Scotland, N. and Ireland, N.,' and just equal to it in 'Scotland, W.;' in all other parts of the Kingdom, however, there was a decided excess. The percentage of the possible duration ranged from 29 in 'Scotland, N.,' and 37 in 'Ireland, N.,' to between 51 and 55 over the greater part of England, to 61 in 'England, S.W.,' and to 64 in the 'Channel Islands.'"

Obituary.

MR. THOMAS HOGG.—We regret to have to announce the death of Mr. Thomas Hogg, the head of the old-established seed and nursery business of Hogg & Wood of Coldstream, N.B. Mr. Hogg had been in indifferent health for some months, and notwithstanding frequent visits to the various health resorts of the Continent, and voyages to America and the Mediterranean, his constitution was unable to resist a complication of ailments. Mr. Hogg was visiting the salt baths at Droitwich when he died on the morning of the 4th inst., aged seventy-four. He was a justice of the peace for Berwickshire for many years. *Journal of Horticulture, May* 9.

MR. JOHN WALKER, of the Thame Nurseries, Oxfordshire, died on Wednesday, May 8, after an attack of apoplexy. Mr. Walker, who was seventy-six years of age, was a successful exhibitor of Roses and Dahlias at all the leading shows in England.

MARKETS.

COVENT GARDEN, May 9.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	2 6	3 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Daffodils, double, dozen bunches	1 6	2 0
— single, doz. bun.	2 0	3 0
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Hyacinths (Roman), doz. sprays	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	4 0	5 0
Lilies of the Valley, doz. sprays	1 0	2 0
Lilium Harrisii, per dozen	2 6	3 6
Maidenhair Fern, per 12 bunches	6 0	9 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Pelargoniums, scarlet, per 12 bunches	8 0	12 0
— 12 sprays	0 8	1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	6 0	8 0
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Iris, per doz. buns.	18 0	24 0
Stephanotis, dozen sprays	3 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parma (French), p. bch.	2 6	3 6
— Czar (French), per bunch	1 9	2 0
— doz. bunches	2 6	3 0
— (English), per dozen bunches	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Azaleas, per doz.	30 0	48 0
Cinerarias, per doz.	8 0	12 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica Cavendishii, per dozen	36 0	42 0
— hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz.	9 0	12 0
Genistas, per doz.	9 0	12 0
Heliotrope, per doz.	9 0	12 0
Hydrangeas, p. doz.	12 0	18 0
Hyacinths, per doz.	9 0	12 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, doz.	12 0	18 0
Rhodanthe, per doz.	9 0	12 0
Spiræas, per doz.	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cobs, per 100 lb.	18 0	20 0
Figs, per dozen	6 0	8 0
Grapes, 1st quality, black, English, per lb.	3 0	4 0
Melons, each	2 0	3 0
Peaches, per dozen	12 0	24 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	3 0	4 0
" " 2nds., lb.	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0
Beans, per lb.	0 6	0 8
Cauliflowers, p. doz.	1 0	—
Cucumbers, per doz.	3 0	4 0
Mint, per doz. bun.	2 0	6 0
Mushrooms, per lb.	0 6	0 8
Peas, ordinary, lb.	0 6	0 10
— Telephone, lb.	0 10	1 0
Potatos, Channel Islands, per lb.	0 4	0 5
Seakale, p. punnet	0 6	0 9
Tomatos, Home-grown, per lb.	1 0	1 3

OLD POTATOS.

Stocks held by the large dealers and farmers are in some instances heavy, and the late arrivals in London have not been selling freely even at lower prices. The continental supplies are also fairly heavy, consequently still lower prices are anticipated during the coming week.

NEW POTATOS.

These are now in general demand at better prices. Best Malta kidneys, 16*s.* to 18*s.* per cwt.; do., rounds, 13*s.* to 15*s.* do.; Canary Islands kidneys, 13*s.* to 18*s.* do.; do., small kidneys, 6*s.* to 9*s.* do.; Channel Islands do., 5*d.* to 7*d.* per lb. *J. B. Thomas.*

SEEDS.

LONDON: *May* 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a fair number of sowing orders still drop in for farm seeds. Prices all round are closing up at a very moderate level. Fine new spring Tares now offer on very tempting terms. Canary-seed just now is an interesting article, and quotations, as a result of a proposed speculative movement, are decidedly stronger. Hempseed keeps steady. For Mustard and Rape-seed the tendency is upwards. Scarlet Runners are in revived and active request, and realize 1*s.* per bushel more money. Low rates are quoted for Canadian Wonder Beans. Haricots continue scarce and firm. The new crop of Blue Peas is reported to have suffered some damage.

FRUITS AND VEGETABLES.

BOROUGH: *May* 7.—Quotations:—Carrots, 1*s.* 9*d.* to 2*s.*; Turnips, 2*s.* to 2*s.* 6*d.*; Sprouting Broccoli, 1*s.* 6*d.* to 2*s.* per bag; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Onions, English, 4*s.* to 6*s.* per cwt.; do., foreign, 3*s.* to 4*s.* per bag; Apples, 3*s.* to 9*s.* per bushel; do. Canadian, 12*s.* to 18*s.* per barrel; do. Tasmanian, 5*s.* to 10*s.* per case.

STRATFORD: *May* 8.—With a good supply of all kinds of produce during the past week, a brisk trade was done at the undermentioned prices:—Cabbages, 4*s.* to 7*s.* per tally; Greens, 2*s.* 3*d.* to 2*s.* 9*d.* per sieve; sprouting Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.* per bushel; do., 2*s.* 6*d.* to 4*s.* per bag; Cauliflowers, 6*d.* to 2*s.* per dozen; do., 2*s.* 6*d.* to 8*s.* per dozen bunches; Onions, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen bunches; Cucumbers, 2*s.* to 4*s.* per dozen; Radishes, 9*d.* to 1*s.* per dozen bunches; Scotch Kale, 1*s.* 6*d.* to 2*s.* 6*d.* per bushel; Spinach, 1*s.* 3*d.* to 1*s.* 9*d.* per bushel; Carrots, household, 24*s.* to 40*s.* per ton; do., cattle-feeding, 14*s.* to 18*s.* do.; Parsnips, 3*d.* to 6*d.* per score; Mangels, 10*s.* to 14*s.* per ton; Onions, English, 80*s.* to 90*s.* do.; do., Dutch, 1*s.* 6*d.* to 2*s.* 6*d.* per bag; do., Egyptian, 4*s.* to 5*s.* per case; Apples, English, 2*s.* 6*d.* to 7*s.* per bushel.

FARRINGDON: *May* 9.—Quotations: Sprouting Broccoli, 1*s.* 6*d* to 2*s.* per bushel; Spring Onions, 3*s.* to 4*s.* per dozen bunches; Rhubarb, 1*s.* 6*d.* per dozen bunches; Bunch Greens, 5*s.* to 6*s.* per dozen bunches; Asparagus, 1*s.* to 1*s.* 3*d.* per bundle; Peas, 4*s.* 6*d.* per box of about 2 pecks; Leeks, 1*s.* 3*d.* per dozen; Carrots, 6*d.* per bunch; Turnips, 8*d.* do.; Cucumbers, 4*s.* per dozen; Beets, 1*s.* 6*d.* per bushel; Parsley, 4*d.* per bunch; Radishes, round, 10*d.* per dozen bunches; long do., 4*d.* do.; Apples, Tasmania, 7*s.* 6*d.* to 10*s.* 6*d.* per case; Canadians, 12*s.* to 15*s.* per barrel.

POTATOS.

BOROUGH: *May* 7.—Quotations ranged from 80*s.* to 120*s.* per ton; Teneriffe Kidneys, 14*s.* to 16*s.* per cwt.

STRATFORD: *May* 7.—Quotations:—Magnums, English, 65*s.* to 75*s.*; do., light soil, 80*s.* to 100*s.*; Bruces, 85*s.* to 100*s.*; Maincrop Kidneys, 90*s.* to 105*s.*; Scotch Magnums, 90*s.* to 105*s.*; do., Bruces, 100*s.* to 110*s.*; do., Maincrop, 110*s.* to 120*s.*; German Magnums, 4*s.* to 5*s.* per bag.

FARRINGDON: *May* 9.—Quotations:—Sutton's Abundance, 90*s.* to 100*s.*; Bruces, 85*s.* to 90*s.*; Imperators, 95*s.* to 110*s.*; Scotch Dunbar, 120*s.* to 130*s.*; Main Crop Kidneys, 90*s.* to 100*s.* per ton.

LONDON AVERAGES: *May* 8.—Quotations:—Dunbars, 100*s.* to 120*s.*; Hebrons, 100*s.* to 110*s.*; Magnums, 80*s.* to 90*s.*; Champions, 70*s.* to 80*s.* per ton. New: Maltese, 15*s.* to 16*s.*; Lisbons, 12*s.* to 15*s.* per cwt.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90*s.* to 110*s.*; do., inferior, 60*s.* to 80*s.*; hay, best, 80*s.* to 90*s.*; do., inferior, 30*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 30*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending May 4, and for the corresponding period last year:—Wheat, 21*s.* 4*d.*; Barley, 20*s.* 5*d.*; Oats, 14*s.* 8*d.*; Wheat, 24*s.* 10*d.*; Barley, 26*s.*; Oats, 18*s.* 7*d.*

VARIORUM.

SCIENCE AND PRACTICE.—On March 27 the anniversary meeting of the Chemical Society was held, and from the speech made on the occasion by the Right Hon. A. J. Balfour, M.P., we quote the following extracts:—"I have to admit on looking back on the history of civilisation, that if we want to isolate the causes which, more than any other, conduce to the movements of great civilised societies you must not look to the politicians of the hour on whom, it may be, all eyes are fixed; you must look to those who, often unknown by the multitude, whose work, it may be, is never properly realised by the men of their country till after they are dead—we must look on them and on their labours to find the great sources of social movements. It is to those who, very often with no special practical object in view, casting their eyes upon no other object than the abstract pure truth, which it is their desire to elucidate, penetrate further and further into the secrets of nature and provide the practical man with the material upon which he works—these are the men to whom, if you analyse the social forces to their ultimate units, we owe most . . . . . It may be, however, that though, as a nation, we have been as productive as other nations—I put it modestly—in the men of genius who have made these fundamental discoveries, we have not, as a nation—and I do not think we have—sufficiently realised how great a bearing theory in these modern days must necessarily have upon practice if we are to keep pace with the rest of the world. We have produced great theorists—none greater. We have produced men of great practical genius—none greater. I am not sure, however, that at this moment we are not behind one at least of the great nations of the continent, perhaps more than one, in the art of combining theory and practice—in the art of so welding together in a great organic and self-supporting whole the man of genius, who at one end of the scale discovers a new law of nature, and the man of practice on the other hand, whose business it is to turn these discoveries to account. . . . . While I think that those who object to technical education have some justification, it yet remains true that if you include as you ought to include, within the term technical education, the really scientific instruction which would turn scientific discoveries to practical account—if that is what you mean, or what you ought to mean, by technical instruction, then there is nothing of which England has at this moment any greater need, and there is nothing which, if she, in her folly determines to neglect it, will more conduce to the success of her rivals in the markets of the world and to her inevitable abdication of the position of commercial supremacy which she has hitherto held. I do not deny that manufactures and commerce have received an immense amount of gain from theoretic investigations, and, as everybody will admit who has even the most cursory acquaintance with, let us say, the history of discoveries in electricity and its organising power, science has been the means of great gain through industrial development. While all these things are true, I am the last person to deny that it is a poor end, a poor object for a man of science to look forward to, of merely making money for himself and other people. After all, what is the effect of science on the world is almost incalculable that effect can only be gained in the future, as it has been gained in the past, by men of science pursuing knowledge for the sake of knowledge, and for the sake of knowledge alone; and if I thought that anything that had dropped from me to-night had given ground for the idea that I looked on science from what is called a strictly utilitarian point of view, measured its triumphs by the number of successful companies which it had succeeded in starting or the amount of dividends which it gave to capitalists or even by the amount of additional comfort which it gave to the masses of population, I should greatly understate my thoughts . . . . . Truth, not profit, must necessarily be the motto of every body of scientific men who desire to be remembered by posterity for their discoveries."

Answers to Correspondents

. *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

. Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Asparagus: *R. King.* There are many varieties, some really distinct, others having differences due to soil and methods of cultivation. The head sent, seems to be that of the Early German White variety.

Cucumber Plants Diseased: *F. Ackland.* The Cucumbers are attacked by a fungus closely related to the one causing the Potato disease; remove and burn all affected plants, and spray with a solution of Bordeaux Mixture, seeing that the leaves are wetted, especially on the under side; remove all the soil from the house before planting again. *G. Massee.*

Cucumbers: *H. W.* There is no fungus present in the portions sent, and the injuries are probably due to errors in treatment. *G. Massee.*

Insects.—Dendrobium Stems (Pseudobulbs) bored into by Insect: *J. Woolford.* They are the same species which was identified and named in the *Gardeners' Chronicle* last August, namely Xyleborus morigerus, Bandf. I believe them to be natives of New Guinea. Recollecting that no stems can be infested without external signs, i.e., that a burrow from the outside must precede egg-laying, I think that the continuous observation of the plants in order to destroy the affected parts in which burrows are noticed, should suffice to get rid of them, if properly and frequently carried out, without necessitating the destruction of the entire plants, as suggested by our correspondent. *W. F. H. Blandford.—Jelly Manufacturer.* The Currant-bud mite, often figured and described in these columns. Burn all the affected shoots. Encourage tom-tits. *—F. T.* Please not to send questions relating to subscriptions to the editor, but to the publisher. Your Melons have eel-worms in the roots. Burn the affected plants, and get some fresh soil. The flower is Pyrus japonica; the fruit is not poisonous, but is not good to eat.

Jadoo Fibre: *H. M.* You will find a note in our Home Correspondence this week which may afford the information sought.

Names of Plants: *W. H. D.* 3, Arabis bellidifolia; 6, Saxifraga hederacea.—*W. M.* Erophila vulgaris, which used to be called Draba verna.—*G. L.* The common Morel, Morchella esculenta. We found no other plant in the box.—*S. B.* Dendrobium chrysotoxum. Yes, it is unusual.—*M. F.* Iris Parkor ×. Best thanks, next week.—*Constant Reader.* Amelanchier vulgaris. Never pack flowers in cotton wool.—*K. C.* 1, not found; 2, Ribes aureum; 3, Sambucus, variegated Elder; 4, Phalaris arundinacea variegata; 5, Ruscus aculeatus, Butcher's Broom; 6, Chelidonium majus. *T. W.* Ranunculus aquatilis; the Gloxinia has a supplementary corolla outside the ordinary one. It is not very uncommon.—*Erin* 1, perhaps Leycesteria formosa, specimen insufficient; 2, Cupressus sempervirens, probably; 3, Choisya ternata; 4, Pittosporum tenuifolium; 5, Ruscus racemosus; 6, Olearia Haastii; 7, Prunus Pissardi.—*M. W. J.* 1, Dendrobium Parishii; 2, Cryptomeria japonica var. elegans; 3, Cupressus sempervirens; 4, Prunus Padus, Bird Cherry; 5, Thuya dolabrata; 6, Amelanchier vulgaris.—*S. A., Bromley.* Billbergia nutans.—*K. F.* 1, Herniaria glabra; 2, Sedum glaucum; 3, apparently Chrysosplenium oppositifolium; 4, why send such wretched scraps?—*J. R. Reid.* Epimedium pinnatum.

Notice to Quit Employment: *A. G.* A month's notice on either side, if there be no agreement; or an equivalent amount of money, including rent of cottage, &c., to the servant if he leave at once. If gross misconduct be proved, the master has the right of instant dismissal.

Peach Leaves: *J. Cockrane.* The holes and ragged edges noticed on the leaves are the work of a small green caterpillar, probably Cerostoma persicella, a light green-coloured lively creature, which on the slightest movement of the leaf, lets itself down to the ground by a thread. Wash the trees with tobacco and soft-soap, or quassia 2 oz., and soft-soap 2 oz, to 1 gal. of water, boiled and applied cold.

Pink and Carnation: *W. B. & Sons.* The Pink Her Majesty, pure white, and very large and full, is an excellent variety, better almost than anything that we have remarked of its kind. Pride of Penshurst Carnation seemed to us to be larger than ordinarily seen. We believe there are two varieties of this Carnation in existence, one robust, with no tendency to split, and the other weaker, with a calyx which splits generally; neither has fragrance.

Plum Shoots: *Q. R.* The shoots have now been examined by an expert, and no trace of fungus found. It is possible the appearances are due to the action of frost.

Ringing or Apple Shoots: *W. O.* Probably due to the larvæ of a saw-fly. We fear there is nothing but handpicking likely to be of any use. Encourage starlings and tomtits.

Stems of Fruit Trees Bored: *A. H. A.* The injury is probably caused by the caterpillar of the Wood Leopard-moth, Zeuzera Æsculi. Squirt petroleum into the holes (which go upwards), or kill the caterpillars with a piece of wire thrust up the hole.

Tomatos: *T. P. R.* If the clusters are weighty, it will be prudent to give them support in some way; slinging them with moderately broad strips of bast, tape, netting, &c.

Tomatos: *T. P. R. and A. S., Ilkeston.* Your fruits are attacked by the black spot fungus, Cladosporium lycopersici (fig. 85). It is liable to attack all varieties, and under any system of cultivation.

Fig. 85.—Black spot on tomato (Cladosporium lycopersici).

You might try sprayings with the Bordeaux Mixture, but all fruits attacked must be removed and burned as soon as they are noticed.

Tomatos Diseased: *D. & M.* Dress the plants with Bordeaux Mixture, which is made by mixing 10 lb. copper sulphate and 20 lb. quicklime, in 30 gallons of water.

Water Lilies and Aponogeton distachyon: *K. L.* Unless you can prevent the petals from closing the first evening for good, Lily blooms are but of little value to the cut flower dealers. The blooms of Aponogeton might find a limited sale. We cannot recommend dealers. For names and addresses, obtain the *Fruit Growers' Year-Book*, "Cable" Office, 30, Fleet Street, London, E.C.

Wood Garlic: *W. H. K.* Bare ground might be cleared of the evil-smelling weed by dressings of gas-lime or salt; but where trees and shrubs exist, you must mow off the tops early in the year, and keep the Dutch-hoe diligently plied, and then in the course of years the plant may disappear.

Communications Received.—J. McHutcheon.—A. H. K., with many thanks.—L. B., New York.—J. W.—W. M.—W. O.—H. J. C.—N. F. B., next week.—J. S. N., next week. R. McLachlan—U. D.—E. C.—E. H. J.—J. D.—H. W.—Harrow.—G. W.—J. Mayne—E. M.—Q. R.—R. D.—H. C. P.—J. R. J.—B. S.—R. W. W.—W. J. B.

Photographs Received.—J. C., with many thanks, will be used later on.

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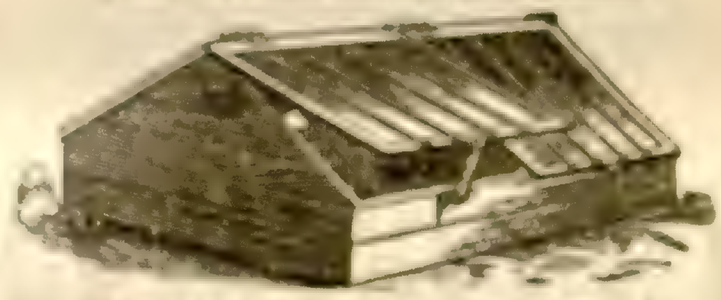

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6 feet " 4 feet "	PRICES,	2	5	0
12 feet " 4 feet "		4	0	0
6 feet " 5 feet "	CARRIAGE	2	15	0
12 feet " 5 feet "		4	15	0
12 feet " 6 feet "	PAID.	5	12	6

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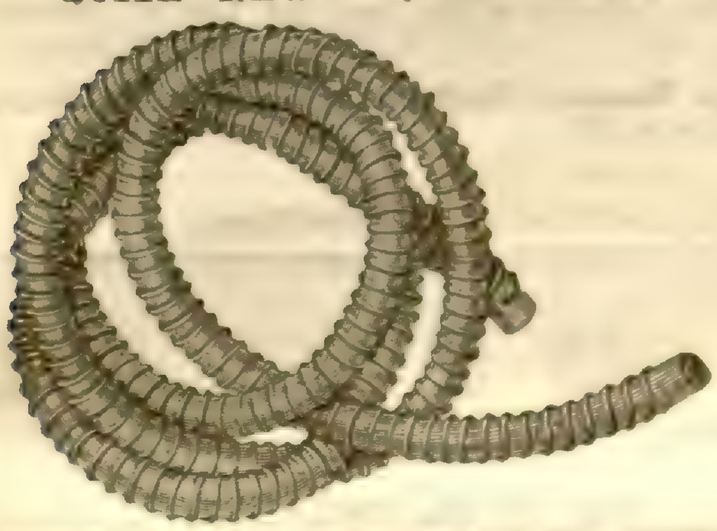

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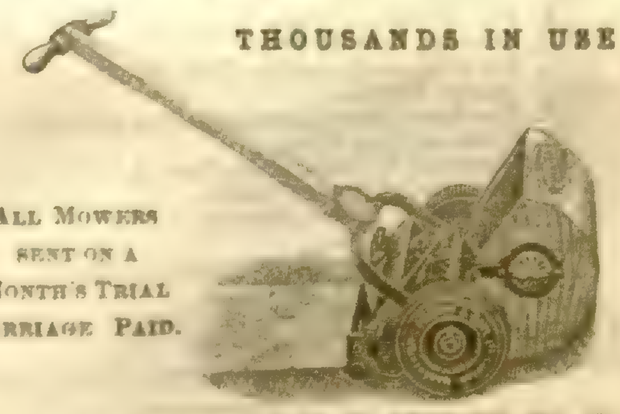

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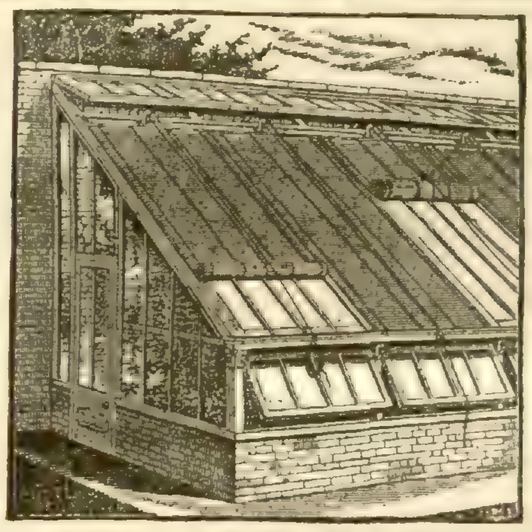

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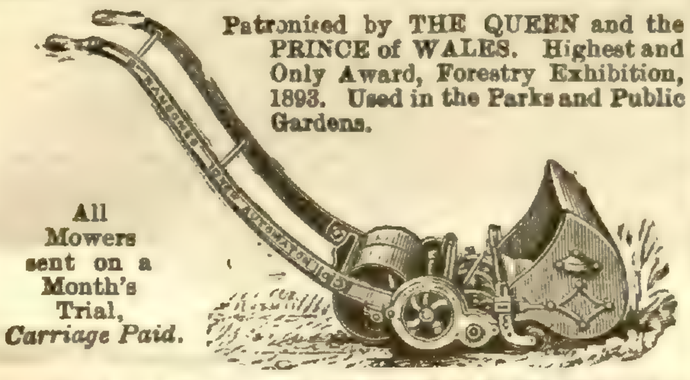

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WANTED, active JOBBING HANDS.—Willing young fellows preferred.—WIMSETT & SON, Florists to the Queen, Chelsea.

WANTED, an active young MAN, as SECOND, Inside.—Wages 18*s.* per week, no extras. State experience.—F. PILCHER, Holbrough Court Gardens, Snodland.

WANTED at ONCE, a strong, active young MAN, quick at Potting, Watering, and Tying. No bothy.—State age, wages expected, and experience, to MANAGER, Llys-onen Gardens, near St. Clears.

WANTED, young MAN to Grow Ferns, Palms, &c., Cut Flowers, and Bedding Plants.—Apply, ROBT. GRAHAM, Nurseryman, Newmarket.

WANTED, an ASSISTANT next to the Foreman, in our Herbaceous and Carnation Department. Must be active and intelligent, with good experience.—Apply by letter only, stating age, experience, &c., to WM. CUTBUSH AND SON, Highgate Nurseries, London, N.

WANTED, an energetic young MAN as Wreath and Bouquet-maker, and Salesman; one used to market preferred.—J. GRIFFIN, Florist, Market Hall, Southport.

WANTED, MAN about 20, to live Indoors (Nursery), who can Tie, Pot, &c. Good character. Abstainer.—W. CARTER, 17, Vicarage Road, Croydon.

WANTED, a SEEDSMAN ASSISTANT, having first-class knowledge and experience, specially Flower Seeds, Bulbs, and Plants, expert at work, good Salesman, and capable of general charge. Liberal wages.—Apply, with full particulars of experience and age, which will be treated in confidence, Box 100, 41, Wellington St., Strand, W.C.

WANTED, a YOUTH, about 18, to Assist in Gardens, and clean knives and boots, &c.—Apply, by letter, giving all particulars (can lodge with Gardener), to MOORE, 2, Seaford Cottages, Stratford Road, Hendon, N.W.

WANTED, immediately, HANDY MAN, single, for The Gardens, Brocklesby Park, Lincolnshire; one used to general Garden work. Painting and Glazing, Carpentering, Hot Water, &c.; 18s. per week.—Apply to E. F. HAZELTON.

WANTED, a SHOPMAN, for the Midland Counties, principally for the Flower Seed Department.—Apply, HARRISON AND SONS, Seed Growers, Leicester.

CLERK WANTED (a young man preferred), who has a knowledge of Plants, and who has been used to Office-work in a Nursery.—Apply, in own handwriting, with copies of testimonials, wages required, and all particulars, to SANDER AND CO., St. Albans.

WANTED Immediately, a NURSERY CLERK.—Good correspondent, a neat and quick writer. Must be sober. One well up in shorthand or type-writing preferred. State age, experience, and wages required at earliest.—J. L. S., 41, Wellington Street, Covent Garden, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—G. JESSOP, age 33, married, one child, offers his services to any Nobleman or Gentleman requiring a thoroughly practical man; well up in Landscape or All-round Gardening. Reference permitted to the Dowager Lady Howard de Walden, and Mr. Coleman, Estate Agent, Eastnor.—Sansome Lodge, Sansome Walk, Worcester.

GARDENER (HEAD).—Age 39, married, no family; twenty years' experience; eleven years in last situation.—JAMES HANWELL, Mr. W. Turner, Green Hill Lane, Alfreton, Derbyshire.

GARDENER (HEAD).—Age 40; thoroughly practical and experienced in all branches. Fourteen years' excellent recommendation from owner of a large private place.—N., Messrs. B. S. Williams & Sons, Holloway, N.

GARDENER (HEAD).—Age 34; married; no family. Has good practical experience in all branches; for the past eight years with the late T. TWINING, Esq., Perryn House, Twickenham. High-class recommendations and personal references.—C. B., 1, Albert Road, Staten Gardens, Twickenham.

GARDENER (HEAD), where others are kept.—Age 35, married, Scotch; twenty years' thorough practical experience in good establishments; seven years in present situation; leaving through death; highest references.—LINDSAY CARSTAIRS, Brooklands, near Halifax, Yorks.

GARDENER (HEAD); age 35, married.—JAMES CYPHER can with every confidence recommend an exceptionally good Man as above. Ten years in last place af Head. Well up in the culture of Fruits, Plants, Orchids, Flower, Kitchen, and Pleasure Gardening, all kinds of Early and Late Forcing.—JAMES CYPHER, Queen's Road, Cheltenham.

GARDENER (HEAD), where two or more are kept; age 31; married.—A GENTLEMAN wishes to recommend his late Gardener to anyone requiring a good practical man.—A., 21, Ravensbury Cottages, Mitcham, Surrey.

CHARLES BERRY, HEAD GARDENER, Goldrood, Ipswich, is open to re-engagement; four years with Hon. Stanhope Tollemache; recently with present owner, William Pretty, Esq., J.P.

GARDENER (HEAD); age 32; married.—A Lady giving up her establishment, wishes to recommend her Gardener to any Lady or Gentleman in want of a trustworthy and practical man; experienced in all branches, including Orchids. Excellent character.—J. SMITH, Heathfield, Saltwell Park, Gateshead-upon-Tyne.

GARDENER (HEAD).—Single at present; twenty years' good all-round experience in good establishments; two years as Head. Abstainer. Good testimonials.—GARDENER, 6, Railway Place, Wimbledon.

GARDENER (HEAD WORKING), where three or more are kept.—Age 30, married, no family; thoroughly experienced with Vines, Peaches, Melons, Tomatos, Cucumbers, &c.; Flower and Kitchen Garden, and the general routine of a thorough good place. Three years' excellent personal character as to abilities.—WELLSTED, Purbrook, Cosham, Hants.

GARDENER (HEAD WORKING).—Age 27; married when suited.—JOSH VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING), where two or more are kept.—Age 29. Excellent characters from previous employers.—T. ATTWOOD, 17, Helvetia Street, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING).—Age 30; life experience. Thoroughly versed in all branches of the profession, having practised in some of the best kept Gardens in the country, including Tring Park, Aldenham House, Stanmore Hall, &c. Testimonials from the Head Gardeners at the above places, and can be highly recommended by C. G. Kekewich, Esq., The Downe, Eistree.—NAYLOR, St. Hilda's, Harrow.

GARDENER (HEAD WORKING), where three or more are kept.—Age 39, married, no family. Life experience in all branches of Gardening. Has had management of Pasture Land. Good character.—A. H., 2, Glenfield Villas, Chorleywood, Rickmansworth.

GARDENER (HEAD WORKING), age 32.—Sir THOMAS BAYLEY wishes to recommend W. Burley, who has been with him five years. Thoroughly experienced in all branches.—BURLEY, Hatherop, Fairford.

GARDENER (HEAD WORKING), where more are kept).—Age 30, married, one child; thoroughly qualified in all branches. Good character.—K. H., 22, Union Street, Stonehouse, Plymouth, Devon.

GARDENER (HEAD WORKING).—Experienced in Grapes, Peaches, Orchids, Forcing, &c. Competent to manage a large establishment; first-class Grower. Gained number of prizes and certificates. Thoroughly sober; recommended.—F. R., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 41, married, no family. Extracts from five years' characters. Lincolnshire and Leicestershire: Good all-round man. Herefordshire: First-rate. Present employer seven years: Excellent.—JOHN SCOUSE, Foliejon Park, Windsor.

GARDENER (HEAD WORKING), where one or two are kept.—Age 32, married, two children; fourteen years' experience in all branches of Gardening. Thoroughly recommended by present and previous employers.—H. E., Ivy Cottage, Millfield Lane, Highgate.

GARDENER (HEAD WORKING); age 35, married, no family.—A GENTLEMAN can highly recommend a thoroughly practical man in all branches of the profession. Leaving through place being sold.—J. W. S., 77, High Street, High Barnet, Herts.

GARDENER (HEAD, or good SINGLE-HANDED).—Married, one child at home, age 10. Life experience; eight years in present situation. Disengaged when suited. Cottage or Lodge preferred.—J. R., 14, Woodstock Road, Shepherd's Bush, London.

GARDENER (HEAD, or good SINGLE-HANDED).—A GENTLEMAN giving up his place would be pleased to recommend his Gardener to anyone requiring a good man. Single.—A. CHURCH, The Stables, Cerne Abbas, Branksome Park, Bournemouth.

GARDENER (SINGLE-HANDED or good SECOND).—Young married Man, age 25, experienced in all branches; well recommend d from last and previous places. State particulars to—E. PENGILLEY, Grove Villa, Taplow, Bucks.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 29, married.—F. R., 19, Garden Cottages, East Street, Epsom, Surrey.

GARDENER (SINGLE-HANDED, or SECOND).—Age 28, single; thoroughly experienced in all branches, Inside and Out. Three and a half years' good character.—J. MOORE, 27, Sidney Road, Eastbourne.

GARDENER (SINGLE-HANDED).—Age 22; wants situation as above. Two years in present place, five years previously.—C. PARSONS, Staplefield, near Crawley, Sussex.

GARDENER.—Disengaged; expert Orchid, Fruit and Plant Grower. Skilful in Laying-out Pleasure Grounds. Moderate salary. Highest references.—WILLIAM RAINER, Cottage, Whitehall Lane, Buckhurst Hill, Essex.

GARDENER (WORKING).—Long experience with Flowers, Fruit, and Vegetables, and all General Garden Work. Good character.—W. TOMALIN, Dummer, Basingstoke.

GARDENER.—E. J. BRETT, Esq., recommends his HEAD GARDENER and ORCHID-GROWER, where not less than four are kept, thoroughly conversant in every department. Age 36, married.—W. B., 41, Wellington Street, Strand.

GARDENER.—Age 23, married; total abstainer. Good character. Could undertake a small place, where one is kept.—W. MOORING, Tarlton, Gloucester, Gloucestershire.

GARDENER (good All-round).—Age 30, married; understands Orchids, Fruit, Flower, and Kitchen Gardens. Good character from last and previous employers.—HY. OVER, Alvaston, near Derby.

GARDENER.—Age 27; experience in Plants, Tomatos, Cucumbers, Melons, Peaches, Vines, and Wreath-making; five years in present situation.—S. OSBORNE, 44, Connaught Terrace, Littlehampton.

GARDENER.—Bonus of £2 for assisting advertiser to situation where assistance is given. Six years' character from last place. Practical.—J. B., 87, High Street, Notting Hill Gate, W.

GARDENER, where two are kept, or FOREMAN, without bothy.—Age 24; eleven years' experience in all branches; two and a half years in present place.—T. LAND, Gardens, Woodlands, Bradford, Yorks.

GARDENER.—Situation wanted by a strong active young man as Second in the Houses. Good experience and excellent character.—W. LAVENDER, 24, River Street, Bedford.

GARDENER.—Age 41, married; thoroughly experienced in all branches. No objection to Cow or Pony and Trap. Total abstainer. Good character.—C. FANE, Bell Lane, North Church, Great Berkhamsted.

GARDENER (SECOND, or SINGLE-HANDED).—Age 27; twelve years' experience, Inside and Out; excellent character.—R. A., Tandridge Court Gardens, Redhill, Surrey.

GARDENER (SECOND), or JOURNEYMAN (FIRST); Inside.—Seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 26. Married, when suited; eleven years' practical experience Inside and Out; abstainer; recommended.—G. HAYLOCK, Tilgate Gardens, Crawley.

GARDENER (SECOND), where about four are kept.—Age 23; nine years' experience Inside and Out. Good character from present and previous situations.—GEORGE WICKENS, The Gardens, Uplands, East Grinstead.

GARDENER (SECOND), Inside, or Inside and Out; age 24.—Mr. BURGESS, Head Gardener, Hazelwood, King's Langley, Herts, can highly recommend W. Humphrey as above. Eight years' experience.—Apply as above.

GARDENER (SECOND, or otherwise).—Age 25, married; fifteen years' experience Inside and Out, good character from all employers.—J. DANIELS, 90, Hall Place, Paddington.

£2 BONUS to anyone securing for advertiser a situation as SECOND GARDENER.—Fourteen years' experience in the general routine of gardening. Excellent character; age 27.—E. COLLINS, 32, Church Road, Watford, Herts.

GARDENER (SECOND), where four or five are kept; or JOURNEYMAN, in a good Establishment.—Age 20; well recommended. Two and a half years in present situation.—J. PITMAN, Norton, Stoke-under-Ham, Somerset.

GARDENER (SECOND, in good establishment, or SINGLE-HANDED).—Age 25, single; nine years' experience. Good references from previous places.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (SECOND), where three are kept, otherwise under a Foreman; age 25, single.—Mr. BOND, Head Gardener, The Manor House, Bathford, Bath, can highly recommend H. Slacombe as above, who has been with him two years.

GARDENER (as SECOND or SINGLE-HANDED).—Age 26, single; eleven years' experience; good references.—F. M., 41, Wellington Street, Strand, W.C.

GARDENER (UNDER).—Age 25; Inside and Out, or Kitchen Garden and Pleasure-grounds. Ten years' experience. Can be well recommended.—F. BERRIMAN, Station Road, Chertsey, Surrey.

GARDENER (UNDER).—Age 20; Inside, or Inside and Out. Four years' experience; good character.—H. DENT, Hill Terrace, Stonegravels, Chesterfield.

GARDENER (UNDER, or good SINGLE-HANDED).—Age 22; three and a-half years good character; understands horses and cows.—W. R., The Out, Bury Street, Edmonton.

GARDENER (Under).—Age 25; used to Pleasure-grounds and Kitchen Garden; help Inside if required. Two years' good character. Well recommended. —C. CHALLON, Victoria Road, Catland Park, Weybridge, Surrey.

GARDENER (Under).—Young Man, age 26; two years' experience in large Nursery. Five years' character from former situation. Total abstainer.—F. L., 33, Stoke Road, Guildford, Surrey.

GARDENER (Under), Inside and Out.—Age 20; strong, willing, and obliging; four and a half years' good character from present employer.—G. DIMMOCK, 4, Midland Cottages, Mill Hill, N.W.

GARDENER.—Young man (age 23), seeks situation as JOURNEYMAN. Bothy preferred. Good references.—S. W., Kynaston Lodge, Harrow Weald, Middlesex.

GARDENER (Under, or Single-handed on a small place).—Age 25; good character.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

GARDENER (Under), where three or more are kept.—Age 21; experienced Inside and Out; good character. Total abstainer.—J. BATTIN, Ightham, near Sevenoaks, Kent.

GARDENER (Under), Inside and Out.—Age 22, single; five years in present place; good character; bothy preferred.—F. W., Gardens, Chacombe House, Banbury.

GROWER, married.—Ferns, Cut Flowers, and all Pot Stuff. Long experience.—G. M., 125, Brettham Road, Upper Edmonton.

GROWER, age 25; well up in Cucumbers, Tomatoes, and Pot Stuff; life experience; nearly three years in present situation with one of the leading market growers.—W. S., 3, St. Joseph's Cottages, Nag's Head Road, Ponders End.

FOREMAN.—Age 24; ten years' experience. Thorough knowledge of all branches, including Fruits, Chrysanthemums, &c., for exhibition, House and Table Decorations. Excellent characters.—C. P., Mrs. Jones, 4, Lime Cottages, New Street, Hampton, Middlesex.

FOREMAN, in the Houses.—Mr. Gale, Place Gardens, Fowey, Cornwall, will be pleased to recommend F. Westcott, as above; been with him two years as Second.

FOREMAN.—Age 21; experienced in all branches, including Orchids. Two and a half years' good character from present employer; seven years' previous.—C. HARWOOD, The Gardens, Chatsworth, Derby.

FOREMAN (General), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, or JOURNEYMAN (First), Inside.—Age 26; twelve and a half years' experience. Good character.—H. BARTON, Neatishead, near Norwich.

FOREMAN, or JOURNEYMAN (First), Inside.—Age 24; ten and a half years' experience in Fruit and Plant-houses; three and a half years in last situation, two as Foreman; good recommendation.—A. BARKER, 28, Salisbury Road, Upper Holloway, N.

FOREMAN (Inside).—Age 25; experienced in Plant and Fruit-houses, Early and Late Forcing. Can be well recommended by Mr. C. Sims, Boringdon, Herts. Bothy preferred.—WM. ROBERTS, 28, Salisbury Road, Upper Holloway, N.

FOREMAN; age 26.—Mr. G. W. Marsh, Arle Court, Cheltenham, can highly recommend his late Foreman, Thomas Waller, as above. Thoroughly well up in both Fruit and Plant Houses.

FOREMAN (General), in a large establishment.—Age 29; single. Experienced in all branches. Good references; bothy preferred.—A. SHRUBB, Puttenham, Guildford, Surrey.

JOURNEYMAN, in the Houses, under a Foreman.—Age 26; bothy preferred.—W. JONES, Scot Hall Gardens, Buslingthorpe, Leeds.

JOURNEYMAN (Inside, or Inside and Out).—Age 23; nine years' experience; good reference. Private preferred.—E. GOULD, 2, Kerrara Terrace, Whitley Road, Eastbourne, Sussex.

JOURNEYMAN (Inside, or Inside and Out).—Age 20; four years' experience; eighteen months in present situation; can be highly recommended.—A. HERBERT, Warfield Hall, Bracknell, Berks.

JOURNEYMAN, under a Foreman, Inside, or Inside and Out.—Age 22; six years' experience of General work. Excellent references.—J. SMITH, Rocks Farm, Limpsfield, Surrey.

JOURNEYMAN, Inside and Out.—Mr. Osman can with confidence recommend a young man (age 22), as above.—C. TOMLIN, The Gardens, Ottershaw Park, Chertsey.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; eight years' experience in Market and other Nurseries. Close on the sea preferred. Excellent references.—C. B., 14, Rosy Villas, Richmond, London.

JOURNEYMAN, Inside or Inside and Out.—Age 22; four years' good character; well recommended. Can use scythe.—W. COOK, The Gardens, Beechcroft, Oatlands Park, Weybridge, Surrey.

JOURNEYMAN (First).—Age 26; eleven years' experience in good places. Excellent references. —W. WOOLLEY, Aldgate, Ketton, near Stamford.

JOURNEYMAN, Inside and Out.—Age 19; four years' experience. Can be well recommended.—G. L., Ivy Cottage, Iping, Midhurst, Sussex.

JOURNEYMAN, Inside, or Inside and Out, age 24, seeks situation.—Five and a-half years' experience. Willing; abstainer. Good references.—E. WICKENS, Southborough Lodge, Bickley, Kent.

JOURNEYMAN (First); age 22.—Arthur Chapman, Westonbirt, Tetbury, Gloucester, would be pleased to recommend a young man as above. A good and careful Plantsman, and attentive to work.

JOURNEYMAN, in the Houses.—Age 21; two and a half years' good reference.—H. WILLIAMS, Park Street, Stow-on-the-Wold, Gloucestershire.

JOURNEYMAN (Inside).—Mr. Louth, Syndale Park Gardens, Faversham, can confidently recommend a strong, active youth, age 17, who is desirous of improvement.

JOURNEYMAN (First or Second), in Plant and Fruit-houses.—Age 22; eight years' experience in good establishments; excellent characters; bothy.—H. C., 41, Wellington Street, Strand, W.C.

JOURNEYMAN (Inside).—Age 22; six years' experience, two years in present situation. Bothy preferred.—J. EARLE, The Gardens, Easthor Castle, Ledbury, Herefordshire.

JOURNEYMAN, in the Houses.—Age 22; five years' good character. Total abstainer.—C. NEIGHBOUR, 37, Stamford Road, Fulham, S.W.

JOURNEYMAN (First), in the Houses.—Age 24; seven years' good character.—H. NIGHTINGALE, 37, Stamford Road, Fulham, S.W.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; good knowledge of Fruit and Plant culture. Two years present situation.—E. JESKINS, Little Kingshill, Great Missenden, Bucks.

JOURNEYMAN, in Houses under Foreman.—Age 20; four years' experience. Good reference.—S. ADAMS, Leybourne Grange, Maidstone, Kent.

JOURNEYMAN; age 23; good general experience, both Inside and Out. Total abstainer. Address first instance, to C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN (First).—Age 22; seven years' experience in Private Gardens and Nurseries; good knowledge of the General Routine under Glass; excellent references from present and previous employers.—H. EAST, 8, Percy Terrace, King's Road, Mortlake, Surrey.

JOURNEYMAN, in the Houses; age 21.—S. Lyon can highly recommend F. Harris as above. Five years' experience under Glass, the last eighteen months in Plant-houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN, in the Houses.—Age 20; total abstainer. Left through death of employer. Good reference.—H. B., 15, Stamford Road, Watford.

G. AMBROSE, gardener, can highly recommend one of his young men as JOURNEYMAN under a good Foreman in the Houses; age 19 years; has been with me between two and three years as Journeyman; good, smart working young man, and very well up in his work.—Somerford Park Gardens, Brewood, Stafford.

IMPROVER, Inside and Out.—J. T. Shann, Plas Power Gardens, Wrexham, highly recommends a young Man, age 18. Strong and active, and anxious to learn. Present place four years.

IMPROVER, in the Houses.—Age 18; three years' experience Inside and Out, chiefly Out; excellent character; bothy preferred.—LETTS, Chiddingstone, Edenbridge, Kent.

IMPROVER, in a good establishment.—I can thoroughly recommend a reliable young man, Inside and Out. Six years' experience.—HEAD GARDENER, Ruperra Castle, Newport, Mon.

IMPROVER.—Age 18, seeks situation in a Gentleman's Garden. Two and a half years' experience, In and Out. Abstainer. Good character.—F. FOSTER, Playden, Rye, Sussex.

IMPROVER.—Young Man (age 19) seeks situation as Improver, Inside; two years' experience.—N. S. B., The Cottage, Mill Road, Hampton, Middlesex.

IMPROVER, in a Gentleman's garden.—Lad (young, age 18), seeks situation as above. Three years' good character.—W. PERRY, Warren, Writtle, Chelmsford, Essex.

TO HEAD GARDENERS.—I wish to recommend a young man, age 21, for the Houses, or Inside and Out. Has served here two years; good previous references. Strong and willing.—HEAD GARDENER, Trafalgar House, Tottenham.

TO HEAD GARDENERS.—A respectable young man seeks a situation in a Gentleman's Garden as IMPROVER. Highest references; small Premium if required.—G. W. BROOKBANK, 15, Dorset Road, Merton, Surrey.

TO HEAD GARDENERS.—Advertiser, age 20, has had three years' experience, requires a situation Inside, where he can improve; bothy.—G. H., 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Youth, age 15, strong and willing, seeks situation in private garden, as Improver outside. Good references. Bothy preferred.—C. BREWER, Felsham, Bury St. Edmund's.

TO GARDENERS.—Young man seeks situation as all-round Pleasure Ground experienced; or help in Kitchen Garden. Excellent character from last employer. —E. BAKER, Rocks, Flimwell, Hawkhurst.

TO GARDENERS.—A young Man (age 21), requires a situation in a Gentleman's Garden, where several are kept, wishing to improve in glass departments. Good references; seven years' experience.—G. J., Mr. M. Fenn, 4, Chestnut Cottages, Upper Long Ditton, Surrey.

TO GARDENERS.—Young Man (age 23), wants situation in Pleasure Ground, Kitchen Garden, or help Inside. Good reference.—CHURCH, The Fence, near Coleford, Gloucester.

TO GARDENERS.—A young Man, age 21, seeks a situation in the Garden. Willing and active. Abstainer. Good character. Bothy preferred.—A. W. BRYAN, Steeple Aston, Oxford.

TO GARDENERS.—Young Man (21) desires situation in large garden. Great taste for gardening; three years' experience in garden and small greenhouse. Very steady; communicant.—VICAR, Billesdon, Leicester.

TO GARDENERS or the TRADE.—Situation wanted in the Houses; age 22. Seven years and a half experience in the Orchid and Plant Houses, also a knowledge of Fruit. Good reference.—R. E., 2, The Parade, White Hart Lane, Tottenham.

TO NURSERYMEN and GARDENERS.—A young man, age 20, wants a situation in a Private place or Nursery. Several years in last place. Near London preferred.—J. S., 8, Marland Terrace, Chislehurst West.

TO THE NURSERY and SEED TRADE.—Advertiser, age 30, married, and shortly disengaged, is now open for another appointment. Six years with Messrs. Rivers & Son, Sawbridgeworth. Thoroughly competent and smart in Office-work, good Salesman, or would Travel. Used to plenty of work. Excellent references from past and present employers.—Full particulars from F. WATKINS, Sawbridgeworth.

TO NURSERYMEN and SEEDSMEN.—Advertiser having over twenty years' experience with four or five well-known firms in the Seed Trade, Nursery, and Office Work, Travelling, and attending Markets, seeks position of trust, with view to permanency. First-class references from past and present employers.—Further particulars from CLOVER, 41, Wellington Street, Strand, W.C.

To Nurserymen, Gardeners, &c.

PAINTER and GLAZIER, disengaged Monday, would be glad to hear of a job, any district. Own tools. —J. G., 62, Gloucester Road, Croydon.

TRAVELLER.—The Advertiser is now open to an engagement with any First-class Firm of Nurserymen to represent them in the United Kingdom, having represented leading Firms for many years. Good connection. First class testimonials.—CONFIDENTIAL, 41, Wellington Street, Strand, W.C.

Seed Trade.

SHOPMAN (Head or Second).—Situation wanted as above by advertiser; well up in all branches; and first-class references.—SOUTHLANDS, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—A permanent situation wanted by a young Man (age 25). Good experience in making-up of every kind of Flower Arrangements and Decorations. Good Grower and Propagator. Well up in Forcing. —W. KEBL, 55, Harrington Road, South Norwood, London.

TO FLORISTS.—A Christian young Man desires to learn the Florist's Business in a good firm, without Premium. In or Outdoors; would give time to learn, with small wages; abstainer; some knowledge of flowers.—BURRELL, Lord Street, Hoddesdon, Herts.

TO FLORISTS.—A Gardener's Daughter (age 20), as Assistant in a Florist's and Fruiterer's Shop. Well up in names of Vegetable and Flower Seeds and Decorative Plants. Has had considerable private experience. To live in house preferred.—B. BRACKENDALE, Camberley.

TO FLORISTS, &c.—A young Lady, age 17, seeks an engagement in a Florist's and Fruiterer's establishment.—W. G., 41, Wellington Street, Strand, W.C.

SHOP-GIRL.—A young girl (age 20), is in want of a place as above. Has been at home for three years in the Florist Trade.—R., 41, Wellington Street, Strand, W.C.

"THE PLAY'S THE THING."—This has often been echoed by all sorts and conditions of men since the time when Shakespeare made it historical through the medium of Hamlet. A good play holds the mirror up to Nature, and shows us that men may be influenced by good to conquer evil. It proves, in fact, the truth of the saying, "All the World's a Stage." HOLLOWAY'S PILLS and OINTMENT have for many years played a leading part in the drama of life. They have been a source of relief and cure for most known complaints in all parts of the civilised world. Adults and children are alike benefited by these wonderful remedies, as they are suitable for the weakest as well as the strongest constitutions.

WANTED, a YOUTH, about 18, to Assist in Gardens, and clean knives and boots, &c.—Apply, by letter, giving all particulars (can lodge with Gardener), to MOORE, 2, Seaford Cottages, Stratford Road, Hendon, N.W.

WANTED, immediately, HANDY MAN, single, for The Gardens, Brocklesby Park, Lincolnshire; one used to general Garden work. Painting and Glazing, Carpentering, Hot Water, &c.; 18s. per week.—Apply to E. F. HAZELTON.

WANTED, a SHOPMAN, for the Midland Counties, principally for the Flower Seed Department.—Apply, HARRISON AND SONS, Seed Growers, Leicester.

CLERK WANTED (a young man preferred), who has a knowledge of Plants, and who has been used to Office-work in a Nursery.—Apply, in own handwriting, with copies of testimonials, wages required, and all particulars, to SANDER AND CO., St. Albans.

WANTED Immediately, a NURSERY CLERK.—Good correspondent, a neat and quick writer. Must be sober. One well up in shorthand or type-writing preferred. State age, experience, and wages required at earliest.—J. L. S., 41, Wellington Street, Covent Garden, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—G. JESSOP, age 33, married, one child, offers his services to any Nobleman or Gentleman requiring a thoroughly practical man; well up in Landscape or All-round Gardening. Reference permitted to the Dowager Lady Howard de Walden, and Mr. Coleman, Estate Agent, Eastnor.—Sansome Lodge, Sansome Walk, Worcester.

GARDENER (HEAD).—Age 39, married, no family; twenty years' experience; eleven years in last situation.—JAMES HANWELL, Mr. W. Turner, Green Hill Lane, Alfreton, Derbyshire.

GARDENER (HEAD).—Age 40; thoroughly practical and experienced in all branches. Fourteen years' excellent recommendation from owner of a large private place.—N., Messrs. B. S. Williams & Sons, Holloway, N.

GARDENER (HEAD).—Age 34; married; no family. Has good practical experience in all branches; for the past eight years with the late T. TWINING, Esq., Perryn House, Twickenham. High-class recommendations and personal references.—C. B., 1, Albert Road, Staten Gardens, Twickenham.

GARDENER (HEAD), where others are kept.—Age 35, married, Scotch; twenty years' thorough practical experience in good establishments; seven years in present situation; leaving through death; highest references.—LINDSAY CARSTAIRS, Brooklands, near Halifax, Yorks.

GARDENER (HEAD); age 35, married.—JAMES CYPHER can with every confidence recommend an exceptionally good Man as above. Ten years in last place as Head. Well up in the culture of Fruits, Plants, Orchids, Flower, Kitchen, and Pleasure Gardening, all kinds of Early and Late Forcing.—JAMES CYPHER, Queen's Road, Cheltenham.

GARDENER (HEAD), where two or more are kept; age 31; married.—A GENTLEMAN wishes to recommend his late Gardener to anyone requiring a good practical man.—A., 21, Ravensbury Cottages, Mitcham, Surrey.

CHARLES BERRY, HEAD GARDENER, Goldrood, Ipswich, is open to re-engagement; four years with Hon. Stanhope Tollemache; recently with present owner, William Pretty, Esq., J.P.

GARDENER (HEAD); age 32; married.—A Lady giving up her establishment, wishes to recommend her Gardener to any Lady or Gentleman in want of a trustworthy and practical man; experienced in all branches, including Orchids. Excellent character.—J. SMITH, Heathfield, Saltwell Park, Gateshead-upon-Tyne.

GARDENER (HEAD).—Single at present; twenty years' good all-round experience in good establishments; two years' as Head. Abstainer. Good testimonials.—GARDENER, 6, Railway Place, Wimbledon.

GARDENER (HEAD WORKING), where three or more are kept.—Age 30, married, no family; thoroughly experienced with Vines, Peaches, Melons, Tomatos, Cucumbers, &c.; Flower and Kitchen Garden, and the general routine of a thorough good place. Three years' excellent personal character as to abilities.—WELLSTED, Purbrook, Cosham, Hants.

GARDENER (HEAD WORKING).—Age 27; married when suited.—JOSH VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches; steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING), where two or more are kept.—Age 29. Excellent characters from previous employers.—T. ATTWOOD, 17, Helvetia Street, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING).—Age 30; life experience. Thoroughly versed in all branches of the profession, having practised in some of the best kept Gardens in the country, including Tring Park, Aldenham House, Stanmore Hall, &c. Testimonials from the Head Gardeners at the above places, and can be highly recommended by C. G. Kekewich, Esq., The Downe, Eistree.—NAYLOR, St. Hilda's, Harrow.

GARDENER (HEAD WORKING), where three or more are kept.—Age 39, married, no family. Life experience in all branches of Gardening. Has had management of Pasture Land. Good character.—A. H., 2, Glenfield Villas, Chorleywood, Rickmansworth.

GARDENER (HEAD WORKING), age 32.—Sir THOMAS BAYLEY wishes to recommend W. Burley, who has been with him five years. Thoroughly experienced in all branches.—BURLEY, Hatherop, Fairford.

GARDENER (HEAD WORKING), where more are kept).—Age 30, married, one child; thoroughly qualified in all branches. Good character.—K. H., 22, Union Street, Stonehouse, Plymouth, Devon.

GARDENER (HEAD WORKING).—Experienced in Grapes, Peaches, Orchids, Forcing, &c. Competent to manage a large establishment; first-class Grower. Gained number of prizes and certificates. Thoroughly sober; recommended.—F. R., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 41, married, no family. Extracts from five years' characters. Lincolnshire and Leicestershire: Good all-round man. Herefordshire: First-rate. Present employer seven years: Excellent.—JOHN SCOUSE, Foliejon Park, Windsor.

GARDENER (HEAD WORKING), where one or two are kept.—Age 32, married, two children; fourteen years' experience in all branches of Gardening. Thoroughly recommended by present and previous employers.—H. E., Ivy Cottage, Millfield Lane, Highgate.

GARDENER (HEAD WORKING); age 35, married, no family.—A GENTLEMAN can highly recommend a thoroughly practical man in all branches of the profession. Leaving through place being sold.—J. W. S., 77, High Street, High Barnet, Herts.

GARDENER (HEAD, or good SINGLE-HANDED).—Married, one child at home, age 10. Life experience; eight years in present situation. Disengaged when suited. Cottage or Lodge preferred.—J. R., 14, Woodstock Road, Shepherd's Bush, London.

GARDENER (HEAD, or good SINGLE-HANDED).—A GENTLEMAN giving up his place would be pleased to recommend his Gardener to anyone requiring a good man. Single.—A. CHURCH, The Stables, Cerne Abbas, Branksome Park, Bournemouth.

GARDENER (SINGLE-HANDED or good SECOND).—Young married Man, age 25, experienced in all branches; well recommended from last and previous places. State particulars to—E. PENGILLEY, Grove Villa, Taplow, Bucks.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 29, married.—F. R., 19, Garden Cottages, East Street, Epsom, Surrey.

GARDENER (SINGLE-HANDED, or SECOND).—Age 28, single; thoroughly experienced in all branches, Inside and Out. Three and a half years' good character.—J. MOORE, 27, Sidney Road, Eastbourne.

GARDENER (SINGLE-HANDED).—Age 22; wants situation as above. Two years in present place, five years previously.—C. PARSONS, Staplefield, near Crawley, Sussex.

GARDENER.—Disengaged; expert Orchid, Fruit and Plant Grower. Skilful in Laying-out Pleasure Grounds. Moderate salary. Highest references.—WILLIAM RAINER, Cottage, Whitehall Lane, Buckhurst Hill, Essex.

GARDENER (WORKING).—Long experience with Flowers, Fruit, and Vegetables, and all General Garden Work. Good character.—W. TOMALIN, Dummer, Basingstoke.

GARDENER.—E. J. BRETT, Esq., recommends his HEAD GARDENER and ORCHID-GROWER where not less than four are kept, thoroughly conversant in every department. Age 36, married.—W. B., 41, Wellington Street, Strand.

GARDENER.—Age 23, married; total abstainer. Good character. Could undertake a small place, where one is kept.—W. MOORING, Tarlton, Cirencester, Gloucestershire.

GARDENER (good All-round).—Age 32, married; understands Orchids, Fruit, Flower, and Kitchen Gardens. Good character from last and previous employers.—HY. OVER, Alvaston, near Derby.

GARDENER.—Age 27; experience in Plants, Tomatos, Cucumbers, Melons, Peaches, Vines, and Wreath-making; five years in present situation.—S. OSBORN, 44, Connaught Terrace, Littlehampton.

GARDENER.—Bonus of £2 for assisting advertiser to situation where assistance is given. Six years' character from last place. Practical.—J. B., 87, High Street, Notting Hill Gate, W.

GARDENER, where two are kept, or FOREMAN, without bothy.—Age 24; eleven years' experience in all branches; two and a half years in present place.—T. LAND, Gardens, Woodlands, Bradford, Yorks.

GARDENER.—Situation wanted by a strong active young man as Second in the Houses. Good experience and excellent character.—W. LAVENDER, 24, River Street, Bedford.

GARDENER.—Age 41, married; thoroughly experienced in all branches. No objection to Cow or Pony and Trap. Total abstainer. Good character.—C. FANE, Bell Lane, North Church, Great Berkhamsted.

GARDENER (SECOND, or SINGLE-HANDED).—Age 27; twelve years' experience, Inside and Out; excellent character.—R. A., Tandridge Court Gardens, Redhill, Surrey.

GARDENER (SECOND), or JOURNEYMAN (FIRST); Inside.—Seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 26. Married, when suited; eleven years' practical experience Inside and Out; abstainer; recommended.—G. HAYLOCK, Tilgate Gardens, Crawley.

GARDENER (SECOND), where about four are kept.—Age 23; nine years' experience Inside and Out. Good character from present and previous situations.—GEORGE WICKENS, The Gardens, Uplands, East Grinstead.

GARDENER (SECOND), Inside, or Inside and Out; age 24.—Mr. BURGESS, Head Gardener, Hazelwood, King's Langley, Herts, can highly recommend W. Humphris as above. Eight years' experience.—Apply as above.

GARDENER (SECOND, or otherwise).—Age 25, married; fifteen years' experience Inside and Out; good character from all employers.—J. DANIELS, 90, Hall Place, Paddington.

£2 BONUS to anyone securing for advertiser a situation as SECOND GARDENER.—Fourteen years' experience in the general routine of gardening. Excellent character; age 27.—E. COLLINS, 32, Church Road, Watford, Herts.

GARDENER (SECOND), where four or five are kept; or JOURNEYMAN, in a good Establishment.—Age 20; well recommended. Two and a half years in present situation.—J. PITMAN, Norton, Stoke-under-Ham, Somerset.

GARDENER (SECOND, in good establishment, or SINGLE-HANDED).—Age 25, single; nine years' experience. Good references from previous places.—W. HOWSON, The Gardens, Pepper Arden, Northallerton, Yorks.

GARDENER (SECOND), where three are kept, otherwise under a Foreman; age 25, single.—Mr. BOND, Head Gardener, The Manor House, Bathford, Bath, can highly recommend H. Slacombe as above, who has been with him two years.

GARDENER (as SECOND or SINGLE-HANDED).—Age 26, single; eleven years' experience; good references.—F. M., 41, Wellington Street, Strand, W.C.

GARDENER (UNDER).—Age 25; Inside and Out, or Kitchen Garden and Pleasure-grounds. Two years' experience. Can be well recommended.—J. BERRIMAN, Station Road, Chertsey, Surrey.

GARDENER (UNDER).—Age 20: Inside, or Inside and Out. Four years' experience; good character.—H. DENT, Hill Terrace, Stonegravels, Chesterfield.

GARDENER (UNDER, or good SINGLE-HANDED).—Age 22; three and a-half years good character; understands horses and cows.—W. R., The Out, Bury Street, Edmonton.

GARDENER (UNDER).—Age 25; used to Pleasure-grounds and Kitchen Garden; help Inside if required. Two years' good character. Well recommended. —C. CHALLON, Victoria Road, Oatland Park, Weybridge, Surrey.

GARDENER (UNDER).—Young Man, age 26; two years' experience in large Nursery. Five years' character from former situation. Total abstainer.—F. L., 32, Stoke Road, Guildford, Surrey.

GARDENER (UNDER), Inside and Out.—Age 20; strong, willing, and obliging; four and a half years' good character from present employer.—G. DIMMOCK, 4, Midland Cottages, Mill Hill, N.W.

GARDENER.—Young man (age 23), seeks situation as JOURNEYMAN. Bothy preferred. Good references.—S. W., Kynaston Lodge, Harrow Weald, Middlesex.

GARDENER (UNDER, or SINGLE-HANDED on a small place).—Age 25; good character.—G. REEVES, Mrs. Boswell, 3, London Road, Reigate, Surrey.

GARDENER (UNDER), where three or more are kept.—Age 21; experienced Inside and Out; good character. Total abstainer. — J. BATTIN, Ightham, near Sevenoaks, Kent.

GARDENER (UNDER), Inside and Out.—Age 22, single; five years in present place; good character; bothy preferred.—F. W., Gardens, Chacombe House, Banbury.

GROWER, married.—Ferns, Cut Flowers, and all Pot Stuff. Long experience.—G. M., 125, Brettham Road, Upper Edmonton.

GROWER, age 25; well up in Cucumbers, Tomatos, and Pot Stuff; life experience; nearly three years in present situation with one of the leading market growers.—W. S., 3, St. Joseph's Cottages, Nag's Head Road, Pondere End.

FOREMAN.—Age 24; ten years' experience. Thorough knowledge of all branches, including Fruits, Chrysanthemums, &c., for exhibition, House and Table Decorations. Excellent characters. — C. P., Mrs. Jones, 4, Lime Cottages, New Street, Hampton, Middlesex.

FOREMAN, in the Houses.—Mr. GALE, Place Gardens, Fowey, Cornwall, will be pleased to recommend F. Westcott, as above; been with him two years as SECOND.

FOREMAN.—Age 24; experienced in all branches, including Orchids. Two and a half years' good character from present employer; seven years' previous. —C. HARWOOD, The Gardens, Chatsworth, Derby.

FOREMAN (GENERAL), or Inside in a Large Establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 26; twelve and a half years' experience. Good character.—H. BARTON, Neatishead, near Norwich.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 24; ten and a half years' experience in Fruit and Plant-houses; three and a half years in last situation, two as Foreman; good recommendation.—A. BARKER, 28, Salisbury Road, Upper Holloway, N.

FOREMAN (Inside).—Age 25; experienced in Plant and Fruit-houses, Early and Late Forcing. Can be well recommended by Mr. C. SIMS, Boringdon, Herts. Bothy preferred.—WM. ROBERTS, 28, Salisbury Road, Upper Holloway, N.

FOREMAN; age 26.— Mr. G. W. MARSH, Arle Court, Cheltenham, can highly recommend his late Foreman, Thomas Waller, as above. Thoroughly well up in both Fruit and Plant Houses.

FOREMAN (GENERAL), in a large establishment.—Age 29; single. Experienced in all branches. Good references; bothy preferred.—A. SHRUBB, Puttenham, Guildford, Surrey.

JOURNEYMAN, in the Houses, under a Foreman.—Age 26; bothy preferred.—W. JONES, Scot Hall Gardens, Buslingthorpe, Leeds.

JOURNEYMAN (Inside, or Inside and Out).—Age 23; nine years' experience; good reference. Private preferred.—E. GOULD, 2, Kerrara Terrace, Whitley Road, Eastbourne, Sussex.

JOURNEYMAN (Inside, or Inside and Out).—Age 20; four years' experience; eighteen months in present situation; can be highly recommended.—A. HERBERT, Warfield Hall, Bracknell, Berks.

JOURNEYMAN, under a Foreman, Inside, or Inside and Out.—Age 22; six years' experience of General work. Excellent references.—J. SMITH, Rocks Farm, Limpsfield, Surrey.

JOURNEYMAN, Inside and Out.—Mr. OSMAN can with confidence recommend a young man (age 22), as above.—C. TOMLIN, The Gardens, Ottershaw Park, Chertsey.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; eight years' experience in Market and other Nurseries. Close on the sea preferred. Excellent references.—C. B., 14, Rosy Villas, Richmond, London.

JOURNEYMAN, Inside or Inside and Out.—Age 22; four years' good character; well recommended. Can use scythe.—W. COOK, The Gardens, Beechcroft, Oatlands Park, Weybridge, Surrey.

JOURNEYMAN (FIRST).—Age 26; eleven years' experience in good places. Excellent references. —W. WOOLLEY, Aldgate, Ketton, near Stamford.

JOURNEYMAN, Inside and Out.—Age 19; four years' experience. Can be well recommended.— G. L., Ivy Cottage, Iping, Midhurst, Sussex.

JOURNEYMAN, Inside, or Inside and Out, age 24, seeks situation.—Five and a-half years' experience. Willing; abstainer. Good references.—E. WICKENS, Southborough Lodge, Bickley, Kent.

JOURNEYMAN (FIRST); age 22.—ARTHUR CHAPMAN, Westonbirt, Tetbury, Gloucester, would be pleased to recommend a young man as above. A good and careful Planteman, and attentive to work.

JOURNEYMAN, in the Houses.—Age 21; two and a half years' good reference.—H. WILLIAMS, Park Street, Stow-on-the-Wold, Gloucestershire.

JOURNEYMAN (Inside).—Mr. LOUTH, Syndale Park Gardens, Faversham, can confidently recommend a strong, active youth, age 17, who is desirous of improvement.

JOURNEYMAN (FIRST or SECOND), in Plant and Fruit-houses.—Age 22; eight years' experience in good establishments; excellent characters; bothy.—H. C., 41, Wellington Street, Strand, W.C.

JOURNEYMAN (Inside). — Age 22; six years' experience, two years in present situation. Bothy preferred.—J. EARLE, The Gardens, Eastnor Castle, Ledbury, Herefordshire.

JOURNEYMAN, in the Houses.—Age 22; five years' good character. Total abstainer.—C. NEIGHBOUR, 37, Stamford Road, Fulham, S.W.

JOURNEYMAN (FIRST), in the Houses.—Age 24; seven years' good character.—H. NIGHTINGALE, 37, Stamford Road, Fulham, S.W.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; good knowledge of Fruit and Plant culture. Two years present situation.—E. JESKINS, Little Kingshill, Great Missenden, Bucks.

JOURNEYMAN, in Houses under Foreman.—Age 20; four years' experience. Good reference.—S. ADAMS, Leybourne Grange, Maidstone, Kent.

JOURNEYMAN; age 23; good general experience, both Inside and Out. Total abstainer. Address first instance, to C. A., 2, Langham Terrace, Fulwell Road, Hampton Hill, Middlesex.

JOURNEYMAN (FIRST). — Age 22; seven years' experience in Private Gardens and Nurseries; good knowledge of the General Routine under Glass; excellent references from present and previous employers.—H. EAST, 8, Percy Terrace, King's Road, Mortlake, Surrey.

JOURNEYMAN, in the Houses; age 21.—S. LYON can highly recommend F. Harris as above. Five years' experience under Glass, the last eighteen months in Plant-houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN, in the Houses.—Age 20; total abstainer. Left through death of employer. Good reference.—H. B., 15, Stamford Road, Watford.

G. AMBROSE, gardener, can highly recommend one of his young men as JOURNEYMAN under a good Foreman in the Houses; age 19 years; has been with me between two and three years as Journeyman; good, smart working young man, and very well up in his work.—Somerford Park Gardens, Brewood, Stafford.

IMPROVER, Inside and Out.—J. T. SHANN, Plas Power Gardens, Wrexham, highly recommends a young Man, age 18. Strong and active, and anxious to learn. Present place four years.

IMPROVER, in the Houses.—Age 18; three years' experience Inside and Out, chiefly Out; excellent character; bothy preferred.—LETTS, Chiddingstone, Edenbridge, Kent.

IMPROVER, in a good establishment.—I can thoroughly recommend a reliable young man, Inside and Out. Six years' experience.—HEAD GARDENER, Ruperra Castle, Newport, Mon.

IMPROVER.—Age 18, seeks situation in a Gentleman's Garden. Two and a half years' experience, In and Out. Abstainer. Good character.—F. FOSTER, Playden, Rye, Sussex.

IMPROVER.—Young Man (age 19) seeks situation as Improver, Inside; two years' experience.—N. S. B., The Cottage, Mill Road, Hampton, Middlesex.

IMPROVER, in a Gentleman's garden.—Lad (young, age 18), seeks situation as above. Three years' good character.—W. PERRY, Warren, Writtle, Chelmsford, Essex.

TO HEAD GARDENERS.—I wish to recommend a young man, age 21, for the Houses, or Inside and Out. Has served here two years; good previous references. Strong and willing.—HEAD GARDENER, Trafalgar House, Tottenham.

TO HEAD GARDENERS.—A respectable young man seeks a situation in a Gentleman's Garden as IMPROVER. Highest references; small Premium if required.—G. W. BROOKBANK, 15, Dorset Road, Merton, Surrey.

TO HEAD GARDENERS.—Advertiser, age 20, has had three years' experience, requires a situation Inside, where he can improve; bothy.—G. B., 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Youth, age 18, strong and willing, seeks situation in private garden, as Improver outside. Good references. Bothy preferred.—C. BREWER, Felsham, Bury St. Edmund's.

TO GARDENERS.—Young man seeks situation as all-round Pleasure Ground experienced; or help in Kitchen Garden. Excellent character from last employer. —E. BAKER, Rocks, Farnwell, Hawkhurst.

TO GARDENERS.—A young Man (age 21), requires a situation in a Gentleman's Garden, where several are kept, wishing to improve in glass departments. Good references; seven years' experience.—G. J., Mr. M. Fenn, 4, Chestnut Cottages, Upper Long Ditton, Surrey.

TO GARDENERS.—Young Man (age 23), wants situation in Pleasure Ground, Kitchen Garden, or help Inside. Good reference.—CHURCH, The Fence, near Coleford, Gloucester.

TO GARDENERS.—A young Man, age 21, seeks a situation in the Garden. Willing and active. Abstainer. Good character. Bothy preferred. — A. W. BRYAN, Steeple Aston, Oxford.

TO GARDENERS.—Young Man (21) desires situation in large garden. Great taste for gardening; three years' experience in garden and small greenhouse. Very steady; communicant.—VICAR, Billesdon, Leicester.

TO GARDENERS or the TRADE.—Situation wanted in the Houses; age 22. Seven years and a half experience in the Orchid and Plant Houses, also a knowledge of Fruit. Good reference.—R. E., 3, The Parade, White Hart Lane, Tottenham.

TO NURSERYMEN and GARDENERS.—A young man, age 20, wants a situation in a Private place or Nursery. Several years in last place. Near London preferred.—J. S., 8, Marland Terrace, Chislehurst West.

TO THE NURSERY and SEED TRADE.—Advertiser, age 30, married, and shortly disengaged, is now open for another appointment. Six years with Messrs. Rivers & Son, Sawbridgeworth. Thoroughly competent and smart in Office-work, good Salesman, or would Travel. Used to plenty of work. Excellent references from past and present employers.—Full particulars from F. WATKINS, Sawbridgeworth.

TO NURSERYMEN and SEEDSMEN.—Advertiser having over twenty years' experience with four or five well-known firms in the Seed Trade, Nursery, and Office Work, Travelling, and attending Markets, seeks position of trust, with view to permanency. First-class references from past and present employers.—Further particulars from CLOVER, 41, Wellington Street, Strand, W.C.

To Nurserymen, Gardeners, &c.

PAINTER and GLAZIER, disengaged Monday, would be glad to hear of a job, any district. Own tools. —J. G., 62, Gloucester Road, Croydon.

TRAVELLER.—The Advertiser is now open to an engagement with any First-class Firm of Nurserymen to represent them in the United Kingdom, having represented leading Firms for many years. Good connection. First-class testimonials.—CONFIDENTIAL, 41, Wellington Street, Strand, W.C.

Seed Trade.

SHOPMAN (HEAD or SECOND). — Situation wanted as above by advertiser; well up in all branches; and first-class references.—SOUTHLANDS, 41, Wellington Street, Strand, W.C.

TO FLORISTS. — A permanent situation wanted by a young Man (age 25). Good experience in making-up of every kind of Flower Arrangements and Decorations. Good Grower and Propagator. Well up in Forcing. —W. KEBL, 55, Harrington Road, South Norwood, London.

TO FLORISTS.—A Christian young Man desires to learn the Florist's Business in a good firm, without Premium. In or Outdoors; would give time to learn, with small wages; abstainer; some knowledge of flowers.—BURRELL, Lord Street, Hoddesdon, Herts.

TO FLORISTS.—A Gardener's Daughter (age 20), as Assistant in a Florist's and Fruiterer's Shop. Well up in names of Vegetable and Flower Seeds and Decorative Plants. Has had considerable private experience. To live in house preferred.—B. BRACKENDALE, Camberley.

TO FLORISTS, &c.—A young Lady, age 17, seeks an engagement in a Florist's and Fruiterer's establishment.—W. G., 41, Wellington Street, Strand, W.C.

SHOP-GIRL.—A young girl (age 20), is in want of a place as above. Has been at home for three years in the Florist Trade.—R., 41, Wellington Street, Strand, W.C.

"THE PLAY'S THE THING."—This has often been echoed by all sorts and conditions of men since the time when Shakespeare made it historical through the medium of Hamlet. A good play holds the mirror up to Nature, and shows us that men may be influenced by good to conquer evil. It proves, in fact, the truth of the saying, "All the World's a Stage." HOLLOWAY'S PILLS and OINTMENT have for many years played a leading part in the drama of life. They have been a source of relief and cure for most known complaints in all parts of the civilised world. Adults and children are alike benefited by these wonderful remedies, as they are suitable for the weakest as well as the strongest constitutions.

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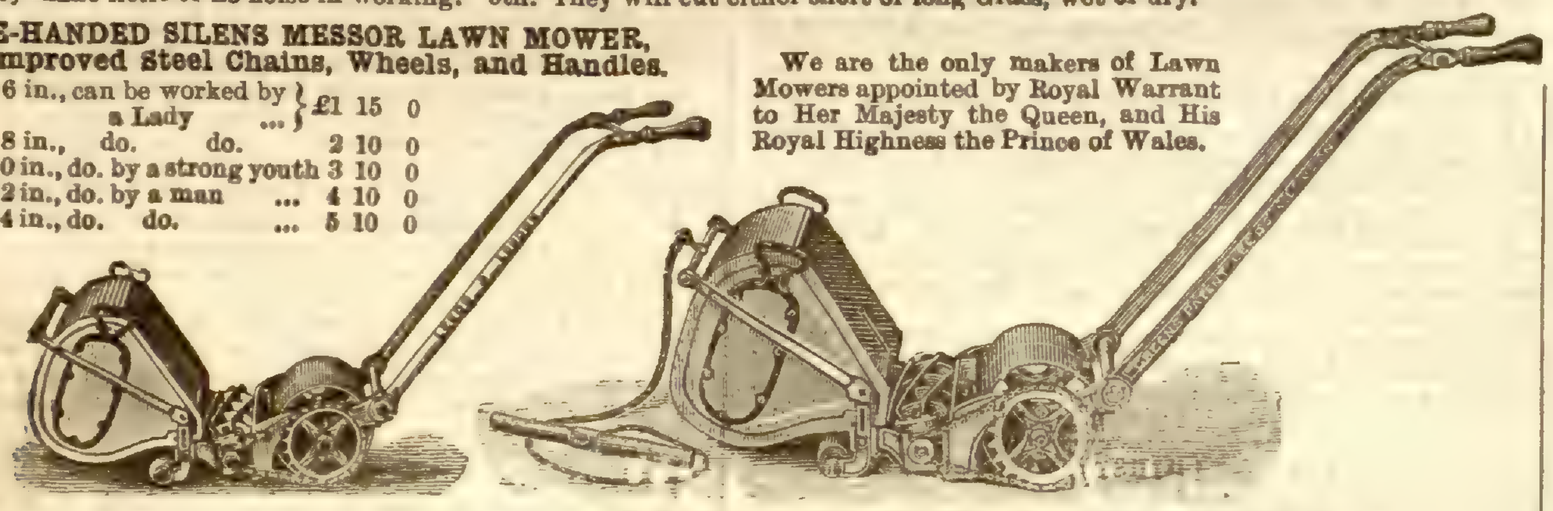
With Improved Steel Chains, Wheels, and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15 0
To cut 8 in., do. do.	2	10 0
To cut 10 in., do. by a strong youth	3	10 0
To cut 12 in., do. by a man ...	4	10 0
To cut 14 in., do. do. ...	5	10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£6	10 0
To cut 18 inches, do. man and boy...	7	10 0
To cut 20 inches, do. do. ...	8	0 0
*To cut 22 inches, can be worked by two men	£8	10 0
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* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

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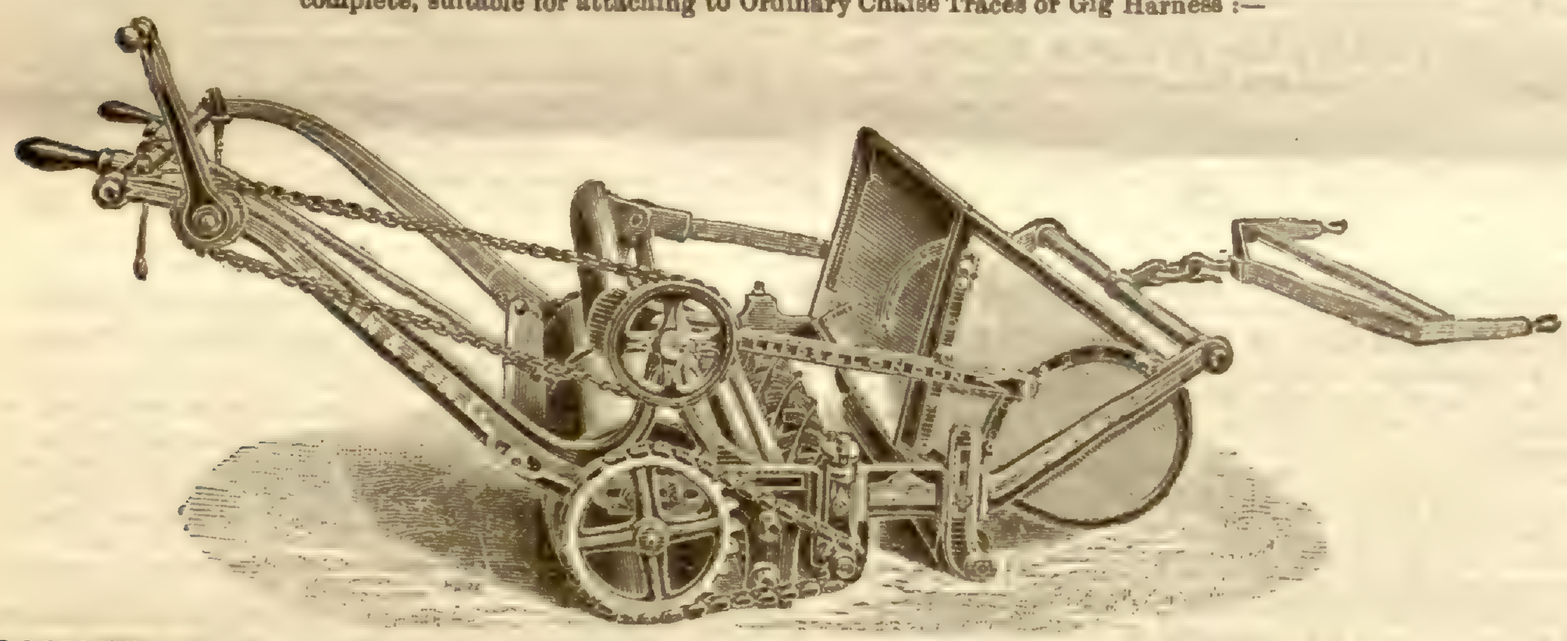

DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
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20 in. by 22 in.	3	0	0
24 in. by 26 in.... ...	4	5	0
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL the above, without the least reserve, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 22, 1895, the SECOND DAY of the great Temple Show.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 24, at half-past 12 o'Clock, 400 Lots of ESTABLISHED ORCHIDS from various sources.

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By order of Messrs. F. Ross & Co., without reserve.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Merstham, near Redhill, on SATURDAY, May 25, at 1 o'Clock, STOVE and GREENHOUSE PLANTS, including 1000 young Palms, 100 choice beautifully-coloured Crotons and Dracænas, 50 lots of Orchids, 100 choice Amaryllis, a fine collection of Caladiums, Basket Ferns, 200 Dracæna indivisa, Veitchii, and lineata; Lilies, Aspidistras, Fuchsias, Specimen Eucharis; 200,000 BEDDING PLANTS, comprising Geraniums, Lobelias, Petunias, Pyrethrums, Calceolarias, &c., and numerous other Plants.

May be viewed two days prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

Preliminary Notice.

By Order of the Executors of the late H. HOLLIS, Esq., Beechcroft, Edgbaston, near Birmingham.

SALE of the IMPORTANT COLLECTION of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., in JUNE NEXT. The Plants are beatifully grown, and the Collection is well known. It includes about 1300 ODONTOGLOSSUM ALEXANDRÆ, from the principal importations of recent years, and nearly all unflowered.

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MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 22, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

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To be Sold by Private Treaty.

A FREEHOLD PLOT of LAND, containing about 6400 square yards, with Dwelling-house, Stable, Coach-house, Pigstyes, Glasshouses, and other buildings thereon, situate within 10 miles of Manchester, and within 1 mile of a railway station, in a thriving and rapidly-increasing neighbourhood, at which the present owner has carried on the business of a Nurseryman and Florist for upwards of twenty-five years. The house contains 2 Entertaining-rooms, Kitchen, Scullery, Office, 4 Bedrooms, Bathroom, W.C., 2 Cellars, Covered Yard, Outside Wash-house, W.C., &c. The Glasshouses cover an area of about 7289 square feet, are substantially built, and fitted with modern Heating-apparatus and new Patent Boiler. There is a good natural water-supply, which runs through all the glasshouses.

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FOR SALE, a SMALL NURSERY, Dear fashionable watering place; rent moderate; cash trade no reasonable offer refused.

Address, NURSERY, 41, Wellington Street, Strand.

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FREEHOLD LAND for SALE, about 10 miles from Covent Garden, suitable for erecting Glass in small or large lots up to 9 acres; Old Pasture and Good Soil. Easy terms of payment if required. Apply—
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FREEHOLD LAND, suitable for Nurseryman Brickfield and Ballast Pit, Factory, or Building.—Eleven acres, with Railway Siding adjoining Brimsdown Station, Enfield (10 miles from Bank). To SELL, LET, &c.
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NURSERY GROUND.—26½ Acres, close to a station, only 11 miles from London. Long frontage to the Railway; good soil; away from the smoke. Price, Freehold, £100 per acre.
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FLORIST'S and LANDSCAPE GARDENER'S BUSINESS for DISPOSAL.—Within 7 miles of Covent Garden. High-class Trade. Fifteen Houses and Pits, all well stocked, well built, and Heated with Pipes and Boilers. Constant supply of water. Stabling, Potting-sheds, and Outhouses. Detached Dwelling. First-class position. Same hands twenty years. Long Lease; moderate rent. Everything included, excepting dwelling.—Apply to—
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TO BE SOLD, with Possession, as a going concern, at a low price, owner leaving neighbourhood, the above Valuable Property, comprising 2 acres of Freehold and 14 acres of Leasehold Fertile Land well cropped; also five modern Greenhouses, with contents, and numerous Outbuildings, Utensils-in-Trade, &c., as it stands; eight-roomed House adjacent. Sum required 900 guineas. Apply to—
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7 MILES West of Hyde Park.—26 Acres of FREEHOLD LAND, suitable for Erection of Glasshouses on back portion, and Small Houses (for which there is a great demand) on the frontage, 2440 feet to Parish Road (sewered); rapidly growing suburb, with 30,000 inhabitants; under a mile from Station on Main Line; price moderate.

Apply EDWARD MILLARD, 47, Finsbury Circus, E.C.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

Nursery and Market Garden Ground, Sydenham.

TO BE LET from December, 1895, 11 Acres, 2 r. 3 p. of ARABLE and MEADOW LAND, between Woolstone Road and Perry Hill, Sydenham, in the occupation for twenty years past of Messrs. James Carter & Co., Seedsmen; seven miles from London Bridge, close to Forest Hill Station (L. B. & S. C. Ry.). Land Tax Free. Landlords will pay tithes, tenants to pay remaining rates and taxes.

The Leathersellers' Company, the Freeholders, are prepared to receive offers for taking the Land on Lease.

Applications to be made to Mr. W. ARNOLD HEPBURN, Clerk to the Company, Leathersellers' Hall, St. Helen's Place, London, E.C., or to Mr. H. PORTER, Surveyor to the Company, 16, Russell Square, London, W.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

LAING'S BEGONIAS should be tried for Bedding Purposes.—We have a grand stock of plants, especially and carefully selected to colour for bedding from our out-door beds last summer. Three shades of crimson, orange-scarlet, magenta, pink, rose, scarlet, white, &c. Per dozen, 6s. Cultural Directions and Catalogues free.

JOHN LAING AND SONS, The Nurseries, Forest Hill, London, S.E.

FERNS AND DECORATIVE PLANTS (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto for making large plants quickly, 16s. and 20s. 100; Aralias, 16s. 100; Cyperus, Aralias, Grevilleas, Geraniums, in 48's, 6s. doz. Heliotrope, Fuchsias, Double Petunias, Marguerites, Genistas, in bloom, in 48's, 9s. doz.; Ficus, Palms, Dracænas, Ericas, Hydrangeas, Pelargoniums, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

WINTER-FLOWERING CARNATIONS for Market Growers.—La Neige, pure white, remarkably free, 3s. per dozen, 10s. per 100, £4 10s. per 1000. Duke of York (May), largest crimson, grand for winter work, 6s. per doz. Uriah Pike, fine deep crimson, 5s. per dozen, 32s. 6d. per 100. All well-rooted stuff, fit for 3-inch pots. Cash with order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

BOUVARDIAS.—Best Market varieties; Vreelandii, Mrs. R. Green, P. Cleveland, &c., our selection in eight or ten sorts, 2s. 6d. per doz., 12s. per 100; £5 per 1000. Well-rooted stuff fit for 60's. Cash with Order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY,
117, Victoria Street, Westminster, S.W.
GREAT ANNUAL FLOWER SHOW in the Inner Temple Gardens, May 21, 22, and 23, 1895. Her Royal Highness the PRINCESS of WALES will visit the Show on Tuesday, May 21.
The Fruit, Floral, and Orchid Committees will meet at 11 A.M. precisely. New Plants for Certificate must be entered not *later* than MONDAY, May 20, by sending notice to the Superintendent, R.H.S. Gardens, Chiswick. Plants cannot be entered for Certificate on the morning of the Show. Admission TUESDAY, May 21, 12.30 to 5 P.M., 7s. 6d.; 5 to 7 P.M., 2s. 6d. WEDNESDAY, May 22, 10 A.M. to 7 P.M., 2s. 6d. THURSDAY, May 23, 10 A.M. to 6 P.M., 1s.—JOHN WEATHERS, Assist. Sec.

BIRMINGHAM BOTANICAL and HORTICULTURAL SOCIETY (founded 1829).
A PANSY and VIOLA SHOW will be Held in The Botanic Gardens, Edgbaston, on WEDNESDAY and THURSDAY, May 29 and 30, 1895.
The CONFERENCE of Viola and Pansy Growers will be held in the Gardens, on Wednesday afternoon, May 29.
Schedules can be obtained from the Curator—
Mr. W. B. LATHAM, at the Gardens.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
The GRAND ANNUAL EXHIBITION of PLANTS and FLOWERS will open at the Gardens, Old Trafford, on the 31st inst. A SPECIAL EXHIBITION of HORTICULTURAL IMPLEMENTS and APPLIANCES will be held for a week in connection with the above. Medals will be awarded to meritorious exhibits. For further information apply to the undersigned at once. BRUCE FINDLAY.
Royal Botanic Gardens, Manchester.

BOROUGH OF SOUTHEND-ON-SEA HORTICULTURAL SHOW, in conjunction with the Essex Agricultural Show, will be Held on WEDNESDAY and THURSDAY, June 12 and 13, 1895. Valuable Prizes will be given. Full particulars and Schedules to be obtained of—
FRANK J. WOOD, Hon. Sec.
30, Alexandra Street, Southend-on-Sea.

WOLVERHAMPTON FLORAL FÊTE.—
July 9, 10, and 11, 1895.
Open Classes: PLANTS, ROSES, FRUIT, PANSIES, & VIOLAS.
Schedules, &c., apply—
W. A. GREEN, Junr., Horticultural Secretary.

WOOD GREEN and DISTRICT HORTICULTURAL SOCIETY.
ANNUAL SHOW, SATURDAY, JULY 13, 1895.
The SILVER MEDAL of the Society will be awarded to NURSERYMEN and FLORISTS for MERITORIOUS EXHIBITS. E. J. WICKENDEN, F.R.H.S., Hon. Sec.
Heathfield, Bounds Green, New Southgate, N.

ABBEY PARK, LEICESTER.
The TENTH ANNUAL FLOWER SHOW and GALA will be held in the above Park on TUESDAY, August 6 next.
JNO. BURN, Hon. Sec.

CARDIFF HORTICULTURAL SOCIETY
(affiliated with the Royal Horticultural Society).
The SEVENTH ANNUAL SHOW will be Held on August 14 and 15, 1895.
Liberal Money Prizes, Cups, and Plate; 4 Medals of the Royal Horticultural Society, and the Society's Medals for Miscellaneous Exhibits. Full particulars and Schedules of—
66, Woodville Road, Cardiff. H. GILLETT, Sec.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most Beautiful Sights in London.

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ORCHIDS.—Must be seen to be realized.

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7,000 TREE CARNATIONS.—La Neige and Miss Joliffe, 4s. per dozen, strong stuff, cut of 60's.

5,000 BOUVARDIAS.—Strongly rooted, in great variety; most popular sorts; 2s. 6d. and 3s. 6d. per dozen. Cash with order.
JAMES GREEN, Reliance Nurseries, March.

BARR'S SEEDS.—UNEQUALLED.
VEGETABLE SEEDS, the best sorts only. Much valuable information in our CATALOGUE, FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
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BARR AND SON, 12, King Street, Covent Garden, London.

A NOTE ABOUT
VIOLAS & PANSIES.
REDUCED PRICES FOR MAY.

A VERY SPECIAL HALF-CROWN LOT.

While Stock holds out during May we offer
13 strong Plants of grand named VIOLAS for 2s. 6d.

Customers may select the sorts they would like from the undermentioned list, or we shall be happy to do so for them. The names are given just to show the value and genuineness of this offer:—

Archibald Grant	Favourite	Marchioness of Tweeddale
Ardwell Gem	Goldilock	Sweetheart
Annie King	Holyrood	Sylvia
Blue Cloud	Iona	True Blue
Bullion	James Cocker	White Duchess
Colleen Bawn	J. B. Riding	White Fleg
Columbine	Lavender	Wm. Neil
Countess of Hopetoun	Lord Elcho	York and Lancaster
Countess of Kintore	Mrs H. Bellamy	Picotee
Dorothy Tennant	Mrs. Kinnaird	Violetta
Duchess of Sutherland	Mrs. C. Turner	
Edina	Mary Gilbert	

100 Plants, in at least 25 varieties, post-free for 15s.

FANCY PANSIES.
Grand named varieties, producing flowers 2 to 3 inches in diameter. Colours as varied as the rainbow. **3s. 6d. per dozen.** Just coming into bloom.
100 Fancy Pansies, in at least 25 varieties, post-free for 20s.

SHOW PANSIES.
This is the class which embraces the dense purple and black selfs so much admired. Prices same as for Fancy Pansies.
1 dozen Show and 1 dozen Fancy for 6s.

HALF-DOZENS AT SAME RATES.

DOBBIE & CO.,
FLORISTS TO THE QUEEN,
ROTHESAY.

THE NEW EARLY STRAWBERRY for 1895,
STEVENS' WONDER.
The earliest variety in cultivation, and very prolific. Solid fruit, good flavour, high perfume.
Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. See *Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16. Having purchased the whole of the Stock of this grand New Early Strawberry from the Raiser, we have pleasure in offering it as follows:—

Strong Plants in pots	...	£5 per 100	... 15s. per dozen.
Strong Runners	...	£3 per 100	... 9s. per dozen.

Ready for delivery early in July.
EARLY ORDERS REQUESTED, AS STOCK IS LIMITED.
Further particulars upon application.
Wm. CUTBUSH & SON, Highgate Nurseries, London:
And BARNET, HERTS.

FLORISTS' FLOWERS
AND
HARDY BORDER PLANTS.

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Is enlarged to about 150 pages, and embraces everything worth cultivating, with accurate description and prices. Copious notes as to their origin, how and where best to grow, with a full index of their common or popular names, and a vast mass of other valuable information which cannot be had elsewhere, rendering this the BEST, MOST RELIABLE, and COMPLETE CATALOGUE ever issued of this deservedly popular class of plants. Will be posted free on application.

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STRAWBERRIES.
All the leading varieties, new or old, in small pots for fruiting first year. Open-air plants, very cheap. Special low quotations for quantities for Market Growing.

FRUIT TREES
OF ALL SORTS. SEND FOR LISTS.

JOHN WATKINS,
POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

Mr. John Walker, Deceased.
ALL PERSONS having any CLAIMS or DEMANDS against the Estate of the late Mr. JOHN WALKER, of Thame, Oxon, Florist, are requested to send particulars thereof to STEPHEN WALKER, Junr., No. 7, High Street, Thame, and all persons indebted to the said Estate are requested forthwith to pay the amount thereof to the said Stephen Walker, junr.
Dated this 14th May, 1895.
EDWARD PARKER, Thame, Oxon,
Solicitor for the Executors.
N.B.—The Executors take this opportunity of tendering their best thanks to all customers for their patronage in the past, and to state that business will be carried on as usual, under the name of John Walker, by Mrs. Walker (the widow), and the said Stephen Walker, junr., who respectfully solicit a continuance of the favours which the late Mr. John Walker for so many years received, and to assure their numerous customers that careful attention will be given to all commands.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

GERANIUMS (Autumn Cuttings).—Scarlet Vesuvius, 8s. per 100; Flower of Spring, 6s. per 100; £3 10s. per 1000. Very strong stuff. Cash with Order.
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NARCISSUS.—Grand Monarque Narcissi, and the large flowering Jonquil, Campernelli, exceptionally fine home-grown Bulbs, at very low prices.
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TO THE TRADE.—5000 TOMATO PLANTS, "Crimson Cushion," out of Boxes; a free setting variety from Ponderosa Stock. Now being raised for the first time in England. The "Crimson Cushion" is of a brilliant scarlet-crimson colour, almost seedless, flesh firm, and of a superb quality; also, a quantity out of pots.—Apply for terms to the MANAGER, Cabo Experimental Farm, Sleaford, Lincs.

Geraniums, Lobelias, Verbenas, Heliotropes, &c.
JOHN SOLOMON offers, as in former years, established in single pots.—GERANIUMS, Mrs. Pollock and Sophia Dumaresque, at 21s. per 100; Silver Tricolor, Mrs. John Clutton, 18s. per 100; Silver Variegated, Mrs. Parker and Flower of Spring, 15s. per 100; best Bronze, 15s. per 100; Henri Jacoby, West Brighton Gem, Vesuvius, Madame Crousse, salmon, Mrs. Leavers, Queen of the Belgians, and Ivy-leaved, best sorts, 16s. per 100. LOBELIA, Emperor William, 3s. 6d. per 100, 20s. per 1000. Harrison's MUSK, 5s. per 100. HELIOTROPES, FUCHSIAS, and COLEUS, best Market sorts, 6s. per 100; in single pots, 12s. per 100. VERBENAS, MIMULUS, and single PETUNIAS, in single pots, 12s. per 100. Free on rail in London. Cash with order.
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PALMS, FICUS, FERNS, &c., in any quantity.—PALMS, Mixed 6s., 12s., 18s., 36s. per doz.

FICUS ELASTICA...	...	...	15s., 18s., 24s. per doz.
MAIDENHAIR FERNS	...	...	3s., 9s., 12s. per doz.
FERNS, in variety	...	...	2s., 6s., 12s., 24s. per doz.
CYPERUS ALTERNIFOLIUS	...	...	2s., 6s., 9s. per doz.
ARALIA SIEBOLDI	...	...	2s., 6s., 9s., 12s. per doz.
FLOWERING PLANTS, Mixed	...	...	9s., 12s., 18s. per doz.
COLLECTION of PLANTS	...	4s., 6s., 9s., 12s.	

Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

MAIDENHAIR FERNS,
In 48s, 5s. per dozen.
Also extra fine stuff, in 32s, at 7s. per doz.
COLEUS, rooted cuttings, 5s. per 100. FUCHSIAS, rooted cuttings, 4s. per 100.
All the above packed free for Cash with Order.
T. BAKER, Manager, Brandford Nursery, Upper Teddington.

JACK FROST
Has caused many losses that can be made good in an easy and cheap manner by purchasing the following Bulbs and Plants, which I can strongly recommend as being first-class:—
BEGONIAS (Single)—20,000 grand bulbs, mixed colours, finest ever offered at the price, 2s. per dozen.
PELARGONIUMS (Show and Decorative).—Fine plants, in best kinds, 6s., 9s., and 12s. per dozen.
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DOUBLE PETUNIAS.—Extra fine new kinds, 6 for 2s. 6d., 12 for 4s. *Send for CATALOGUE, free.*
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Of every description, from 1s. each; samples, post-free, 1s. 3d. RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.
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The Selections we offer are composed exclusively of the dwarfest-growing and finest-leaved Grasses, and form in a very short space of time a beautiful velvety turf of the finest texture and colour.

"The Bowling Green here, which was prepared last October, and sown with your *Lawn Seed* last April, was opened on Saturday, July 7th, and it gives me much pleasure to inform you that the turf and growth of seed far exceeded the expectations of the members of the Bowling Club. I have no hesitation in stating that sowing seed is far preferable to turfing new ground."—P. WILSON JONES, Esq., Newtown.

"I never saw any *Lawn Grass Seeds* do so well as the mixture I had from you without Rye-grass. The result from this was most satisfactory."—Mr. GEORGE DEAN, Idlerocks.

Extra Select Mixed Dwarf Evergreen Lawn Grass,
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including a small proportion of Dwarf Perennial Rye-Grass.

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LILIUM AURATUM!

VERY LARGE BULBS, 4s. per dozen, 50 for 14s., 100 for 26s.
EXTRA LARGE SELECTED BULBS, 6s. per dozen, 50 for 20s.
NO BETTER OBTAINABLE.

LILIUM MELPOMENE.—Lovely dark rose-shaded and spotted on white. Extra fine Bulbs, 6 for 3s. 6d., 12 for 6s. (usual price 18s.).

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ALL CARRIAGE PAID AT SPECIALLY REDUCED PRICES.

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FERNS!—FERNS!!

Well-grown Stuff, at Moderate Prices.

A large quantity, in 2½-inch pots, chiefly Pteris cristata; also Alba lineata, Adiatum fulvum and pubescens, at 9s. per 100.

Good bushy stuff in 48's.—Pteris cristata, nobilis, and tremula; also Aralias, at 4s. 6d. per dozen.

The above prices are for Cash with Order only. Packing free. All orders carefully and promptly executed.

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BEST DERBYSHIRE TUFA and WHITE and COLOURED SPARS. For all kinds of Ornamental Rockery and Grotto Work. Low quotations on application to—

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FENCING or TRAINING FRUIT TREES.—For Sale cheap, a large quantity of very strong GALVANIZED PILLARS and STANDARDS, 5 feet out of ground.—Apply, R. S., Albert Cottage, St. Julian's Road, Streatham.

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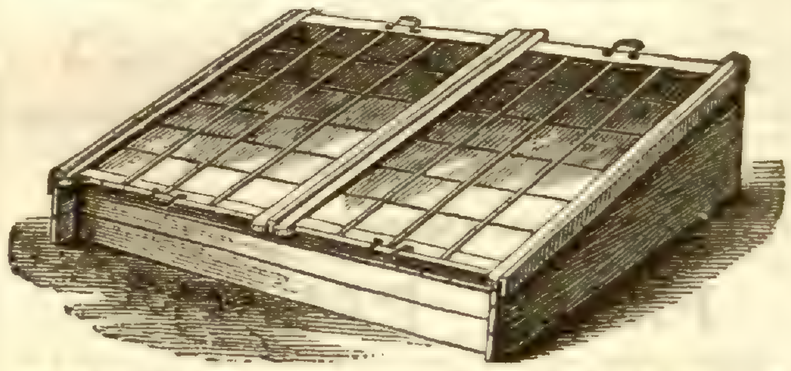

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Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft...	CASH	2	0	0
2 ,, 8 ft. by 6 ft...	PRICES,	3	0	0
3 ,, 12 ft. by 6 ft...		4	2	6
4 ,, 16 ft. by 6 ft...	CARRIAGE	5	5	0
5 ,, 20 ft. by 6 ft...		6	7	6
6 ,, 24 ft. by 6 ft...	PAID.	7	10	0

Larger sizes at proportionate prices.

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Four Gallons or more sent carriage paid to any part.
☞ Every gallon guaranteed above the usual standard strength.
Full directions for use printed on each package.
To be used in the proportion of 1 gal. to 25 gals. of water.

2 Gallon Drum	3/3	12 Gallon Cask ...	...	18/6
4 ,, ...	7/-	18 ,, ,, ...	...	27/-
6 ,, ...	10/-	40 ,, Barrel...	...	50/-

In addition, packages charged as follows:—

2 Gallon Drum	1/6	12 Gallon Cask ...	...	3/-
4 ,, ,, ...	2/3	18 ,, ,, ...	...	4/-
6 ,, ,, ...	2/9	40 ,, Barrel...	...	6/-

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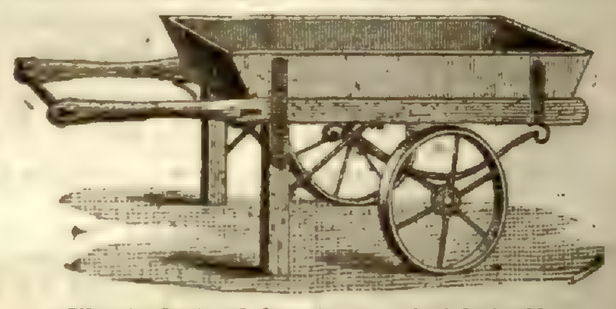

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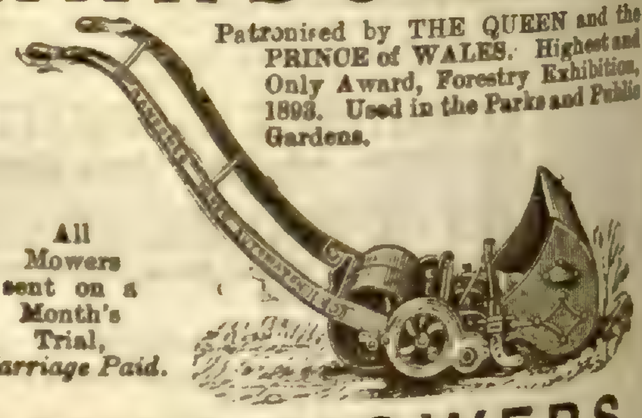

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GENTLEMEN,—Twelve years ago I purchased the first "Easy" Lawn Mower. Since then I have had several machines from you, and it is only due to you that I should tell you how entirely satisfactory they have all proved. I have for several years worked two of your 24-inch machines fastened together, drawn by a mule, and worked by a man with long reins, and it is astonishing the amount of work they got over. In my opinion, the "New Easy" is the most easy draught, the simplest, and cheapest Lawn Mower extant.

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UNSOLICITED TESTIMONIALS

The Gardens, Laleham House, Staines, June, 1894.

GENTLEMEN,—We have had "The Easy" now for six years, and it has done its work well, and easily worked by our man. I sharpen it once or twice a year, otherwise it has never been out of use, and never wanted repair.

THOS. ANDERSON.

The Gardens, Ravelston Black Hall, Midlothian, March 5, 1895.

All the three Machines I have had are working still, the first having been purchased seven years ago. I have not used any other for three years, as the men find them light and easy to work, as we have a very large extent of grass to keep, and the "New Easy" are fine running Machines, with rollers in front

D. JARDINE.

Biggar, August 29, 1894.

GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.

ROBERT BOA.

Churwell, Leeds, August, 1894.

I have a "New Easy" Lawn Mower, pattern 1888, which I got from you in 1889. This is the sixth season, the machine has worked well (18-in.), and has cut ½ acre lawn weekly by a lad since I got it, and it is good now.—SAMUEL ATKINSON.

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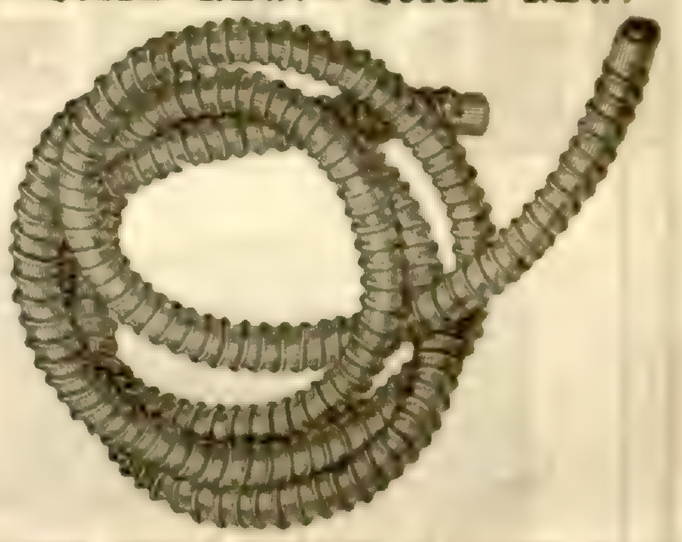

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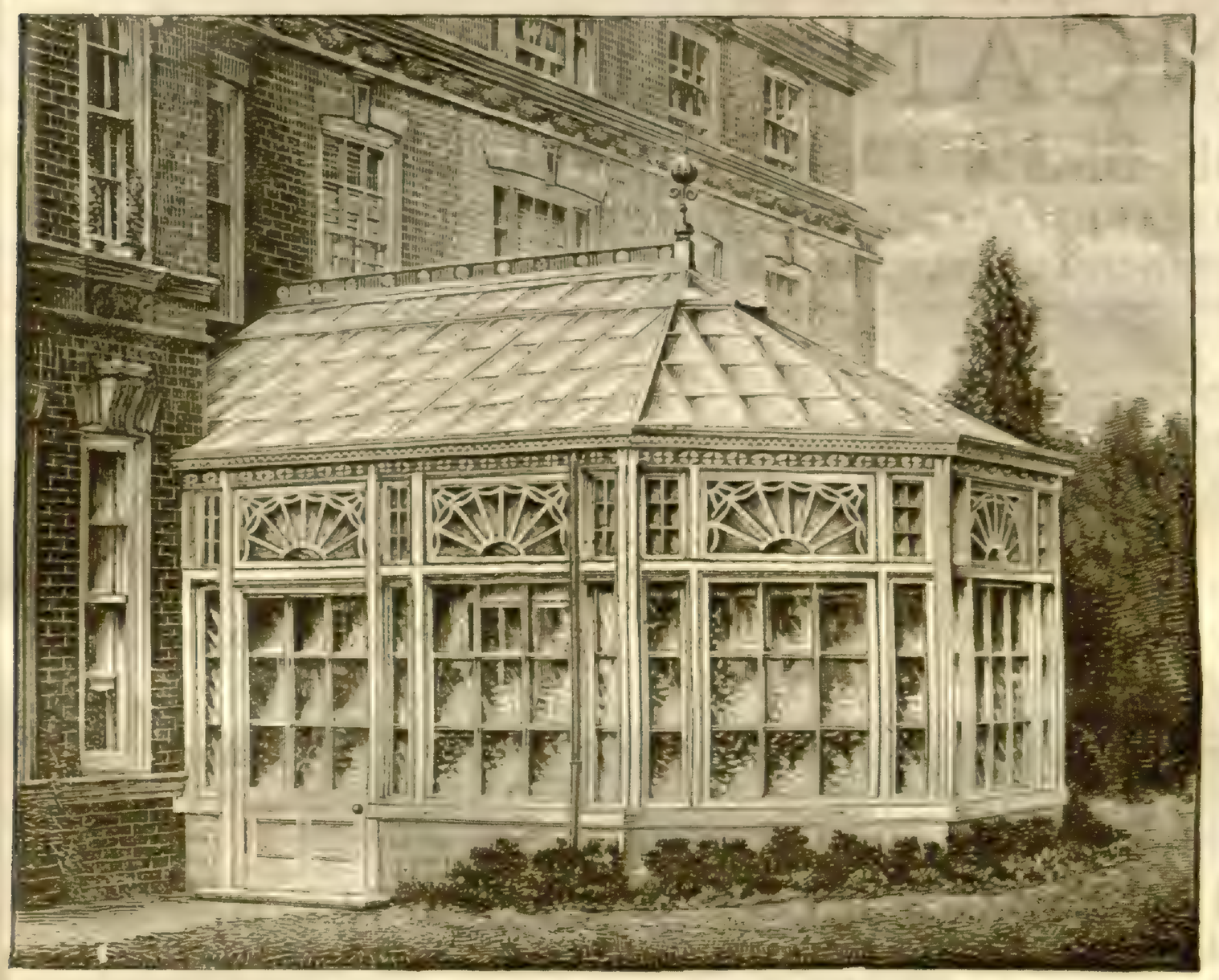

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and the complexity thus arising is, therefore, infinite. To these elements of variation must also be added those constituting our theme, and which at any moment may introduce a new character altogether, which cannot possibly be imputed to ancestral influence. In short, every individual, whether it be man, beast, fish, plant, or insect, will be found, if only closely enough studied, to have its own peculiarities, none being absolutely identical in every respect, either with their parents or members of their own generation. Nevertheless, the principle of heredity is undoubted, so far as general resemblance is concerned, and the probabilities are all in favour of the reproduction in the offspring of all the main characters of the parents, any marked peculiarity not simply accidental being almost certainly transmitted with greater or less distinctness.

It is due to this fact that when we leave the human race, which has an insuperable objection to allow its love affairs to be regulated by rule and compass for scientific purposes, and turn to the more amenable animals and plants, we find ourselves enabled to accumulate these peculiarities generation after generation, to such an extent that in time two individuals of the same species, the products of selection on different lines, may differ far more the one from the other than two individuals of quite different species, or even genera. Small gradations, often only appreciable by the trained eye of the breeder, bring about such results, as a rule, by accumulation; but every now and again altogether unlooked-for new types, i.e., the "special formations" of our theme, appear, and form new lines of departure, of which the breeder otherwise would never have dreamt.

Take as a common example the dog, where a common wolf or fox-like progenitor has been moulded mainly by constant careful selection of special points on divergent lines for countless generations, until at last we possess such utterly different types as the Newfoundland and the tiniest lap-dog as regards mere size, and the bull-dog and greyhound as extremes of dissimilar form. Among the dogs, however, there are strong probabilities that Nature's "jumps" have materially helped the breeder in attaining such astonishing results. Both the bull-dog, and the Dachshund or Turnspit presumably started as sudden "sports."

No actual record, indeed, establishes this as a fact, but where we find identical types originating in other quadrupeds, we have very strong *primâ facie* evidence to go upon. In 1791 an ordinary sheep in Massachusetts dropped a ram lamb of precisely the turnspit type, with a long body and head, and short crooked legs. The offspring of this prodigy, with ordinary ewes, were not of intermediate character, but invariably quite true to one or the other type, and thanks to this, a true breed of sheep called the otter or ancon breed resulted, since their short legs prevented them from jumping fences, and this was deemed an advantage worth perpetuating. As regards the bull-dog, the presumption of sudden origin is based on precisely analogous data, since, although no date of origin exists, the Niata breed of cattle, which originated with the American Indians, possesses precisely the peculiar form of jaw and facial expression of the bull-dog, which Indians most assuredly would not have bred up to by selection of such, to them, utterly useless points. More than useless, indeed, since, although a use has been found for the bull-dog, and his points, therefore, are an advantage to him, the cattle are precluded by the form of the jaw from browsing on twigs and rushes as ordinary cattle do in times of drought, and hence unless artificially fed at such periods the breed would become extinct. A very peculiar circumstance it is that the jaw should be so greatly modified in precisely the same way in both a ruminant and a carnivore, two so extremely opposed animals.

Take as another familiar example, fancy pigeons. In these a dozen types could be brought together which if found wild in different parts of the world, no scientist would rank as belonging even to the same family, so diverse are they in every point. Yet every one of these is a form of the common blue-rock pigeon modified by continuous selection of differences, generally minute, but occasionally of the "special creation" category. Strange to say, although this selective breeding has been carried on for ages, it still occasionally happens that eggs of even the most exaggerated types yield common blue-rocks when hatched, while partial reversions are so frequent that the breeder has constantly to be on the alert, not merely to improve his birds but simply to keep them true. There is little doubt indeed that were these highly modified animals, dogs, pigeons, or what not, turned out to shift for themselves, and deprived at once of the selective and protective care of man, natural selection would immediately commence to undo his work, and by reversing his process speedily restore them to their original types. Many undoubtedly would die at once, being too artificialised to survive in the general struggle for existence; of the survivors, those nearest the wild forms of wolf, fox, or blue-rock, would obviously stand the best chance—hence, Nature would favour every point of reversion, and these would, of course, go on accumulating until the normal type was re-established, and all traces of human selection obliterated. *Chas. T. Druery, F.L.S.*

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

IRIS PARKOR×, *Foster* (var. inter. I. paradoxam feminam, et I. Korolkowi masculam, arte genita).

Professor Foster has obligingly sent us flowers of a lovely bearded Iris, raised by him out of Iris paradoxa by I. Korolkowi.

The prevailing tints of the falls are rich brownish-purple almost black, the veins broad purple on a translucent pale violet ground. The standards are of thinner substance, and have radiating purple veins on a thin translucent violet ground.

It is impossible to convey an adequate notion of the beauty of the flowers by any verbal description. For purposes of comparison, however, such detail is requisite, and is therefore appended in the foot-note.* From I. Koralkowi the hybrid differs in its blunter sepals and petals. That species, figured in *Gardeners' Chronicle*, July 11, 1888, has brownish cream-coloured flowers. I. paradoxa has deep lilac or purple flowers, with the falls much shorter than the standard.

* *Iris Parkor*×, Foster.—Perianth-tube slender, 25 mill. long. Sepals reflexed, somewhat fleshy, oblong obtuse, rounded, pale rosy-lilac, claw broad with a median band of deep purple, densely-crowded hairs, disc velvety rich brownish-purple, veins conspicuous, lower ones spreading horizontally, brownish-red, upper ones radiating, broad, deep purple, forking near the margin. Petals or standards erect, 5 by 2½ cent., thinner than the sepals, unguiculate, oblong-obovate, rich violet, veins radiating, lowest brownish, upper purple, forking near the margin, tertiary veins anastomosing, some ending in a blunt free extremity. Filaments glabrous, shining, purple, 3 mill. long. Anther 15 mill. long, violet, glabrous, linear, emarginate, with a broad white connective. Ovary glabrous, 3 cent. long 3-sided.

ROCK PLANTS AND OTHERS.

The rockery here is a feature of the place at this season of the year, and I venture to say a well furnished rockery is a source of real pleasure the whole year round both to employer and gardener—it is a spot where variety is found and variety has charms.

I am tempted to write a few words in praise of the following subjects, which deserve more than passing notice. The first to claim our attention are Daffodils, and when planted at irregular heights about the rockery in masses of fourteen to twenty bulbs in a clump they are charming to look at, to say nothing of their usefulness in a cut state. The following are noteworthy varieties:—Narcissus Sir Watkin, N. Empress, N. Emperor, N. Horsfieldi, N. bicolor, N. odorus, and several other varieties. We have the same kinds planted in the woodlands, on the lawn under trees, in fact they will adapt themselves to any situation. Waldsteinia fragarioides is a good rockery subject, and at present our plants is a mass of golden-yellow flowers; good sandy loam, and full exposure suit it. Ranunculus amplexicaulis is of a branching habit, and a strong plant produces large flowers, which are pure white; R. montanus thrives in a moist peaty soil, and the tufts are about 6 inches high, covered with numerous yellow flowers the size of those of the common Buttercup. Saxifraga apiculata is a good plant for covering ledges of rocks or planting in crevices, being one of the best that I know of for that purpose. S. Burseriana, S. B. major, S. sancta, S. valdensis, and a host of Saxifragas thrive better here when planted in flat beds of sandy soil with a liberal supply of stones packed around them, to afford protection during the winter, and keep them moist at the roots during the summer. I have counted as many as thirty-six flowering-stems on one small tuft of S. Burseriana during the early part of March. It is the earliest flowering variety that I know of. Primula villosa and P. marginata are interesting plants for the rockery, we grow them in good sandy loam; and P. rosea is a real gem if treated liberally, and it is one of the earliest to flower. A small tuft will produce upwards of twenty spikes of flowers. For increase, divide two-year-old plants after flowering, replanting into good loam, leaf-mould, and sand. Sanguinaria canadensis major is a lovely hardy subject for a pocket of the rockery—it should be grown in pure sand. Three weeks ago the plants were a mass of white flowers. Anemone Pulsatilla does better when planted in groups of a dozen plants or so, well packed round about with stones, and keeping the plants above the ground-level, especilly if the climate be moist, like that of Ireland. Androsace sarmentosa in a cool-house is a mass of flower; perhaps in a dry climate or a specially-prepared spot it would do outside, but it must be dry overhead. Orobus vernus is one of the prettiest things in flower at present; grow it from seed and plant it in good clumps, and I am sure thus treated will give satisfaction. Corydalis nobilis, C. Scouleri, and the common C. lutea, are showy spring-flowering plants for the rockery or border. Erinus alpinus ought to be placed on the rockery, on old walls, &c. The Epimediums are lovely at this season of the year, notably so E. niveum, E. macranthum, and several others. For covering ledges and flat stones the following are suitable: Dryas octopetala, Salix reticulata, S. retusa, S. serpyllifolia, and Arenaria balearica. The above are only a few out of many which could be named for the same purpose.

I can well recommend the following plants as being suitable for planting near to water: Rheum officinale, R. palmatum, and Tritoma Uvaria are very noble plants for such a place, not forgetting Gunnera manicata and G. scabra, and a few plants of Polygonum sachalinense interspersed. Arundinaria japonica, Bambusa (Metake) and others of that family are highly-ornamental plants, either as single specimens or intermixed, and so are Gynerium argenteum. Pyrethrum uliginosum is a showy plant for such a position, and flowers abundantly in the autumn. Ferula acuminata and Ferula glauca are effective anywhere, and ought to be found in every garden,

but the last named should be planted in good soil; and all of these plants should receive good mulchings of manure in the winter, and heavy applications of weak liquid-manure during growth. *Herbert May, Markree Castle, Collooney, co. Sligo.*

CYPRIPEDIUM × OLENUS.

This pretty and distinct cross between C. ciliolare, the male, and C. bellatulum, female parent (fig. 86), was raised by Mr. R. I. Measures, Cambridge Lodge, Camberwell, and shown by him at the meeting of the Royal Horticultural Society on March 26 last. It has a well-formed bloom, tinged with rose colour; the petals dotted, and the dorsal sepal decorated with purple-coloured lines. The reverse of this cross, shown at the Royal Horticultural Society's meeting

Fig. 86.—CYPRIPEDIUM × OLENUS.

on Tuesday last, was still more remarkable in the markings of the flower and size of the leaf. It is a variety which we hope shortly to figure in these pages.

ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUM ROTHSCHILDIANUM, Var. TRENTONENSE.

A remarkable form of this popular species, and one truly gigantic in its proportions, possessing also a colouring of intense richness. It is now flowering in the collection of C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. The plant, although small, with three growths, has produced a very stout stem, carrying three fully-developed blooms, each measuring 10½ inches across the petals; both the upper and interior sepals are equal in size, 2 inches across and 3 inches long, the characteristic longitudinal lines being almost black, and very broad; the petals are profusely marked with close shining lines of rich chocolate, and measure three-quarters of an inch at the base. The pouch is of great size, with a deep solid colouring, the venation being almost obscure; the hairy staminode is decidedly darker than is usually observed in this type. As the plant gains strength, a marked improvement is anticipated. *A. Dimmock, Trenton.*

Cattleya guatemalensis.

Probably the finest plant in cultivation of this rare and valuable Cattleya is to be found here in this collection. It is greatly cherished by its fortunate owner. The specimen, now in full bloom, is covered with an abundance of leaves, and possesses fifty pseudobulbs and ten leads, and carries in all seventy-eight flowers, each bloom measuring 3½ inches across, of a pleasing lilac-purple colour, shaded with orange; the labellum is of a rich purple tint, and is furnished with a conspicuous orange-coloured disc, beautifully lined and marked with orange-red. It would be interesting to know if there is a larger existing specimen in cultivation than this one. *A. Dimmock, Trenton, New Jersey, U.S.A.*

Orchids at Sunningdale Park.

In great contrast to the usual style of cultivating Orchids is that which rules in the collection belonging to Major Joicey, at Sunningdale. Here are to be observed some of the best examples of Orchid culture. Mr. F. J. Thorne, the gardener at Sunningdale Park, having plants in excellent condition, many of which produce flowers so abundantly as to excite wonder in the beholder how the specimens could year after year bear such a show of bloom, and yet keep fresh-looking, and be furnished with perfect foliage. One of the most remarkable instances of this was to be seen in the grand specimens of Miltonia vexillaria, which have been grown by Mr. Thorne from small imported morsels in a few years. These plants are literally covered with flowers; one of the best (for which a Cultural Commendation was awarded at the Royal Horticultural Society last year), having nearly doubled the number of its flowers this season. It is now in an 8-inch pot, and bears thirty-nine flower-spikes, which average seven blossoms each. The remainder of the plants are well furnished with flowers, making a grand display. Another instance of successful culture was noted in some plants of the showy Cyrtopodium punctatum, the largest of which had eleven spikes, and seven of them open at one time. The average number of flowers on each was 200. The chestnut-red and yellow bracts, and Palm-like foliage, gave them a noble aspect. Various species of Anguloa and Lycaste possess astonishing vigour, and the display of their flowers is marvellous. The stout plants of Anguloa Clowesii have in some instances from twelve to sixteen blossoms on a growth; and those of Lycaste Skinneri and others nine and ten.

In each of the houses a good show of bloom was remarked; and in the course of a rapid survey there was noted in the lean-to cool range a fine show of Odontoglossums, among which were profusely-flowered O. Rossii majus, a beautiful example of the true O. Cervantesii decorum, and a plant of the now uncommon O. Uro-Skinneri bearing two flower-spikes. In the same house with the Odontoglossums, and flowering profusely, were fine specimens of Cypripedium villosum aureum, C. Boxalli, and others of that class; Ada aurantiaca, Oncidium concolor, and some Masdevallias.

In another house, suspended above a pretty display of Streptocarpus, were observed some plants of rare species of Dendrobium, of which the showiest was the fine D. atro-violaceum, figured at p. 113 of our number for January 27, 1894. In another house were seen some brilliantly-coloured Gloxinias, mingled with foliage plants, Orchids being suspended overhead, and among them the crimson-flowered Broughtonia sanguinea, well supplied with spikes, and which here in the full sun-light thrives admirably year after year, although it has the name of being one of the most difficult Orchids to grow. Another plant of a similar nature is Epidendrum (Diacrium) bicornutum, which here has three fine spikes of large white wax-like flowers with violet spots.

In the same house with the before-mentioned examples of Miltonia vexillaria, are in flower Platyclinis latifolia with many spikes; Lycaste Schilleriana, with twenty flowers; L. plana, equally good; the true Oncidium ampliatum majus, each piece growing on a raft or block, and furnished with two or three stout branched spikes of rich yellow flowers; fine specimens of Lælia purpurata; a grand mass of Oncidium Wentworthianum with many spikes; a similar example of O. sphacelatum; some splendid varieties of Cattleya Skinneri, Cypripedium × Dominianum, C. × Sedeni candidulum, grand examples of Cymbidium Lowianum, and various Dendrobiums, &c.

In the next house striking objects are Cypripedium caudatum roseum, with a good show of flowers, the petals of which are 30 inches in length; Lælia cinnabarina, with a fine head of orange-coloured flowers; Oncidium phymatocheilum, with two large spikes; some finely-bloomed Cypripedium niveum, C. bellatulum, C. Dayanum, C. exul, C. Elliottianum, and other species.

In a warm house, flowering profusely in a sunny corner, are a fine type of Vanda teres, collected by Major Joicey's eldest son when travelling in the tropics, and which are specially attractive in that

*

the lower sepals are cream-white, which shows to advantage the bright rosy-crimson of the other segments. Dendrobium Dalhousieanum, D. cariniferum, and other species, also obtained on the same journey, are flowering well. Some very fine Phaius have been crossed with species which should, if Mr. Thorne succeeds in raising the seedlings, give remarkable results, like many other crosses which are being attempted here. The remarkable evidence of good culture observed in the Orchids equally applies to all other branches of the gardens at Sunningdale Park, for the vineries, Strawberry-house, and houses devoted to ornamental and table-plants, &c., were all in excellent order.

FORESTRY.

STATE FORESTRY.

The fact that Natal has abandoned a policy of progressive forest conservation is a fresh proof that State forestry thrives badly when left to the mercy of uneducated public opinion. We use the word uneducated more in connection with the ideal form of education than in its popular sense; for the true aim of education is, we take it, to add to the permanent happiness and prosperity of the community at large, and not merely to aid in the attainment of individual wealth and rank. At first sight, it seems a far cry from public education to forestry; yet the success of the latter is dependent upon three qualities which education is supposed to inculcate and develop, foresight, observation, and thrift. The sowing and planting of crops to be reaped a century or so hence, the anticipation of future markets and national requirements, and the utilisation of the land to the best possible advantage, are matters well worthy of public attention, more especially in countries where public and private interests are practically identical. But since everybody's business is nobody's business, there may be valuable institutions, calculated to advance national prosperity, of which the vast majority are in ignorance or to which they are indifferent. State forestry is one of these, although in some instances it is not only desirable, but a necessary institution; for it has been demonstrated clearly enough that in certain climates and under certain physical conditions a treeless country is simply a barren waste. Originally, Nature considerately provided all or nearly all parts of the habitable globe with a forest covering, and man, with his usual indifference to that which cost him nothing, has inconsiderately cut or burnt the greater part of it, and only requires time to complete the task. A certain amount of forest clearing was, of course, a necessity in early times, and in thinly-populated countries an increase of population means an increase of cultivated land, and the forest must make room for the plough. But all countries possess large tracts of land which cannot be profitably cultivated, but which are capable of growing that necessary percentage of forest growth, without which the health of man and beast suffers. When such land is already afforested, wisdom appeals to the common-sense of the nation or individual (whichever may be the owner) to keep it so, but usually appeals in vain—for both individuals and the Government which represent them are inclined to follow the literal interpretation of a Scriptural injunction, and let the morrow take care of itself. Is the industrious settler in the American backwoods or Australian bush to be debarred from firing a few hundred acres of forest if he wants a bite of grass for his cattle? It may spread for a few square miles further than he intended, perhaps, but that is not his fault he reckons, and after all there is plenty of timber left. Governments may shake their heads over such wasteful and dangerous proceedings, and frame a few innocuous laws to pacify the alarmist minority of the populace, and even if these fail to act, are there not the inevitable statistics which prove that such waste proceeds less rapidly than formerly (because there is less left to burn), and nervous people are re-assured such is the state of matters in thinly-populated districts which still possess the remains of vast primeval forests. In Europe things are different. Here, every square mile suitable for agriculture or pasturage has been appropriated, and what forest land remains has been retained for definite reasons. On the Continent from one-fourth to one-half of the total forest area is owned by the State, and an example is set to the private owner of woods which is followed more or less closely. But we find that most of these forest departments were inaugurated (in a primitive manner, it may be) several centuries ago, and the cultural methods have been elaborated, and additions to the forest area made through the activity of the departmental staff, and the proceeds arising from the sale of timber. They probably owe their origin rather to the forethought or sporting propensities of some royal despot or autocrat than to the influence of public opinion. Our own Royal Forests are instances of the former mode of origin, but while the Forest Departments of other countries have kept in touch with technical and scientific progress, and hold ideas which harmonise with the principles of national and rural economy, our Woods and Forest Office has faithfully preserved the traditions and spirit of past ages. The gorgeous hunting pageants of kings have been replaced by picnic parties and commoner's donkeys, it is true, but the Department's skill in forestry is much the same as in the days of William Rufus—so far at least as practice goes. We believe this Department has under its care a little over 50,000 acres, which yield an average return of 1*s.* to 2*s.* per acre. The State forests in Germany yield from 10*s.* to 15*s.* per acre from similar soils and situations. A comparison of these figures does not allow of any definite conclusion being drawn, as many of our British forests are maintained, more or less, as public playgrounds, and any suggested change in the management is at once denounced as Vandalism by short-sighted lovers of Nature. But they furnish abundant food for reflection by those who recognise the changes which are taking place in rural England. Whether agriculture will revive in the future cannot be predicted at present, but one thing if nothing else is certain, Wheat growing is a dead branch of the farming industry. This means a large reduction of arable land, and also a reduction of the farm labour bill. A large proportion of farm labourers must consequently turn their hands to other work. When this is to be had, all well and good; but in many districts, farm work is almost the sole employment obtainable, and when it decreases, rural depopulation proceeds. As an employer of labour, woods and forests play an important part in the national welfare, and for this reason, if none other, an adequate forest area is useful, if not imperative.

Several schemes have been lately brought forward for promoting the afforestation of waste lands. Courageous M.P.'s who put questions on this subject are blandly informed that the government will be happy to consider any suggestions on the matter, but there are no funds at present available for the purpose. But a question we should like to see discussed and answered is, "Does any good reason exist why a portion of those 50,000 acres managed by the Woods and Forest Department should not be made the nucleus of a properly organized scheme of State forestry?" Suppose they returned a surplus over expenditure of £10,000 (which, by the exercise of a little economy would not be difficult), and this sum were devoted to the formation and extension of forests in needy districts, would the Treasury be greatly embarrassed by the sacrifice? Yet £10,000 properly expended annually in forestry work would not only prove a sound investment for the State, but would be the means of building up industries in this country which are at present monopolized by the foreigner, and would partially solve the unemployed problem.

So long as Great Britain ignores the example set by all the highly civilised nations of Europe, and fails to utilise the land now lying unproductive we cannot find fault with our colonies and dependencies for neglecting to turn their vast natural forests to the best advantage.

Some may assert that State forestry is quite unnecessary as long as private landowners continue to plant. But what guarantee have we that this will be the case? Suppose every landowner made up his mind to clear the timber off his estate in a twelvemonth, and convert picturesque England into a monotonous expanse of field and pasture? Such a catastrophe may not be imminent, but the fact is forcibly brought home to us, that neither by legislation nor independent action has the Government rendered such a course impossible. We are the largest timber importers in the world, and yet only possess 4 per cent. of the total area under wood. Twelve per cent. of woodland is little enough, but we suppose many would place the desirable percentage higher. If it be the landowner's duty to plant trees, it is clearly the duty of the Government to see that they do it, and in such a manner that the expense is fairly shared by those who benefit from such work, viz., the public. The present policy of inaction means a loss to the country far in excess of the paltry saving effected by it, although the mere fact of its having been incurred for centuries appears to prevent some people from seeing it in its true light. *A. C. F.*

THE VITALITY OF SEEDS.

In the course of his investigations on the behaviour of matter at low temperatures, Professor Dewar was led to consider the effect of great cold on bacterial life and seeds. Although bacterial life is destroyed by boiling in water at a temperature of 100° C, it can still endure unaffected a degree of cold much greater in proportion. Professor Dewar submitted seeds for the space of an hour to a temperature of 182° C., and found that they afterwards went on putrefying or germinating as the case happened to be. In a moment of scientific inspiration, Lord Kelvin suggested that the first life might have been brought to this planet by a seed-bearing meteorite. But though it has yet to be explained how this meteorite was ever originally equipped with seeds, the discoveries of Prof. Dewar are interesting in a way because they give colour to Lord Kelvin's theory. They show that spores may live upon a planet through long periods of low temperature. The popular press is never tired of trumping up the old stories of the power of mummy-wheat to germinate after long ages of time. Let it suffice to say that these exaggerated estimates of the powers of retaining vitality which seeds possess, have not been substantiated.

In a recent number of that interesting journal, *Science Gossip*, Mr. H. B Guppy put forward a proposal which we commend to all who are interested in biological science. In his investigations on the dispersal of seeds, Darwin came to the conclusion that a period of twenty-four hours as the limit of time, and 500 miles as the limit of distance, was the most that could reasonably be permitted to the agency of birds in stocking islands with seeds carried either on or inside their bodies. Mr. Guppy suggests that observers should examine such specimens of water-fowl as are common in their neighbourhood in order that we may have more definite data as to the dispersal of seeds and their vitality.

Some observers have testified to the fact that wild ducks frequently carry seeds a distance of perhaps a thousand miles or more, and that these seeds retain their vitality and germinate, sometimes without much delay, at other times after a year or two. We know that the common European species, Xanthium spinosum, has spread over the whole of South Africa, and we are probably right in thinking that the seeds of this plant have been carried in the wool of sheep. Here the seed did not, as in the case of the water-fowl, pass into the stomach of the animal, but there seems to be no reason why birds should not transport seeds in their internal organs across oceans and continents. Modern experiments with the seeds of cereals show that they lose their vitality after ten years at most, and usually much sooner; but much depends on the state of the seeds at the

time they are gathered from the parent plant, the mode of preservation, and the influences they may have been exposed to during preservation. Mr. Sowerby, who has, at the garden of the Royal Botanic Society, in Regent's Park, experimented with a variety of seeds of various ages, and produced in quite distinct countries, declares that he has not met with any of fifteen years of age, to his own knowledge, to grow. The most aged seeds he has known to vegetate were those of the Australian Baobab Tree (Adansonia Gregorii), ten years old. One of the most curious cases of the vitality of seeds is reported in the *Journal of the Royal Botanic Society* for 1885. A handful of fruits of Aucuba, taken from a shrub in the gardens at Regent's Park, were planted in a pot in July, 1882; two plants appeared above ground in February, 1883, fourteen in 1885, and two more in February, 1886. It may, perhaps, be found that the process of ripening after the fruit has been removed from the parent, especially when buried in moist earth and at a less rapid pace, may account for the difference in time of germinating.

Another point on which more light is wanted is the vitality of seeds after being carried over long distances by winds. Of course, with Cryptogams the matter is easy enough, for we have in the wind an agency capable of distributing spores over long distances; but with phanerogamous plants difficulties arise. Berthelot, indeed, avers that after a violent hurricane he saw an annual belonging to the Compositæ (Erigeron ambiguus), widely distributed throughout the Mediterranean region, suddenly appear at various spots on the Canary Islands, where it was previously unknown. It is probable, therefore, that the seed had been blown across from Portugal or North Africa. How interesting would it be if we could place a mark on certain seeds, and casting them to the winds, find the identical ones in some spot hundreds of miles away from home! *The Adventures of a Seed.* What a sale such a book would have among botanists and biologists!

Darwin's experiments to determine the vitality of seeds in sea-water, the results of which were published in this Journal, do not seem to have been imitated by more recent investigators; but here surely is an interesting field for study. We may perhaps be allowed to quote one of the experiments. Darwin found that out of eighty-seven kinds of seeds, sixty-four germinated after an immersion of twenty-eight days, and a few survived an immersion of 137 days; and in another, that out of ninety-four dried plants, eighteen floated for above twenty-eight days. Combining the results of the two experiments, Darwin concluded that fourteen plants out of every 100 in the flora of a country might be floated by currents moving at the average rate of the several Atlantic currents, a distance of 924 miles, and might, on being stranded, furnish seeds capable of germinating.

While on the subject of the power of seeds to withstand the power of water, it may not be uninteresting to state that it is a well-known fact that the Cocoa-nut is one of the first plants to make its appearance on coral islands, and it is, according to Sir John Lubbock, the only Palm which is common to both hemispheres. The seeds of the Cocoa-nut are, of course, well protected against mishaps by the loose texture of their husks, and can float easily on the water. The seeds of the common Duck-weed, again, lie dormant at the bottom of the water all through the long autumn and winter, but at the approach of spring they rise to the surface with unimpaired vitality, and germinate forthwith.

Some years ago the British Association took up the question of the vitality of seeds, and instituted a series of experiments, in which Professors Daubeny, Henslow, and Lindley took part. In the Report for 1857 we find a valuable summary of the results of the experiments from 1841 to 1857 inclusive. In the table showing the greatest ages at which the seeds experimented with germinated, we find that the seed of a species of Colutea belonging to the Leguminosæ germinated after forty-three years. This is the only plant mentioned in the list whose seed preserved its vitality for so long a time as forty-three years, though it would appear in general that the seeds of leguminous plants retain their vitality for a long time.

We are unaware that any experiments are being carried on at the present time on this interesting subject; certainly the British Association dropped the matter after the year 1857.

De Candolle in 1846, experimenting with seeds about 15 years old, obtained results which go to prove that the natural orders, Malvaceæ and Leguminosæ excel all the orders examined in the duration of the faculty of germination. Comparing these results with those obtained by the British Association investigators, we find that the longest period a species of Malvaceæ retained its vitality was 27 years. Beside the Leguminosæ, the seeds of species of the following orders retained their vitality after a period of twenty years, Tiliaceæ Rhamnaceæ, and Myrtaceæ. Returning for a moment to the statements mentioned above, as to the powers of different seeds of resisting external influences, we find that cereal grains

Fig. 87.—View in the Conservatory, Royal Gardens, Laeken, Brussels.

have been proved by Edwards and Colin to bear a short exposure of 122° F. in water, as well as a dry cold of 70° below the freezing point; while Hemingway, in a paper published in the *Ann. of Nat. Hist.*, 1st series, viii., 317, states that seeds of Elder germinated after being twice boiled in making wine, being present during the vinous fermentation, and remaining for twenty months in the dregs of the cask. *H. C. F.*

BELGIUM.

THE ROYAL CONSERVATORIES AT LAEKEN.

As in former years, His Majesty King Leopold II. threw open to the public on certain days in April his fine conservatories at Laeken. This year various societies and institutions availed themselves of the privilege. I visited the houses, accompanied by Mr. Henry Knight, the head gardener, under whose skilled management a high degree of excellence is maintained. I noted the plant of Browneamacrophylla, which has bloomed several times; an Ada aurantiaca with twenty-four flower-stems, and more than 250 blooms; Odontoglossum crispum with three fine racemes; another specimen with eight trusses; a specimen plant of the same popular Orchid with a branching raceme bearing about a hundred blooms. Dendrobium × Leechianum has a large and very dark lip. The Cattleyas and Lælia are famous among Orchid-lovers, and deservedly so, for never were there more healthy and vigorous plants. One specimen of Cattleya Mossiæ bore seventy-three buds, and 150 blooms. The Rose-house is in fine order, and promises plenty of bloom. The last new Bertolonias and Sonerilas are doing well, and I admired Saintpaulia ionantha. There is an interesting series of hybrids of Anthurium Andreanum, among which are some of very dark colour; one among them had the upper part of the spathe green. Among the climbing plants which ornament the houses, and of which I have before spoken, I would mention a plant of Tacsonia exoniensis ×, which is nearly 24 feet in length, and almost entirely surrounds a summerhouse.

In the great winter-garden I noted Cattleya Trianæi measuring more than 3 feet across, and with seventy-three flowers. A charming effect was here produced by many fine specimens of Euphorbia jacquiniæflora, which have been flowering since December.

An interesting operation, already mentioned in these pages, and of which I can now tell the results, is the transplantation of the great Palms from the winter-garden. These Palms were raised on mounds from 3 feet to nearly 5 feet in height; it became necessary not merely to lower them, but also to set them where their crowns no longer touched the roof. From the ground in which the giant trees were planted more than 100 cubic mètres (1 cubic mètre = 1·308 cubic yards) of brickwork were removed, and replaced with good soil, then the Palms were moved to their new situation—no easy task. Sabal Blackburniana required the united efforts of a dozen men; its weight was estimated at from 20 000 to 23 000 kilo. (1 kilo. = 2·2 lb.). Four Corypha australis were removed from the Congo-house into the large winter-garden; it was necessary to place them on an improvised spelter, and to bend them that they might be moved from one spot to the other. This required much care; the work, begun at the end of June, was completed in September. It proved quite successful, thanks to the care taken by Mr. Knight, and his next in command, Mr. Van Obbergen.

In the Royal Parks at Laeken, the Rhododendrons, Aucubas, Cherry-laurels, Berberis Mahonia, and the Roses were killed; the Ilex withstood the weather fairly well. The Caucasian Rhododendrons, all dwarf varieties, stood the cold better. Rhododendron Prince Camille de Rohan should, Mr. Knight says, be decidedly excluded from cultivation. *C. De B.*

VINE TENDRILS, Etc.

Gardeners when engaged in stopping and training the young growths of their Vines are sometimes puzzled what to do with the tendrils, stem, roots, and lateral growths. I allude principally to young gardeners, and those who hold the position of foremen. In some gardens the foreman has almost the entire responsibility thrown upon his shoulders of the condition of the glasshouses, including the vineries. It is well that this is so, as it is a good training for his duties as head-gardener, a position most young gardeners hope to attain some day. Sometimes the young gardener, owing to his natural abilities, or to accidental circumstance, is put into a position of trust before he has mastered the details of the work, and he approaches the details of Vine culture, fearful lest, by some mistake, the crop may be ruined, and his reputation seriously damaged. I can well remember in my early gardening days hesitating whether to cut off the tendrils, or to leave them on the Vine, and to make sure, I tried some rods with the tendrils cut off, and others with them left on, but found that it made no difference to the growth or

condition of the Vines, and for many years they have been pinched or cut off. The same remark applies to the aërial roots on Vines. I have seen a house of Vines in which the rods were profusely furnished with these roots, many of them from 1 foot to 18 inches long. This condition of things show that there is something wrong somewhere. As it is most common where Vines are forced early, the inference is that the growth is pushed on more rapidly than the roots can take up nutriment, and as the atmosphere of the house is very often saturated with moisture, the conditions are favourable for the emission of roots; probably they obtain something from the atmosphere, but I have never considered this, and cut or break them off as fast as they form—and I always consider that if these roots form, something wants seeing to. I found on one occasion that it was over-dryness in the border; the surface was moist enough, but water had not penetrated to the bulk of the roots, and this was a matter that admitted of easy remedy. Sometimes the bulk of the roots are in the outside border, and the cold weather causes stoppage of growth. The remedy for this is to place a good depth of fermenting manure over the roots; the heat may not penetrate deeply, but the cold is kept out. Even if all the growing conditions of the Vine are favourable, adventitious roots may be produced by an over-close moist atmosphere. Too much moisture is also the cause of flabbiness in the foliage. One of our best Grape cultivators said to me the other day that he had ceased to use the evaporating troughs over the hot-water pipes in his vineries; that he considered the moisture obtained by sprinkling the borders and paths daily, with syringing the walls occasionally, was sufficient, this affording all the moisture that was required for healthy growth.

One of the evils Vine-growers have to contend with is red-spider, a pest that is a constant source of anxiety to the careful cultivator. I am well aware that in some districts red-spider does but little mischief, but in others the gardener must be constantly on the alert to check it on its first appearance. Where the soil is a clayey loam, and the district cool, with considerable moisture in the atmosphere, red-spider is not nearly so troublesome as it is in dry districts and on light soils. Gardeners have not yet decided as to the best way in which to destroy this pest, and it is a point upon which there is much hesitancy amongst young gardeners. I have heard some say that the best method is to syringe well, but if this is done the Vines have to be syringed once at least every day, and by the time the Grapes are ready to cut, the bloom looks as if it had been laid on with a birch-broom, and they are so unsightly that a good gardener would be ashamed of them. I believe the most effectual remedy is to heat the hot-water pipes well in the afternoon. They must be heated to that extent that one cannot bear to hold the hand on them for half a minute. Shut the house up in the afternoon so that the temperature will rise to about 90°, less or more, but more rather than less. Paint the pipes when thus heated with flowers-of-sulphur dissolved in soft-soapy water; the mixture should be like thin paint. The atmosphere will soon become charged with the sulphur until a thin haze appears in the house, and every live parasite will be destroyed; this fumigation must be repeated at intervals until the Vine-leaves are free from it.

It is dangerous to try experiments with sulphur; I did once, and bitterly regretted doing so. So long ago as 1858, a correspondent in the *Gardeners' Chronicle* recommended his readers to shut the vinery up quite close in the evening, some large flower-pots were to be filled half-full of unslaked lime, this was to be sprinkled with water, and a handful of flowers-of-sulphur to be strewn over it, and suffered to remain all night. It was to destroy the mildew as well as the red-spider. I followed out the directions, with the result that I destroyed a fine house of Vines with the Grapes just beginning to colour. I found afterwards that the word "saturated" should have been used instead of "sprinkled." Young gardeners must act with caution, and not be too forward to try things of which they have no knowledge. Pinching the laterals is an important part of the gardeners' work, and neglect to attend to this in good time has probably something to do with shanking. Every gardener knows something of this evil, but very few can say what is the real cause of its appearing in a vinery, and the cause not being apparent it is not so easy to find a remedy. Shanking is unknown upon Vines outside trained to a wall or the side of a house; it is evidently the result of some change in the flow of sap, or some sudden shock to the Vine when in full growth, and this may sometimes be caused by allowing the Vine to make a great deal of growth that is not needed, and a check is received when it is cut away. Sometimes the half of the leaves will be cut off with the laterals; this ought never to be allowed, all laterals ought to be pinched off when they have grown about an inch or two. It stands to reason that cutting off nearly half the foliage of a Vine all at one time must seriously cripple it; whereas stopping the laterals at the very earliest period possible cannot cause any check. I am not quoting any suppositious case, for I have seen a man wheel out a barrow-load of lateral growths from a vinery at one time; moreover, the leaves that remain after this thinning-out are poor in quality compared with those not so crowded. *J. Douglas.*

NURSERY NOTES.

MR. LADHAMS', SHIRLEY.

To those interested in hardy herbaceous plants, a visit paid in early spring to a hardy plant nursery cannot fail to be interesting. With the object of observing the condition of the plants after the late winter, and to hunt out novelties, I visited recently Mr. Ladhams' nurseries at Shirley, near Southampton. For the last few years much attention has been paid to the cultivation of hardy plants, as his large collections at the various shows have testified; and so great is the demand for these plants, especially in the neighbourhood of Shirley, that more land has been taken in to enable the demand to be met. When it is considered that but a few years ago a part of what is now nursery-ground was a gravel-pit, it shows how accommodating these hardy perennial plants are as regards soil. Truly the soil looks like gravel itself, so thickly are pebbles found on the surface. To note the huge masses of certain species of plants gives the visitor an idea of the value of many of them when cultivated in clumps or beds. Epimediums are largely cultivated, and the pure white E. niveum, the pale yellow E. luteum, and the soft pink outer petals and sulphur centre of E. Harrisii attract one's attention at once; and then, the bronze-tinted foliage is so useful for cutting. The pure white blossoms of Ranunculus amplexicaulis, which are freely produced, and the glaucous leaves and stems of the Fair Maids of France make it a remarkable plant (Ranunculus aconitifolius fl.-pl.), is not now much seen in private gardens, although it was at one time a common enough plant. Of globe-flowered Trollius, Mr. Ladhams has a rich variety; the newer T. Ledebourii has rich orange-coloured flowers, but not of quite so deep a tint as T. asiaticus, although they are larger and more striking. Trollius napellifolius has immense blooms of a pale yellow colour; T. Gibsoni has a deep orange tint, and on that account is of value. A bed, 10 yards long, 4 feet wide, planted with Polemonium Richardsoni, was a lovely picture in pale blue. A fine batch of that best of dwarf Campanulas, G. F. Wilson, had so well withstood the winter weather as to render it even still more useful as a blue-flowered plant. A bed of Iris pumila was a mass of purple flowers; it is one of the best of the dwarf Iris.

Of Heucheras there were large masses of H. sanguinea, H. ribifolium, and H. Richardsoni, the latter having rich copper-coloured foliage. A bed, 40 feet long, of Golden Gem Auricula, was a mass of bright yellow flowers. It is a variety that would be difficult to excel, so hardy is it and such a profuse flowerer. Arnebia echioides was quite unharmed by frost, and its pale yellow blossoms were very abundant. Saxifraga granulata fl. pl., although looked upon as a somewhat common plant, is a charming front-row plant for an herbaceous border, or a damp place on a rockery; its white double flowers are freely produced.

Of Day Lilies, Hemerocallis Middendorfii appears to be one of the best of the dwarfer varieties. The inside of the bell-like flowers is orange-coloured, and the outer parts brown. A charming variety of Phlox setacea is P. s. canadensis, the purple-shaded lilac colour of its blossoms being unmatched in any other variety. Helenium grandicephalum striatum is represented by a number of strong clumps. The dwarf-growing pretty Potentilla, with bright yellow-coloured single flowers, is a gem for a rockery—it is but 4 inches high; and a capital lot of P. montanum, another dwarf-growing variety with single yellow blossoms, deserves a place in any garden. Backhouse's variety of Campanula grandiflora alba is cultivated in large quantities. Mr. Ladhams has paid much attention of late to selecting and raising improved forms of Aquilegias, and of A. cœrulea he possesses a large number.

The improved form of Chrysanthemum maximum (filiforme) is fast being increased, its fringed petals rendering it a more attractive plant than the type form. Several hundred pots of the new Pink, Ernest Ladhams, were remarked in good bloom in a low greenhouse, nor should I omit to mention the fact that this charming variety forces well, as was proved by these plants having been in flower for a long time when I saw them. *Visitor.*

THE PUBLIC PARK, DEVONPORT.

We have already had occasion to afford our readers a plan or two of public parks from designs by Mr. Meyer of Exeter. This landscape-gardener, who is in the employment of Messrs. R. Veitch & Son, Exeter, has grasped the idea of what a park laid out for the use of the public ought to be; that the walks and other ways should have a purpose, and one of these is to give ready access to every part, without being needlessly circuitous. Plenty of paths in a public place perform other services besides this one—they do much to preserve the verdure and general good appearance of the turf, which for lack of them would surely suffer.

It will be noted that this plan differs (see fig. 88) from most in having no walk which skirts the boundary the entire length—a good innovation, we think, inasmuch as it does not permit of an easy comprehension of the extent of the enclosed area. Of the intended planting we are unable to form any just estimate, so much depending on the species and varieties of tree and shrub made use of; but we may say that it does not err on the side of excessive planting, and lessening the area of open spaces.

FLORISTS' FLOWERS.

YELLOW SELF CARNATIONS.

While there are plenty of yellow grounds, that is flowers having their yellow petals edged, flaked, or marked in some way, generally with rose, scarlet, or red, there are but few distinctly yellow selfs, and of these Germania still holds its own. In some cases it has stood the winter in the open remarkably well. When at the Royal Nursery, Slough, a short time ago, I saw a considerable number of plants in pots under glass just coming into bloom, they were excellent bushy specimens, and Mr. Harry Turner said such plants produced very fine blooms indeed. Practically, it was being treated as a Tree Carnation, and the crop of blooms promised to be great. This fine yellow self still holds its own in competitions in classes for selfs; the flowers large and full, and the petals so finely developed that it requires but little dressing. It only lacks perfume to make it a perfect Carnation. Monte Christo is a fine clear yellow self, good in colour, comes to a good size, and though

resembling Germania to some extent, is yet much dwarfer in growth, the average height 15 to 18 inches, and a vigorous grower, standing erect. Leander promises to be popular, because of its deep colour, fine shell petal, and facility in opening. Mr. F. Gifford, of Tottenham, states that it stands exposure to cold wintry weather in a rich soil better than any yellow he is acquainted with. Lady Sutton and Marjorie are two pleasing yellow selfs, the first of a soft Apricot-yellow colour; the latter clear soft yellow, dwarf, and very free of bloom. Mrs. W. Bright, chrome-yellow, makes an excellent variety to grow in pots, and Mr. G. Reynolds uses it in this way at Gunnersbury Park; it is an excellent grower, throwing up in plenty shoots which afford a succession of bloom. Then there is Will Threlfall, a clear yellow self, of vigorous habit; this variety has stood very well in my moist, heavy loam at Bedfont, while laced and other Pinks growing by its side were killed outright. It was an exceptionally severe winter, testing to the very utmost the hardihood of the plants comprehended under the genus Dianthus. When at the Clayton Nursery, Hassocks, a short time ago, I found Mr. R. Stevens was a grower of Carnation blooms for market, and in one house he had a large number of plants of what he is growing under the name of Pride of Penshurst, but of a distinctly darker colour, somewhat different in foliage, and not so prone to split its calyx. Whatever it is, Mr. Stevens has a most useful yellow market Carnation, wonderfully free and continuous in flower. *R. D.*

Chrysanthemums.

By the term employed in your enquiry (p. 558)—"early autumn-flowering varieties"—I presume those sorts that flower during the month of September and October naturally, are specially meant. For instance, the several members of the Desgranges group, Lady Selborne, Mrs. G. Rundle, its sports, and M. W. Holmes. All of these, and several more, commence to flower a month or six weeks in advance of the ordinary November blooming kinds. Whether they are cultivated to produce a limited number of blooms of extra size, or a quantity of smaller flowers, has to be taken into consideration when "taking the bud." By limiting the number of branches to four or six on each plant, the buds of the Desgranges group should be "taken" quite by the first week in August; some even will show their buds during the last week in July.

What I term the later section of early autumn sorts, such as Lady Selborne, Phœbus, and M. W. Holmes, should be taken by the first or second week in August, to allow them to fill out gradually and strong before the petals develop thoroughly. Plants cultivated to produce a quantity of blooms, the plants being topped once, and in some instances twice, when 4 inches high, and again when 5 inches more growth has been made, do not require their buds "taking" so early. The smaller flowers do not take so long to expand their florets as do the larger blossoms. Toward the end of August is early enough for the formation of the buds, these being "taken" directly they are large enough to handle. Much necessarily depends upon how the plants have been managed previous to this stage. Assuming that the cuttings are inserted towards the end of November, and grown steadily on afterwards, under proper conditions no trouble will be experienced in obtaining superior blooms at the time named.

The best late winter-flowering variety with white flowers is undoubtedly L. Canning. No other variety will give flowers equal to it during January and February. Instead of layering the shoots of roots in the open air, the best plan is to grow the plants that flowered the year previous. Plants raised from cuttings in January of 1894, and flowered in January and February of the present year, should be planted in the open ground in April, they will then give an abundance of bloom in 1896. Plants one year older should be divided into two, and treated in a similar way. L. Canning does not produce a sufficient number of shoots the first year to give large returns. By raising a few plants yearly, and by putting out some of them during the middle of April, having previously kept them in cold frames, a sturdy growth is obtained, and better bloom. This variety is impatient of heat or overcrowding in its early stages of growth. The great aim should be to keep the plants as sturdy as possible. Too rich soil should be avoided; luxuriant growth, soft and immature, is not the kind that gives the best results. Planted 2 feet apart each way in well dug soil, and in an open position, and made tolerably firm, satisfactory growth will follow. The plants should be lifted in September, and placed in pots or boxes, where they should be syringed occasionally and shaded to prevent flagging of the leaves until new roots are being made. The buds form in October and early in November, and should be thinned to one on a shoot. Léon Frache and M. E. A. Carrière, blush pink, changing to white; Mrs. G. Hill and W. H. Lincoln, yellow, are also good late-flowering varieties, coming in nicely about Christmas. The plants are raised from cuttings inserted in December, topped once when 6 inches high, and allowed to grow afterwards with four or six shoots until the last natural break is made in August; afterwards allowing the growth to be made uninterruptedly. For single plants 9-inch pots are large enough, two plants succeed in one 11-inch equally well.

By removing the crown-bud which forms at the point of each shoot in August, a number of growths

Fig. 88. (see p. 616.)

are produced beyond that point. The buds of these are "taken" towards the end of October. It is important that the plants be left out of doors as long as possible to retard their growth, even though some protection has to be provided in the shape of tiffany stretched over poles. *E. Molyneux.*

EARLY-FLOWERING SHRUBS.

The Japanese Cherry (Prunus pseudo-Cerasus).—Amongst the rich variety of Prunus at the present time in flower, there is none that produces a more effective display, or has flowers of greater individual beauty, than the double-flowered varieties of the Japanese or False-Cherry. The species was described many years ago by Lindley in volume vi. of the *Transactions of the Horticultural Society*, under the name here given, but it has since then figured under at least half-a-dozen other names. The single-flowered type is apparently at present rare, but the double-flowered forms are abundant, and are known under such names as Cerasus Watereri, C. Sieboldi, C. japonica, &c., each showing more or less variation in the size and colour of the flowers. The colour is white, tinged more or less brightly with rose, and some of the finer forms have flowers of great substance, measuring 2 inches across. A good deal of confusion has existed in gardens between this species and Prunus (or Cerasus) serrulata, but although the two run closely into each other, the following characters will serve to distinguish them: P. pseudo-Cerasus flowers a week or two in advance of P. serrulata; and whilst P. pseudo-Cerasus often has the leaves and flower-stalks covered with pubescence, in Waterer's beautiful variety for instance, P. serrulata has them always quite smooth. In addition to this, P. serrulata in its adult stage may be recognised by its curious habit; it has the main stem erect for a few feet, but suddenly branches off into three or four divisions which stand away from the main stem at sharp angles. Both have acuminate, finely-toothed leaves. Although introduced originally to this country from China, P. pseudo-Cerasus is widely spread in Japan. The flowering of this species is in the latter country one of the chief holiday events of the year, and near Tokio it is planted largely along the highways and in temple grounds, where "in the flowering season thousands of men, women, and children pass the day in more or less hilarious contemplation of the sheets of blooms" (Sargent).

Corylopsis spicata.

Although this shrub has no brightly-coloured flowers to recommend it, it nevertheless ranks as one of the most desirable of our earliest spring-flowering shrubs. A native of Japan, and introduced by Fortune a little over thirty years ago, it has, as the generic name indicates, a considerable resemblance to the Hazels (Corylus), a resemblance, however, that is confined to the foliage. Its floral structure shows it to be a member of the Witch-Hazel family, of which we have also in cultivation such charming representatives as the Japanese and American Hamamelis. In Corylus spicata the flowers are borne on numerous pendent racemes from 2 to 3 inches long, and appear before any of the leaves expand, they, as well as the bracts from the base of which they spring being yellow, with a tinge of green. They possess, moreover, a pleasing fragrance, which may be compared to that of Cowslips. The foliage, as already indicated, has the same characters of venation and toothing, &c., as that of the Hazels. In early seasons, this shrub will be in flower in February; this year, however, it was not at its best till April, and its flowers are only now just past. It is perfectly hardy, and near London, at any rate, has shown not the least ill effects from the past winter. As to soil, it has no special preference, and may be grown in any that is of a fairly rich and open character.

Kerria japonica.

Many Japanese deciduous shrubs have passed through the ordeal of last January and February with less injury than some of our native shrubs. Whilst such things as the common Broom, Gorse, and some of the Ericas are, in many cases, cut to the ground, the smallest twigs of Kerria japonica remain uninjured, and are now flowering profusely. We have, at the present time, several bushes 3 to 4 feet through that are perfect masses of yellow blossom. Although the double-flowered variety is grown generally through the country, the single-flowered typical plant is comparative rare, yet it is, in my opinion, an infinitely superior plant. In habit it is much neater, and its growth is harder and less succulent than that of the double-flowered form. The history of the Kerria is interesting: In the year 1700 the double-flowered plant was introduced, but owing to the essential parts of the flower being absent, its place in the plant-world could only be guessed at. The guess was not a particularly good one, for it was placed in Corchorus—a tropical genus, allied to the Limes. The typical plant, with normal flowers, was not introduced until 1835, when its affinities were seen to be with the Rosaceæ. It can easily be propagated by cuttings made from half-ripened wood. Any soil, provided it is fairly rich, will suit it. *W. J. B.*

The Week's Work.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

THE STAKING OF PEAS.—This operation should be early and properly performed; early, because if the plants get blown over, great injury is done to the tender stems; and properly, by placing the rows of sticks far enough apart to have stability, with plenty of twigs thrust in between to catch the earliest tendrils made by the plants, otherwise they would lop over as much as if no sticks were put to them. The dwarf varieties, which require but little if any staking, should be solely grown if there is any difficulty experienced in obtaining suitable Pea-sticks. These dwarf varieties will have to be improved in flavour before they will drive out the tall Peas from gardens where sticks are readily procurable. Some of the best-flavoured Peas, viz., Duke of Albany, Telephone, Ne Plus Ultra, and Veitch's Perfection, are varieties of either tall or medium growth, which in some gardens are partially spoiled by reason of the improper manner of staking them. The opposite lines of sticks put to a row of Pea plants should not cross each other at the top, or even touch, but space should be left for the haulm to come right up between the two lines and find support when they reach the top. Where Peas are required for exhibition, the thinning of the pods should be done with a pair of Grape-scissors, all badly shaped and weak ones being removed, but no stopping of the shoots of the haulm should be resorted to if pod-thinning be well carried out. Attention to watering and syringing in the evening of hot days should be given, a good mulch being placed along the rows if the weather continues very dry.

SEAKALE.—The beds of this plant should at this season receive a dressing of common salt when rain is impending—2 oz. to the square yard will suffice. The plants should be carefully examined, and none allowed to carry more than two buds or heads if for forcing; and in the case of those plants which are required for forcing the first season, the buds should be reduced to one per plant.

CABBAGES.—The plants put out last autumn at a distance of 1 foot each way should have every alternate plant removed entirely for current use, thus leaving the remainder of the plants at 2 feet apart for full development. The plantation, without necessarily waiting for the complete removal of the supernumeraries, should be hoed throughout, and when the weeds are killed some soil should be drawn up to those that will remain, and a heavy application of manure-water afforded the land.

HINTS ON WORK IN GENERAL.—Ply the hoe among growing crops; thin out seedlings at once if by accident the seed was sown too thickly, and apply fresh soot at intervals of a week or ten days—it acts as a manure and a deterrent of insect plant pests. Slugs must be sought for on warm mornings following rain, and as vigilant slug-devourers, employ, if possible, a number of ducklings. They should not be shut up at night, and will therefore be on the feed by daylight, when slugs are also feeding. Potatos coming through the soil should have a small quantity of it drawn over them as a safeguard against injury by frost.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

SOUVENIR DE LA MALMAISON CARNATION.—A good quantity of cuttings or slips of the varieties of the above plant may now be struck, taking them from plants which flowered in the early spring months, a few of the smallest shoots only being chosen from each plant; this will have the effect of thinning the shoots, and of rendering the operation of layering less difficult. Place the cuttings, in number from four to six, in a large 60-pot, using a compost of loam, leaf-soil, and fine peat with plenty of sand, all of which should be passed through a fine sieve, and after watering, place the cutting-pots under hand-lights in a gentle bottom heat, keeping the lights shaded during bright sunshine, and affording the cuttings a slight dewing overhead once a day. When rooted, afford the cuttings air, gradually at first, until after the lapse of a week or ten days, they may be potted singly and placed in a close cold frame, lightly shading them till established. Nearly full exposure may then take place, but being careful to syringe them twice a day, and to afford a light shading during very bright weather. These Carnations will, under this kind of treatment, make very dwarf and quite as good plants as those from layers.

CAMPANULA PYRAMIDALIS.—Seeds may now be sown in well-drained pans of loam, leaf-mould, and sand, placing the pans in a cold frame, and keeping them shaded till the seeds germinate, then gradually inuring them to light and air. When large enough to be readily handled, prick them off into other pans or boxes, still keeping them in the cold frame until re-established, and when 3 inches high, potting them off into small flower pots and finally into 32's, or three plants may be put into a 16-inch pot, and in these sizes they may be allowed to flower. Afford plenty of water when the pots are filled with roots, and occasionally manure-water. Those raised last spring will now be throwing up their flower-spikes, and a top-dressing with an artificial fertiliser will be beneficial. Stake them neatly. These Campanulas are lovely subjects for the conservatory during the summer, and are of very easy culture.

HUMEA ELEGANS.—Any of these plants in strong growth should be occasionally watered with some kind of weak manure-water, or be afforded a light top-dressing with some artificial fertiliser. When well grown, Humeas are very light and graceful subjects for conservatory decoration in the summer, and for lawn decoration. A strong stake should be placed to each plant, to which it should be secured. A cool greenhouse will be the most suitable for the plants, but those which will be employed out-of-doors should be placed in a sheltered spot outside about the beginning of next month. If Humea seed be now sown, strong plants can be obtained by the end of September.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

VINES.—The continuous sunny weather has been very beneficial to Vines, particularly so, as the absence of frost at night has enabled us to keep an even temperature in the vineries, and to reduce artificial heat to a low point. Although fruit-forcing is generally much assisted by abundant sun-heat, those in charge of extensive ranges of glass-houses must be on the alert to utilise it always to the utmost by close attention to the ventilation of the various houses, and by affording copious root-waterings to the occupants, or scorched foliage, red-spider, and other evils, will have to be contended with. The quantity of water required by Vines at this season varies in accordance with the size and constituents of the borders. Where the roots are confined to the inside border a thorough watering should be afforded at least once a week during hot weather, the surface of the border being kept moist by daily sprinklings. Those Vines whose roots have access to borders inside and outside will not require to be watered so frequently, still the inside border must be kept in a moist condition, or the greater portion of the roots will travel to the outside one. Water which has been exposed to the sun should be used, or cold water rendered tepid by mixing it with boiling water should always be used, and never cold

water, as it reduces the warmth of the border, giving a check to growth, and causing shanking of the berries. To render the texture of the leaves so that it will bear bright sunshine without suffering, and to guard as much as possible against its infestation by red-spider, lateral growth should not be allowed to smother or crowd the principal leaves, preventing light and air reaching them. The object should be the encouragement of strong and healthy texture in them, and with this end in view, ventilation should be early afforded on sunny mornings, especially if the vineries are span-roofed, and they run north and south, the sun at this season striking the east side hotly by 6 A.M., and if air in small amount has not been allowed all night, some of the leaves may get scorched. Artificial heat must be so regulated that the temperature in the various divisions shall range from about 70° at 8 P.M. with a further fall of 5° towards the morning (allowing the warmth to be 5° higher for Muscat varieties). In the morning the valves should be shut down partially or wholly, and the day temperature be regulated with due regard to solar heat. Strawberry or other plants still in the vineries, which are likely to breed red-spider should now be removed, and the atmosphere charged with ammoniacal fumes each evening when the ventilators are closed. Keep the work of thinning the bunches well in hand. Fermenting materials on outside borders may now be removed, the border being lightly forked over without damaging the roots. A slight dressing of Vine-manure or bone-meal may be worked in at the pointing-over. The borders being moist after the removal of the dung, will not require any water for some weeks, unless the very dry weather should continue. Do not crop the border with anything.

THE ORCHID HOUSES.

By W. H. WHITE. *Orchid Grower, Burford, Dorking.*

CALANTHES.—Those who may possess plants of the evergreen Calanthes, as C. Dominyi, C. masuca, C. veratrifolia, &c., should, now that they are opening their flowers especially, inspect them for the yellow thrips, green and yellow aphides, which often infest them, and in particular the flower-buds just at the time of opening, which, if neglected, soon ruin the inflorescence, undoing a whole year's labours. If any of these insects are discovered, resort must be had to fumigation without delay. Brown-scale is frequently to be found on the under sides of the leaves, but this pest can be kept under by repeated sponging. These species of Calanthe delight in abundance of water at the time the spikes are pushing up, and an occasional application of liquid-manure from the cow-shed helps them along. If the plants be kept clean, the flowers last a considerable time. The proper time for re-potting these plants is about one month after the flowers have faded, and being free-rooting plants, they should have plenty of pot-room, from 3 to 4 inches of crocks below them for drainage, and be made secure with a layer of sphagnum-moss. They succeed in turfy yellow loam of good quality, a small quantity of leaf-mould, some coarse sand, a moderate quantity of clean crocks being mixed with the soil. Make the soil firm, and allow plenty of space for affording water, of which these plants require a liberal supply when well rooted.

DENDROBIUM PHALÆNOPSIS.—At one time this species was very rarely met with in collections, but large quantities have been imported by the Orchid-collecting firms, and it is now so plentiful that few collections are without it. It is a fine acquisition; the blooms remain fresh on the plants for a long time, and also when cut, which is a matter of importance to those who grow the plant for decorative uses. I have reason to believe that we have much to learn about the best methods of cultivating this species. For a limited time plants will have a certain amount of their native vigour left in them, and a fair amount of growth is made by them; old imported bulbs being very abundant bloomers—perhaps too much so. But in several gardens I have remarked a deterioration which begins in the second year, the flowers and their quantity not approaching the first year's after importation. The contrast between imported and home-grown pseudobulbs is very great. During the past winter, I have experimented with plants of this species in two different ways, the results of which I hope will prove of use to others. Being desirous of ascertaining under what conditions the plants would best pass their resting-season, I placed about a dozen of them in a house with a comparatively cool temperature, along with some of D. nobile. Half of these dozen plants were kept well on the dry side, and the remainder fairly moist throughout the winter months. The effect of the change being that every leaf became spotted, and the pseudobulbs much shrivelled, and these plants, now that they have begun to grow, have weak and thin growths. Other plants wintered in the East Indian-house, although kept rather dry at the root, have fresh and green foliage, and they are now rooting and growing with vigour. These results prove conclusively that this species requires a good amount of heat and a moist atmosphere at all seasons. At the present time plants of D. Phalænopsis have started to grow, and push numbers of young roots from the base of the same; and before much progress is made the plants, if they require it, ought to be afforded greater root-space. Small, well-drained shallow pans, with but a very thin layer of fibry peat and sphagnum-moss to root in, are the best. Keep the plants warm and moist while growing, with the foliage near to the roof, and in a part of a house which is but thinly shaded. The new Dendrobium Johnsoniæ (Macfarlanei) appears to require the same kind of treatment. Other Dendrobes that require attention at this season in potting, which send out roots when the new growth is a few inches high, are the tall-growing D. Dalhousieanum, D. moschatum, D. fimbriatum, D. calceolus, D. clavatum, &c.

THE FLOWER GARDEN.

By BAILEY WARDS. *Gardener, Birdsall Gardens, York.*

YOUNG SEEDLING PLANTS—Much care will now be required to protect these from the ravages of slugs. Pansies, Mignonette, Pinks, Carnations, Sweet Peas should all be dusted over when damp with quicklime and soot, not so much being put on the plants as on the ground round about them. It is always advisable to do this after heavy rains, which render previous dustings ineffective.

THE HARDY FERNERY AND THE ROCK GARDEN will also require regular attention where plants have been recently put out, these places being usually infested with slugs of various species, and a ring of lime and soot should be placed round each plant for its protection, and slices of Potatos or Carrots placed round about as traps, these being examined night and morning. Mice are troublesome in rockeries, and they must also be trapped.

MISCELLANEOUS OPERATIONS—Old established Ferns which are planted in places where not much rain falls, will require to be watered abundantly. The thinning-out, replanting, and regulating of Aubrietias, Ajuga, Alyssum, Arabis, Achillea, Lysimachia Nummularia, Cerastiums, Sempervivums, Mesembryanthemum, ornamental Grasses, and hardy Mosses should be performed as soon as possible.

SUMMER BEDDING—The bedding plants of almost all kinds should now be capable of full exposure during the day, and at night likewise when frost does not threaten, exercising much caution as regards the latter till about the end of the month. Water to plants standing in exposed situations should be afforded early in the day, so that the foliage may get dry before evening. A very thin covering of canvas mats, or even of brown paper, will ward off such frosts as we incur at this season. The more tender subjects as Coleus, tuberous rooted and other Begonias, Iresine, Alternanthera, Dahlia, and such like, should be kept warm at night for the present; and those who may be desirous of making a start with the planting of the beds should be reminded of the sharp frosts that we had at the end of the month of May last year. Pelargoniums, Calceolarias, Chrysanthemums, Stocks, Mignonette, &c., are not hurt by a few degrees of frost if they have been well hardened off, but it is much better not to expose them to it. I well remember some thirty years ago when the tricolor Pelargoniums, Mrs. Pollock and Lady Cullum, were all the rage for bedding-out, having planted two large beds of the former, which were to be the pride of the garden. This was done before May 29, the weather being then so fine and warm, and people said there would not be any more frost, but on the 29th frosts set in, and we had them for several nights in succession, and despite Spruce branches and other coverings, the poor Pelargonium plants suffered severely. Since that time my advice to men who want to plant tender things before the first week in June has been—don't. The edging, manuring, and digging of the flower beds, and the planting of hardy subjects may be done. Simple designs for planting are the most effective, and nothing is more unsatisfactory than a closely-packed design and intricate lines, which, showing well on paper are a failure on turf or gravel; for a satisfactory display of colour there is nothing better than a design consisting of circles, rectangular figures, triangles, &c., with plenty of space between the beds. If the garden is small, a few medium-sized beds are best; and in a large garden the beds should be large in proportion. In planting, use a few well-proved plants with striking colours rather than a great variety, and especially when planting for effect to be witnessed from a distance. If massing is in vogue, there is nothing more effective than large masses of Pelargonium H. Jacoby, Vesuvius, or West Brighton Gem, or the old Tom Thumb, banded with Centaurea candidissima, or yellow Calceolaria, belted with broad edgings of blue Lobelia or Pink Pelargoniums, edged with the silved-edged varieties; and in large wavy ribbon-borders, such as we see at Caveden and other places, there is nothing that is more effective than the broad bands of Cerastium tomentosum, Lobelia speciosa, Iresine in variety, Centaureas, Coleus, &c., with dot plants of Dracæna indivisa, or Yuccas, in the spaces, as a foil to the otherwise prevailing uniformity of height of the plant. The Tom Thumb Pelargonium is still one of the most useful for filling vases, especially the plants that are lifted in the autumn and kept through the winter in a greenhouse. They should be planted thickly with some rotted manure and loam. The colours of the flower and foliage are the same as those of John Gibbons, the flowers smaller, but more profuse, and they stand a wet season better than that variety.

THE HARDY FRUIT GARDEN.

By W. POPE. *Gardener, Highclere Castle, Newbury.*

THINNING THE FRUITS OF PEARS ON WALLS AND ESPALIERS—As soon as it can be readily discerned which fruits are set and which are not, thinning where necessary may begin, the largest and best formed being reserved. In the case of large fruiting varieties like Jargonelle, Beurré Rance, Maréchal de la Cour, Pitmaston Duchess, &c., it is quite sufficient to leave a single fruit on each cluster, unless the clusters of fruit are thinly scattered over the tree, and these may require still further reductions at a later period. Small varieties, as Winter Nelis, Bergamotte d'Esperen, and other indispensable late Pears, should be thinned unsparingly if the set be a heavy one, or the fruit will be small and deficient in flavour, besides exhausting the trees too much, one very heavy crop often resulting in scarcity the following season.

THINNING SHOOTS, ETC—Go over the Pear-trees and reduce the number of the lateral shoots, removing all of the weaker, and the shoots behind the branches, stopping those that are left at the fifth or sixth leaf. Closer stopping must not at this season be resorted to, or the latent buds that would eventually develop into spurs will start to grow. Besides being beneficial to a proper development of the fruit, early stopping is necessary for the encouragement of strong growth in the leaders where space has yet to be filled up. Caterpillars are often troublesome on these, the best remedy for them being to crush them when found rolled up in the leaves, or amongst the clusters of flowers and fruit.

CHERRIES ON WALLS: THINNING FRUIT.—Cherries are, as a rule, flowering freely this season, and as soon as sufficiently forward, the fruit should be thinned, using a pair of small scissors for the purpose. Often one-half, or sometimes more, may be removed, to the benefit of the trees and the remaining fruit. Choice Cherries cannot well be too large for table use, and a thick pulp with a small stone ought to be the aim of the cultivator.

STOPPING SHOOTS—Laterals may be stopped at the sixth leaf, leading growths being laid in at their full length. Keep a sharp look-out for black-fly on Cherries, and on detecting any, syringe the trees with soapy water before the insects increase much in numbers, which very soon occurs, when it is much more difficult to destroy them. Diluted tobacco-water applied in the evening, cleaning the trees the following day with clear water, is an excellent aphis-destroyer. If the points of the shoots are badly infested, dip them in strong tobacco-water, repeating the application after a few days if it be required. On dry porous borders the trees will be benefited by copious waterings whilst the fruit is swelling, first loosening the surface, and afterwards mulching the soil with half rotten dung. An occasional watering with liquid-manure will be helpful to the tree carrying fair crops.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

FRIDAY, May 24 { Linnean Society: Anniversary. / Royal Botanic Society: Lecture.

SHOWS.

TUESDAY, May 21 { Great Show of the Royal Horticultural Society, in the Gardens of the Inner Temple, Thames Embankment (3 days).

WEDNESDAY, May 22 { Devon County Agricultural Society, at Torrington (3 days).

SALES.

WEDNESDAY, May 22 { Orchids, at Protheroe & Morris' Rooms.

FRIDAY, May 24 { Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—56°.

Water Lilies. The illustration we give as a Supplement in this week's issue is a copy of one of a series of photogravures kindly sent to us by Mr. S. C. Nash, of Clifton, New Jersey, U.S.A. It shows what may be done in the open air by an enthusiast. The pond in which the Victoria is growing is heated by hot-water pipes in connection with an ordinary greenhouse boiler. The temperature of the water is kept up to between 75° and 85°. Towards the end of the season, the temperature of the water often falls to 65° or even 60°, without injury to the plant.

It was in the year 1851 that Messrs. Weeks, who then owned the nursery in the King's Road, Chelsea, now in the possession of Mr. William Bull, succeeded in flowering the Victoria regia in the open air; the first flower opened on April 16. On July 12 of the same year, it is recorded that the plant had been in bloom for three weeks, sixteen blossoms having been expanded in that period. Gold fish multiplied so abundantly in the tank that it was calculated that the sale of these fish would eventually nearly cover the cost of the experiment!

The Victoria always attracts attention from the singularity and noble appearance of its foliage, but there are many of the Nymphæas of nearly equal beauty that might be grown under like conditions, such as the very large blue Nymphæa gigantea, the Cape N. scutifolia, the purplish N. zanzibarensis, the primrose-yellow N. amazonum, the white Lotus and its rose-coloured varieties, and a large number of others.

Other aquatics, such as Limnocharis, Pontederia, Pistia, Sagittaria, might be grown in the same way. Most of these may be grown from seed, or as in the case of Nymphæas, from tubers, which may be kept through the winter in bottles, a slight amount of moisture only being maintained. It is not given to every one to utilise hot-water pipes as Mr. Nash has done, but they need not repine on that account, as few things are more beautiful than our ordinary Water Lilies, and especially the new varieties introduced by M. Latour Marliac. The tubers may be planted in mounds, or sunk in baskets of loam, enriched with decayed manure, and cased over with pebbles for the purpose of maintaining the earth in the baskets. Full exposure to the sun is essential.

Mr. Nash has reason to be proud of his water garden, and the photographs taken by himself show that, as well as his garden, he cultivates photography with success.

The set of twenty or more photographs are beautiful and interesting. Mr. Nash does not desire to make any profit from their sale, but would forward them at cost price or less—say, 12*s.* 8*d.*, in addition to the postage.

Royal Horticultural Society.—The Secretary desires it to be known that the usual committees, Fruit, Floral, and Orchid, will meet at the Temple Gardens at 11 A.M. on Tuesday, May 21, and that Certificates and Awards of Merit will be given to new and rare plants deemed worthy of those distinctions, but the official list of such awards will not, under any circumstances, be furnished until Wednesday, May 22.

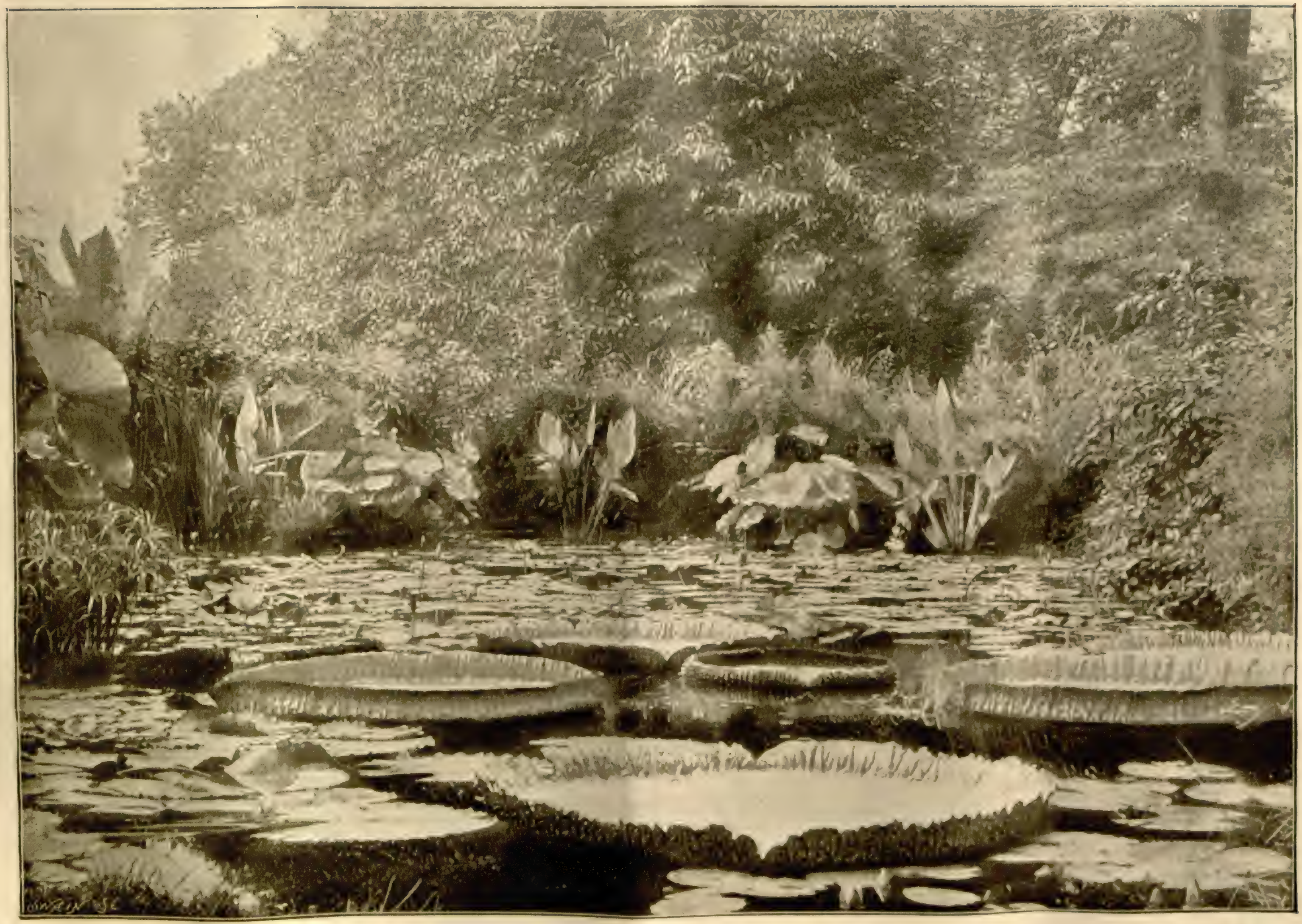
Linnean Society.—On the occasion of the meeting held on Thursday, May 2, Mr. C. B. Clarke, President, in the chair, Professor J. W. Carr and Mr. W. Will were admitted Fellows, and Drs. C. Nordstedt of Lund, Rudolph Philippi of Santiago, and M. Woronin of St. Petersburg, were elected foreign members. Mr. E. M. Holmes exhibited some new British Algæ from Dorsetshire and Sussex, amongst others Ulvella confluens and Ectocarpus Reinboldi, both discovered last month at Weymouth, and the latter previously known only from the Baltic. Mr. W. T. Thiselton Dyer, C.M.G., then gave an abstract of a paper by the late Mr. John Ball, F.R.S., "On the Distribution of Plants on the Southern Side of the Alps," prefaced by some account of the author's life, and special work in relation to the alpine flora.

Hand-list of Ferns and Fern Allies (Royal Gardens, Kew).—Kew has long been famous for its collections of Ferns, and still more for the eminent men who have made them their study. It is enough to mention Sir William Hooker, Mr. Jno. Smith (primus), and Mr. J. G. Baker. The present little fascicle contains an alphabetical list of the species and varieties cultivated at Kew, with an indication of the native locality of each, and a reference to the name of the author of each species. This latter piece of information is given in the abridged form familiar enough to working botanists, but hardly comprehensible to the great body of Fern-cultivators. The present list comprises 1116 species and varieties of Ferns, and ninety-seven of Fern-allies (Selaginellas, Lycopodiums, &c.). In addition to these, no fewer than 586 varieties of British Ferns are enumerated. The collection of British Ferns was greatly extended by the bequest in 1887 of Mr. Carroll's collection, consisting of 4261 specimens and some hundreds of seedlings. Of these the nomenclature is often "cumbrous and fantastic." The list is printed on one side of the page only, so that the blank page can be utilised for writing in the names of additions, or for the insertion of notes and memoranda. As to the exotic Ferns, the list is substantially based on Hooker and Baker's *Synopsis Filicum*. Fern-growers interested in their plants will find this list to be indispensable.

Helpful Hints for Hard Times: *Potato, How to Grow them; Onions for Food and Market; Mushrooms for Food and Profit.* (Royal 24 mo. By D. T. Fish; Edit. by Rev. E. Bartrum. S.P.C.K., Northumberland Avenue, London. Price 1*d.*)—In these three little pamphlets of sixteen pages each, we have the culture of Potatos, of Onions, and of Mushrooms condensed into, we should say, the smallest possible space consistent with usefulness; and being the work of an accomplished expert in gardening, they are calculated to afford the cottager and allotter precisely the kind of information he stands most in need of. With that end in view, they should be widely distributed in country districts. Technical language and garden parlance are seldom used, but the simplest language is employed, so that the reader will find no difficulty in mastering the sense of that which is printed. The S. P. C. K. has up-to-date issued in all fourteen of these pocket manuals on country pursuits suitable for the cottager and small holder.

Land Sale at Messrs. Protheroe and Morris'.—On Friday, May 10, Messrs. Protheroe & Morris commenced a series of land and other property sales in their new auction room adjoining the Orchid sale room at Cheapside, and thus originated a mart which will not fail to be of use to all who are concerned in the buying and selling of land for horticultural purposes. In opening the sale, Mr. George Field Morris, the senior partner in the firm said, in substance, that it was known to most of the large company then present, that the firm have made a special feature of transactions in land for nursery, market gardening, and agricultural purposes, and that from time to time they had been in the habit of holding sales of property of that nature in various parts of the country. But in view of the large number of letters they were continually receiving on the subject at their City offices, some of which disclosed advantageous properties for sale, which important though they might be, would not be sufficiently remunerative to make a distinct sale out of, it occurred to them that their great central rooms in Cheapside might well be utilised for the purposes of this new venture. Nursery and other properties at Potter's Bar, Claygate, Leytonstone, and Woking were offered, resulting in some cases in a spirited competition. The services of such an auctioneer as Mr. Morris, with his large acquaintance with the requirements of both buyers and sellers of this class of property, will be of the highest value to them.

School-gardens in Surrey.—This county seems to keep ahead of all others in its effort to provide school or continuation gardens for lads, and there are now some forty blocks of these, the various blocks ranging from ten to twenty, sometimes more. One rod of ground is the ordinary area for each garden, but in some cases that extent is exceeded. During the past winter many fresh areas have been added, and where needed, fenced in, sheds for tools furnished, and sets of tools also. The ground is also in each case prepared for the pupils by deep digging, or trenching and manuring. Even seeds are also furnished for a start. The latest addition has just been made at Englefield Green, Prof. Lodge, of the Royal Indian College, Cooper's Hill, acting as the energetic local secretary. That gentleman hopes another year to see groups of school gardens in each of the four extensive areas into which the large parish of Egham is divided. In some cases these gardens are placed under the immediate control of schoolmasters, of whom several in the county are excellent amateur gardeners. Others are placed in the charge of good local gardeners, who will act as instructors. Though termed school-gardens, not in all cases are they associated with the elementary schools, indeed the majority of the boy-gardeners



Photographed by Mr. Nash.

Culture of the Victoria Regia in the open air by C. S. Nash, Esq., Clifton, N. J.

have left school. Still, these gardens do constitute schools for instruction in gardening, and although limited generally to vegetable culture, yet, they enable much that constitutes the groundwork of gardening to be taught. What is hoped is, that boys so trained, wherever their lot in life may be cast, will, if opportunity offers, make useful gardeners, or ultimately allotment or cottage-garden workers. The County Council offers to the lads great encouragement in various ways, and generally the gardens are highly appreciated.

MR. BULL'S ORCHID EXHIBITION.—It is rather startling to find that twelve years or more have elapsed since Mr. BULL's exhibition became one of the sights of the London season. Perhaps it is to this prolonged experience that is due the more refined grouping that is now perceptible. As to quantity, every one knew that there was plenty, there was no need to emphasize that fact. For aught we know, there may be as much now, but if so, the arrangement is lighter and more delicate. Masses of colour are broken up by graceful Palms, and space is afforded for the due examination of special plants. We may be in error in thinking we have seen finer individual specimens, but we are sure that we have never seen so elegant a display as a whole. Cattleyas, Lælias, and Odontoglossums form the staple, Oncidiums, Cypripediums, Masdevallias serve to fill up. The varieties of Lælia purpurata are very numerous, and each seems finer than the last. The same may be said of Cattleya Mendeli and C. Mossiæ. Odontoglossum citrosmum, always lovely, is here seen in great variety, the dark lilac form, var. rubrum, being specially noticeable. We recommend everyone interested in Orchids to visit the exhibition, which will be open throughout the season.

LAPLAND KALE.—Enquiries have recently been made in these pages respecting the above variety of Kale, and an Exeter correspondent kindly sends specimens of it and Ragged Jack, another Kale of equal hardiness, but differing from it in its much cut leaf, the leaf edge of the first-named being sinuous only. They are productive vegetables, and being very hardy, prove of great service after severe winters. He suggests that the Labrador Kale is synonymous with the Lapland variety. Our enquiring correspondent of a few weeks' back will kindly take note.

LECTURE ON PARKS AND GARDENS, PAST AND PRESENT.—Mr. F. W. MEYER, landscape-gardener to Messrs. R. VEITCH & SON, Exeter, gave at Yeovil on the evening of May 9, an interesting lecture on Parks and Gardens, Past and Present. There were between 50 and 60 limelight illustrations, giving views of parks and gardens in many parts of the world, including those of the most ancient, as well as others of a modern type.

PRESENTATION.—On Wednesday afternoon the workmen in St. James's Gardens, West Malvern, presented Mr. G. JESSOP, who has been landscape-gardener to the Dowager Lady HOWARD DE WALDEN for the last two years, with a purse of money and an address.

STOCK-TAKING: APRIL.—As compared with April of last year, the Board of Trade Returns show a deficit in imports to the value of £674,423, and a decline in exports of £307,565. This is more than accounted for by the Easter holidays. Leaving them out of consideration, there would certainly have been an increase to record under both headings. We are informed that the labour market shows a better return, as compared with the same period last year; and the Chancellor of the Exchequer, in his Budget speech, whilst the Board of Trade Returns were passing through the press, made some remarks pertinent to the present occasion, which may be summarised as follows:—The consumption of Tea has largely increased, and 86 per cent. of the nation's Tea now comes from India and Ceylon. The consumption of Tobacco has increased by nearly 3 per cent., whilst that of Coffee had declined; Cocoa has increased in favour. The masses appear to have been better fed, and at a lower cost than in former years; and the statistics of friendly societies and the savings banks show that the national thrift is of a higher standard than formerly. The annexed figures are from the "Summary" table printed in the returns for the past month:—

IMPORTS.	1894.	1895.	Difference.
Total value of imports	£ 35,015,781	£ 34,341,358	£ —674,423
(A.) Articles of food and drink — duty free	11,019,979	11,385,692	+365,713
(B.) Articles of food and drink—dutiable	1,888,908	1,871,632	—17,276
Raw materials for textile manufactures	7,338,021	7,092,876	—245,145
Raw materials for sundry industries and manufactures ...	3,597,390	3,005,266	—592,124
(A.) Miscellaneous articles	1,388,642	1,241,128	—147,514
(B.) Parcel Post ...	74,640	97,011	+22,351

The following table, made up from the general mass of figures, possesses its usual interest, now that our colonial friends are pushing forward on our market what they have to spare from their own:—

IMPORTS.	1894.	1895.	Difference.
Fruit, raw:—			
Apples ... ... bush.	104,819	221,229	+116,410
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	100	...	—100
Pears ... ... ,,	1,716	4,051	+2,335
Grapes ... ... ,,	933	1,881	+948
Unenumerated ... ,,	31,315	34,854	+3,539
Onions ... ... ,,	529,416	470,437	—58,979
Potatos ... ... cwt.	37,055	778,671	+741,616
Vegetables, raw, unenumerated ... ... value	£ 69,040	£ 86,250	£ +17,210

The "difference" column in these figures possesses its old value to the reader.

EXPORTS

for the month show a falling off to which attention is drawn above. The value is placed at £17,252,311, as compared with £17,559,876 for April in 1894. Our trade with Chile of late days has not been of so healthy a character as could be wished. Our representative there has suggested a "reason why" for this state of affairs. He says that the currency has greatly depreciated in value, and our merchants have increased the selling value of their goods—just to keep the commercial boat properly trimmed; but our German friends have quite another way of doing business—they have withdrawn their old goods and substituted a fresh lot, very much reduced in quality, the price remaining the same as of yore. The Chilians are content to take the raw and inferior goods—John Bull has succeeded in losing much of his old market; and as his German rivals are content with smaller profits, they are likely to make profit out of this bit of "smart" business rectification.

VINE CULTURE.—The small manual on the cultivation of the Grape-vine, by Mr. J. R. PEARSON, The Nurseries, Chilwell, Nottinghamshire, issued some few years ago, appears to have met a want generally felt, and a new edition, the sixth, is now issued. Being the work of one who is intimately acquainted with the construction of glasshouses on an extensive scale, as well as with advanced horticulture, it is satisfactorily illustrated by designs of useful houses suitable for Vines alone, or Vines and pot-plants. We note that the old methods of wooden rafters and glass secured with putty, used for bedding the glass, but not above the pane, is preferred to any of the newer ones; and we think that he is right if the best kind of materials be used, and a thick red-lead paint be used as a first coat after the "priming," to secure freedom from drip. The border receives at Mr. PEARSON's hands a due amount of attention, as do the heating arrangements, diseases of Vines, and the general culture of the Vine from the time of planting till it comes into full bearing. A brief descriptive list of the varieties of Grape, the Vine generally grown in this country under glass, with naturally rather lengthy but perfectly candid accounts of the varieties raised at Chilwell during the last twenty-five years. A useful amateur's manual, cheap at the price of 1s.

THE BIRKENHEAD AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION held their first general meeting in the Y.M.C.A., Grange Road, on May 11. The secretary read over the statement of accounts, which showed that the financial affairs of the association were in every way satisfactory. Although only in existence five months, the association has 103 gardeners on the rolls. During the session just closed, a series of fortnightly meetings have been held for the reading of papers and the discussion of matters horticultural. The business of the evening included the election of officers and committee for the ensuing twelve months. Mr. W. H. B. YOR, head gardener to Mr. JOHN WILLIAMSON, of Claughton Grange, was elected chairman.

THE PROPAGATION OF XANTHOCERAS SORBIFOLIA.—The propagation of the Ash-leaved Yellowhorn can be carried out by seed, layering, and by soft shoots under glass. If the gardener possesses old plants, the suckers which form in the spring may be taken off and grown on. The roots lend themselves likewise to propagation, and as these are very numerous on old plants, it is easy to find suitable pieces to form root-cuttings. Having made the cuttings, place them in saucers or boxes of light sandy soil in a frame with bottom-heat, and apply water with great care, as the roots soon decay if too much be afforded. There is no need for shading them. As soon as growth commences, pot each piece separately, replace on bottom-heat, and afford shade till established. Accustom the plants to full sunshine and air, and when sufficiently prepared for placing out-of-doors, do so by sinking the pots to the rim in a bed of coal-ashes or sand in a sunny place. The following year the plants will be fit for planting in the nursery in a well-drained bed of peat. It must not be forgotten that the plant demands a warm sheltered position, and a soil free from standing water. If seeds be sown in April or May out-of-doors, the seed-bed should be sheltered from the rain by garden-lights, the seedlings dying wholesale if exposed to much moisture. *Moller's Deutsche Gärtner Zeitung.*

DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The committee have fixed the fourth Wednesday in July (24th) as the date of the summer outing for the year, and by permission of the Right Hon. Lord POLTIMORE, Sir W. H. WALROND, Bart., M.P., and Sir J. H. AMORY, Bart., the members will be enabled to visit Poltimore Park, Bradfield, and Knightshayes, all of which places are noted for their horticultural interest they possess. Mr. ANDREW HOPE, Hon. Sec., will be happy to answer any enquiries in regard to the starting point and route to be taken, the price of tickets, &c.

UTRECHT.—The Dutch Orchidophile Club hold their first exhibition at Utrecht this week (May 17 to 19). The President is Mr. D. E. H. BOXMAN.

"HORSES, ASSES, ZEBRAS, MULES, AND MULE BREEDING." By W. B. TEGETMEIER and C. L. SUTHERLAND (London: HORACE COX, *Field* Office, Bream's Buildings, E.C.).—Under this long title, Mr. TEGETMEIER and his co-operator have given us a book on a subject as yet but little worked. True it is, as the preface tells us, that "upwards of four thousand works on horses and their utilisation have been published, and of this number about one-half have been printed in Great Britain;" but the present volume has claims to be considered different from all these predecessors, as it treats at some length, and carefully, of some recently-discovered animals, such as PRJEVALSKI's horse and GREVY's

zebra; and also points out in detail the great value of mules as draught animals in England and in her dependencies. It is an undoubted fact that long custom has done much to ensure the perpetuation of one breed to the neglect of the many useful new hybrids which judicious selection might have introduced. It is, as the authors show, much to be regretted that more attention is not paid by the English to raising animals for use in India, South Africa, and other countries where mules are for various reasons more suitable than horses. To ensure a cross between an ass and a mare is not enough; the selection of the parents should be made only after due consideration of the characters desirable to be perpetuated, and the mules, once secured, should be intrusted only to intelligent and experienced hands, who will understand the requirements and disposition of the different varieties—how much to expect of them, and how best to exact it. Mule-breeding, in fact, should be considered as a science, and studied as such by those who are interested in it; indiscriminate crossing and careless education being sure to result only in failure. Considering the various species of horses, asses, zebras, and quaggas, as enumerated in this book, and the many possible ways in which it is mentioned that these species may be induced to interbreed, it seems strange that the subject has not been more largely entered into from an utilitarian point of view, and that mules of various parentage are not more largely raised for use under the special conditions for which they are severally most fitted by their inherited or developed characteristics. Such, then, are the subjects treated of in this book, and the large circle of readers to whom Mr. Tegetmeier's name is known may be assured that this authority is one upon whom they may confidently rely, and that this further work from his pen will be found as instructive and readable as any of his previous contributions. The volume is neatly got up, and contains numerous illustrations.

Colonial Notes.—We have received the supplement to the *Leeward Islands Gazette*, which is devoted to a paper "On the Manufacture of Muscovado Sugar in Antigua in 1894," by Francis Watts, F.I.C., Government chemist. Much useful information is given on an important subject, and the experimental manufactures here reported upon were evidently carefully supervised, and the results tabulated.

Vegetable Products at Bordeaux.—From a Report on the Trade and Commerce of Bordeaux for 1894, we learn that for the past eighteen years the Plum crops have been alternately large, and medium, or small; but that the year 1894 proved an exception to this rule, the yield of Plums amounting to the very large figure of about 500,000 cwt, notwithstanding the preceding year's immense production. The quality of the fruit was mostly inferior, as is usually the case after a moist summer, and this circumstance, together with the large stock remaining over from the year 1893, caused great depression of prices. Business was specially brisk with the United States of America, and buyers in that country took quite one-fourth part of the entire Plum crop of Bordeaux. Of Walnuts a very small crop was produced in 1894, and the entire quantity, estimated at about 30,000 cwt., was exported, this being about half the usual yield. Quality was defective, but nevertheless prices ruled high, medium Walnuts fetching £1 2*s*, and best £1 8*s*. per cwt. This article appears to continue in great demand both in Germany and in the United States of America (probably amongst the German portion of the inhabitants) for Christmas use, so that even Walnuts of an inferior quality find a market there at good prices when the crop is small. The exportations of cork were somewhat larger in 1894 than in the previous year. Algeria and Tunis continue to supply large quantities to France, but as foreign markets also address themselves direct to the former, prices are consequently high. The consumption of corks for wines and brandies and for mineral waters continues large in France, and though Spain and Portugal import their cheaper manufactures in large quantities, the French cork is able to maintain its position in the French markets. In the English, German, and American markets, however, Spanish and Portuguese cork finds the largest outlets, especially in the two countries last mentioned, where the duties on cork manufactures are very high. Mushrooms, it is stated, appear to be getting more and more scarce both at Bordeaux and at Paris, and also in other centres of production, prices of this product ruling very high, whilst the quantity brought to market is insufficient for the demands. It is difficult to say whether the outfall in the Mushroom production of late years has been owing to unfavourable weather, or to an excess of manure, but widespread complaints are heard from growers, who state they are losing money whilst waiting for an amelioration of their prospects, and also from Mushroom packers, who are placed under the impossibility of executing foreign orders in consequence of the restricted production.

Publications Received.—*The Natural History of Plants*, Kerner & Oliver. (Blackie & Sons, London, Glasgow, and Dublin) Part 12, containing an account of the Fertilisation and Formation of the Fruit Phanerogams; Fruits replaced by Offshoots; Parthenogenesis; Hetermorphism and Alternation of Generations. Also—The History of Species, including: 1, The Nature of Species, Definition of Species, the Specific Constitution of Protoplasm. 2, Alteration in the Form of Species; Dependence of Plant Form on Soil and Climate; Influence of Mutilation on the Form of Plants; Alteration of Form by Parasitic Fungi; and Alteration of Form by Gall-producing Insects.—*Western Australian Year-Book for* 1893-4, by Malcolm A. C. Fraser. (Perth, by Authority: Richard Pether, Government Printer.) A valuable statistical work, including: A Brief History of Discovery of Western Australia; articles on the Climate, Fauna, Finance, Forest Resources, Geography, Mineral Resources, Pastoral and Agricultural Production, Railways, Live Stock, and other equally important subjects.—*Report of Work of the Agricultural Experiment Stations of the University of California*, for the year 1892-3, and part of 1894. (Sacramento: State Office). A record of much important work done under the supervision of the College of Agriculture, including Agricultural, Physical, Chemical, Horticultural, Entomological, and Mycological investigations, carefully and systematically made over a considerable area.

PLANT PORTRAITS.

Calceolaria Burbidgei ×, *Garden*, May 4.—A hybrid out of C. deflexa by C. Pavonii. Has much of the appearance of amplexicaulis.

Gazania bracteata, *Garden*, April 27.—Leaves linear, white beneath; scapes purplish; flower-heads white, flushed with rose.

Gesneria Donckelaariana ×, *Revue de l'Horticulture Belge*, May 1.

Nepenthes Curtisi superba and N. mixta, *Wiener. Illust. Gartenzeit.*, 1895, t. 1.

Prunus prostrata, *Garten Flora*, May 1.—Dwarf shrub, flowers pink, fruit reddish, spherical, the size of a Pea.

Rubllia Makoyana, *Revue de l'Horticulture Belge*, May.—Leaves lanceolate, green above, with white veins, reddish-purple beneath; flowers 2 inches long, crimson.

Vanda suavis, *Garden*, April 20.

NOTICES OF BOOKS.

A Handbook of Systematic Botany. By Dr. E. Warming. Translated and Edited by M. C. Potter. (London: Swan, Sonnenschein & Co.)

It is a rare thing now-a-days to get a text-book on systematic botany, so widely has the pendulum swayed in the direction of anatomy and physiology. A quarter of a century ago the editors of this journal were frequently lamenting the too exclusive addiction to systematic botany on the part of the teachers. Now they have to regret that morphology and systematic botany are pushed aside by histology and physiology. It seems a pity that the great branches cannot be simultaneously advanced, as they might be, did we follow the German plan of appointing separate professors for each department.

Dr. Warming is not a closet botanist; he has travelled much, and observed much. He has had much experience as a teacher, and is well known as a morphologist and systematist. In the present edition, translated from the German version of the original Danish book, the account of the fungi has been revised by Dr. Knoblauch whose system is mainly that of Brefeld. The arrangement of the Algæ is also not quite familiar. Among them are arranged the Bacteria, which are quite as often placed in among the fungi.

In the case of the flowering plants, the editor makes mention of Dr. Treub's views as to the formation of a separate subdivision of Angiosperms, to admit Casuarina and those Cupuliferæ in which the pollen-tube enters the ovule through the chalaza, and not through the micropyle. But this seems premature, as we do not at present know enough to warrant such an arrangement.

The descriptions of the orders are also in most German books needlessly diffuse, and contrast unfavourably with the crisp concise way in which De Candolle, Lindley or Gray, for instance, set forth the distinguishing characters of the several groups. At the same time, the discussion of the mutual affinities of the groups is hardly entered on at all, and the morphological peculiarities are less fully treated in Dr. Warming's, and indeed, in most of the modern treatises than in the classic works alluded to. The allocation of Salicineæ, Quercus, Corylus, Urtica, and many others in the sub-class called Choripetalæ, will puzzle students, who will find no petals at all in the orders named. It should be said, however, that the Dicotyledons are divided into two main sub-classes only, the Choripetalæ and the Sympetalæ. It is doubtful, whether the mere isolation or concrescence of the petals affords characters of so high a degree of importance as the freedom either absolute or relative of the stamens. British botanists should in any case be grateful to Professor Potter for bringing this very suggestive book more prominently before them.

Les Plantes Bulbeuses.

Under this title, Mr. Guihéneuf has written, and Mr. Doin, 8, Place de l'Odéon, Paris, has published, a useful little treatise on bulbous plants and their culture. Not only bulbs, but tuberous and rhizomatous plants are included. Mr. Guihéneuf was induced to undertake the task because, so he tells us, there is nothing of the kind in horticultural literature. How true this may be of French literature we do not know; it can hardly apply to that of England, which can boast of the classic treatises of Herbert, Gawler, Elwes, Foster, Maw, Baker, Burbidge, besides the more purely cultural works, such as that of Fish, and the very numerous general works in which bulbous plants are treated of. Mr. Guihéneuf first supplies his readers with some cultural details applicable to bulbs in general, and then gives an alphabetical list of the principal species grown under protection or in the open air, with short descriptive notes and illustrations mostly taken from trade catalogues. At the end are given useful lists of the species most suitable for forcing and other purposes. A table showing the period at which the plants may be expected to flower is very serviceable. In a new edition it will be well to revise the names according to the *Index Kewensis*, and to make sundry corrections in words such as "Bomaers," "Cyclobotra," "Erythronum," "Washingtomonium," &c. In spite of these minor defects, the book may be commended to amateurs as likely to be very useful to them.

The Bulb Garden.

THE BEST NARCISSI FOR EARLY FORCING.

With your permission I will endeavour to give my experience on the above subject in response to your question at p. 558. Less than a decade since, if we except those varieties included under the head of Polyanthus Narcissus, the early forcing of these flowers was practically a thing unknown. I employ the term "early forcing" advisedly, because I am aware that at least twenty years ago some few catalogues included in their Narcissus headings suggestions as to the adaptability of these useful and now popular flowers for pot culture and forcing. But, like all changes, the hard forcing of these Narcissus came about very slowly, and was no doubt retarded in a great measure by reason of the indifferent way in which the Polyanthus group answers to forcing. Indeed, taken as a whole, they are by no means the best suited for the purpose, and especially so, if not properly prepared. Then, again, the high price of many of the better varieties was to a large extent prohibitive, as few would care to risk the best kinds in a speculation of which they had no previous knowledge or experience—at least, on anything like a large scale.

But the question of high price could not hold good in all cases, because one of the best for forcing purposes, and certainly one of the cheapest and most easily obtainable before the rage for these flowers began, was the common double Daffodil, N. Telemonius plenus. This handsome old garden flower, found growing in abundance in nearly every cottage garden, was, of course, too common to be worthy a moment's thought for forcing purposes. And again, the shade of colour found in this variety was by no means favourably looked upon a few years ago; and in this way years went by until the great Daffodil Conference of 1884 brought the whole genus into deserved prominence. Then it was that the Daffodil specialists gathered together, and gave their experience, which gave such an impetus to Narcissus culture as to lift them from comparative obscurity into popularity. And now, year by year, in their thousands and thousands, the bulbs of these flowers leave this country for America and more distant parts in all the best varieties for forcing and other purposes. It is a remarkable fact, in so varied and extensive a genus of bulbous plants, that very few varieties indeed will lend themselves to what may really be termed early forcing. But the same remark is equally true of Tulips and Hyacinths, as only a few varieties of each of these can endure the requisite heat.

In the year 1886, the second week of February was considered early to have Narcissus in flower under glass; but now, with good culture, they may be had in well for the new year. In fact, the very earliest batches are now finished by the end of January in each year, and the successional batches in cut also. For the very earliest work, there are no two varieties that can equal the Tenby Daffodil (N. obvallaris) and the old Double Yellow (N. Telemonius plenus). These may be had for the new year in ordinary mild winters, but in winters noteworthy for fog and early frost, it will be quite a fortnight later at least. In times of fog all these things are immovable by heat, and he who dares to force them unduly will have to pay most dearly for it. The best possible thing in such a case is to content oneself with a temperature of 45°, and with the disappearance of the fog to employ additional warmth—say, 55° as a maximum. In the forcing of these Narcissus, never employ bottom-heat; they are better without it. There are in circulation several stocks of the Double Telemonius, and some of these are altogether unsuitable for early forcing. In my own case, I have three stocks, two of which came to me from Ireland; but grown side by side in the open, and prepared together for forcing, and placed in heat at the same time, the one will flower fully a fortnight earlier than the other. They are distinct in foliage also, and it is more than likely that only one of them has any connection with N. Telemonius at all. The most valuable is, of course, the earliest-flowered, and it so happens that the earliest to flower in this case is also the most free from disease. With the exception of the double kind named, no other double is worth growing for earliest work; but orange Phœnix and sulphur Phœnix should both be grown for second early. These are both charming kinds, and in good condition much esteemed. Among the single yellows suited to forcing, Ard Righ is in every way excellent; it forces early and well, but is, unfortunately a bad doer in most soils, and much more expensive than the popular Tenby Daffodil, N. obvallaris, which is grown in immense quantities for market-work. Single Von Sion is also a good kind, also grown largely. Then in successional order we have a grand thing in Golden Spur, a vigorous kind, with a bold and telling trumpet, that makes a fine show. Although this may still be included among the more costly, yet it is only about half the price it was a few years ago. When potted early in September, and brought into frames preparatory to the forcing-house, this kind comes away well, and bold, handsome flowers are the result. With precisely the same treatment as the last-named kind, the variety Horsfieldi does well grown in this way under glass, and the flowers in no way marred by soot and smoke brought down by heavy rains when grown in the open; this prince of the bicolors is indeed an exquisite thing. At all times a good market flower, it always takes the lead in its class when forced earlier into bloom, and its effect in vase decoration is unique. This I regard as indispensable among second early kinds, requiring a good season of preparation and steady forcing. Princeps and Countess of Annesley are both good and useful kinds, also for successional work, the first of them may be had early in February, varying somewhat, according as the season may be early or late. Though somewhat flimsy in the segments, it is withal a beautiful and graceful flower, and minor defects are not considered when flowers early in the season are not so abundant. Side by side, and with identical treatment throughout, Princeps is several days earlier in bloom than Countess of Annesley, the first-named having longer stems also. The latter prefer a slower and more natural treatment to attain perfection. It will thus be seen how very few of the whole may be forced early and at the same time advantageously. Indeed, it is the less expensive kinds happily that force earliest and best, while the great bulk may be grown in pots for later work. And it may be remarked how few kinds answer to heat in each of the groups. One kind still remains to be added to the forcing list, and this is Poeticus ornatus, perhaps all round from a commercial stand-point, one of the most valuable. But when intended for forcing, there is no kind for which hard-and-fast lines are more essential than this; sending forth roots continuously, and for the greater part of the year it may be potted exceptionally early with advantage. Plunged out-of-doors till the middle of December, it should then be placed in frames or pits excluding frost only at first. With the advent of January, a moist temperature of 40° to 45° for a fortnight or so; or better still, till the flower scape is clear away from the neck of the bulb. Bottom-heat should on no account be employed, and for this kind in particular, instead of hastening it has a retarding influence, as many market growers have proved repeatedly. A too early introduction into heat without the requisite preparation has a precisely similar effect upon this variety, and frequently what has been intended for the second batch (having been introduced a fortnight later into heat) has flowered in advance, and produced better blooms than those that have stood long in the heat. In reality, this kind abhors heat, as it will not force when good bulbs have been established a whole year in large pots; but given a long season of preparation and judicious treatment after being placed in heat, it may be had in capital condition by the third week in January. It is, however, the only Poet Narcissus that may be forced thus early; but it is certainly the most beautiful, and commercially the most valuable. The double Poet Narcissus will not force at all, and, indeed, requires special treatment under any circumstances, even in the open ground, to make it a success. *E. H. Jenkins, Hampton Hill.*

Crinum giganteum.

This is a species of one of the most beautiful bulbous plants in cultivation, very often indifferently grown, but when well managed throws its great tulip-like flowers from stout unbending scapes that dispense a Gardenia-like fragrance over a whole house. There is a unique example of a plant in one of the houses of A. Warburton, of Vine House, Haslingden (gr., Mr. T. Lofthouse). It bears six of its large Spanish-Onion-looking bulbs, all growing from one centre in a 14-inch pot in a mixture of loam with a slight sprinkling of peat. It is in the ruddiest health, bearing five scapes, and yielding about six of its Amaryllidaceous-like flowers, but like all the Crinums, cup-like before expansion, the six segments, three interior and three exterior, are all flushed with pink, not unlike Amaryllis reticulata in that respect, but when we add to its striking individuality the addition of rich fragrance, how welcome such a species is for all indoor decorative purposes! The main feature in its cultivation seems to be the keeping it in an intermediate house where Camellias are generally grown. We presume the house is not subjected to the low temperatures of a Camellia-house in winter, but Mr. Warburton assured me that the plant had been growing in its place as above noticed for years, pointing clearly to the fact that the general cultivation of this Crinum has been too tropical for its floral-productive effects. *J. A.*

BOUGAINVILLEA GLABRA.

This plant has been flowered successfully at Combe Abbey for the past thirty years, under the following conditions:—In a house which was kept at a medium degree of warmth, a plant has been growing in a well-drained brick partition made at one end of the house, which was filled with a mixture of loam, leaf-mould, and sand. As it grew at the first, three or four shoots were trained horizontally along the back wall. Each year the plant grew with vigour, and flowered freely; but the confused growths showed me that there were too many shoots on the plant, and eventually they were all cut away, leaving one only, which is now about 40 feet long, and at the base, just above the soil, it has a girth of 9½ inches. In spring the rod breaks freely, laterals from 6 to 8 inches apart are selected, and all others are persistently rubbed off. These shoots are trained upwards, and over the footpath, and push out to a length of from 6 to 9 feet, profusely laden with their lovely mauve inflorescence. These sprays are most useful when cut for placing in tall glasses. On one occasion I had the walls of a ball-room dressed with the flowering shoots of this Bougainvillea.

Although a plant so easily grown, is not yet so very common in gardens; one could often hear the question asked on this occasion, whether these were natural or artificial flowers? The lateral shoots are now about 1 foot long, and they will come into flower in June, and continue in gorgeous flower until late in the autumn. The copious waterings are then dispensed with, and after a while these laterals are cut close back to the main stem, in precisely the same manner as one would treat a Vine. I have not found that bug or other insect pests are partial to this plant; but it is just as well as a preventative to dress it after the pruning with an insecticide. During the summer months, these flowering shoots from the back of the house are met from the front by an equally luxuriant growth of Melon plants, which, when in fruit, form, as one may readily imagine, a pretty combination of Flora and Pomona worth going a long distance to look at. *W. Miller, Combe Abbey.*

HOME CORRESPONDENCE.

SIBTHORPIA EUROPÆA VARIEGATA. — Some time ago there appeared in the *Gardeners' Chronicle* an illustration of a fine specimen of the above, grown by Mr. William Marshall, Auchinraith, Bexley, who cultivates it with remarkable success, and produces superb examples. It is also well done at the nurseries of Messrs. W. Balchin & Son, Hassocks, Sussex, by their able foreman, Mr. Richardson. When at Brighton a few days since, I called at the nursery, and found the old plants being parted for furnishing nice little specimens for decoration in the summer months, for which purpose it appears to be a good deal in demand. Some pots 3 inches in width, are filled with a compost made up of equal parts of peat and loam, with a good mixture of coarse sand. On the surface are laid, neatly coiled round, a few pieces of the trailing variegated shoots, and they are kept well shaded from the sun and sprinkled occasionally through a fine syringe or a fine rose; they soon produce roots, and immediately growth sets in the shading is removed, and the plants are exposed to the light, but taking care that the bright sunshine cannot fall upon them, because, if so exposed, the delicate variegated leaves become disfigured, and then some time must elapse before they can recover. Plenty of moisture is required, and when well rooted, pieces of sandstone, broken up very fine and placed on the surface of the soil are found very beneficial, holding the moisture even better than the surface-soil. At the Hassocks nursery, plants can be seen suspended from the roof of a fernery, the pendent shoots hanging down in the form of graceful festoons, and being highly ornamental. In some cases a small Fern is put in the centre of the pot, and the Sibthorpia round it, the combination being very effective, and the fronds of the Fern shade the Moneywort, which is advantageous. Sometimes a little reversion to the green form will put in appearance; all that is required is to gently pinch it out, leaving the variegated portions masters of the position. *R. D.*

EARLY POTATOS.—Of all the many early varieties I have tried for frame and outside work, none approaches in my experience the old and nearly forgotten Mona's Pride. It is a cross between the kidney and the round, a heavy and certain cropper, with a flavour beyond criticism. This year I have not tried even a single variety, although I am rather given to try everything. Even for market purposes I think it will come out a good 1st, irrespective of its flavour, which in the market is usually a matter of no importance. Will those who have grown this variety for market and private use, frame and outside, report their results? as the opinion of one grower in one district is of little value. *Thos. Fletcher, Grappenhall, Cheshire.*

POLYANTHUSES AT HAMPTON COURT.—I notice the concluding remarks to your appreciative reference of the spring flowers at this popular place of resort, as to the effect that an effort is being made to obtain dark-coloured forms. There is no need to wait for two years if seed be at once purchased of the fine rich-coloured strains now some time in cultivation. Do not let it be assumed that these Hampton Court Polyanthuses are anything special except in quantity. They attract so much attention because no one else seems to have selected them for spring blooming so largely as Mr. Graham has done. But for quality of flower, variation in colour, and of all-round beauty, no show I have seen anywhere else can compare with what I used to have year after year at Bedfont, and what may have been seen there in thousands of plants a few weeks ago. There, too, the rich colours largely dominates, whilst at Hampton Court the hues range only from white to yellow, with some intermediate tints of lemon. I pointed out to Mr. Barnshaw, Mr. Graham's excellent foreman, some two years since, that in keeping too exclusively to the pale hues all the beauty found in the deep coloured forms was neglected. That is criticism I have heard from numerous visitors of the gardens also. I hope another year we shall see every other bed, at least, forming flashes of rich reds, crimsons, purples — colours which any good strain of Polyanthuses furnishes abundantly. To get strains of these dark colours, however, plants must not only be specially selected, but be grown remote from the light-coloured stocks, as these latter, if allowed to become abundant, do so largely dominate this strain, the pollen being so diffusible. I hope the great show of Polyanthuses made at Hampton Court may encourage thousands who have gardens at once to get seed and sow it. Those who do so, will find next April that they have in these plants variety and beauty, of which before they had little knowledge. *A. D.* [Mr. Graham wishes to work up a strain with *extra-large bright crimson flowers*, to the exclusion of the dark-coloured varieties referred to above. An equally good strain is possible in other gardens, but as we stated before, there must be thorough cultivation and selection in regard to seed saving. Whether the latter operation be performed by the seedsman or by the gardener matters little. Ed.]

PRIMULA POLYANTHUS.—In the issue of the *Gardeners' Chronicle* for May 11, I noticed an article on the Polyanthus at Hampton Court. These Polyanthuses I distinguish as the fancy Polyanthus, and your correspondent tells us what is to be done with those Polyanthuses in the future. I send you a boxful of Polyanthus in quite distinct colours, showing you what I have done with this flower in the past. We have between 10,000 and 12,000 of these Polyanthuses growing in the beds, now rather past their best. Every bed is planted with a variety. Cultivators of this fine strain should be thankful to Messrs. Veitch, of Chelsea, for their distribution of this fine variety of Polyanthus during the past fifteen years. *William Culverwell, Thorpe Perrow Gardens.* [Fine in variety and in quality.—Ed]

FRUIT PROSPECTS.—In East Anglia, also near London, some of the finest Apple trees that I have seen this year have been near to Finsbury Park and the Green Lanes, near Stoke Newington. The magnificent spread of pink and white seemed unmarred with the dust of the great city. These splendid Apple trees in and about London, and the glorious Horse Chestnuts, Crabs, and double Cherries, in the parks, suggested the possibility of growing more flowering trees and shrubs in this great centre of life and energy. The white and other Lilacs are simply magnificent this May in London and everywhere else. Few things can show how the late forcing weather as forcing our fruit trees and other flowering shrubs abreast or ahead of the calendar more than the forward state of our so-called Lilacs or Mays on this 13th day of May, 1895. Only a few years ago I wrote to suggest that if our Mays were to remain such laggards in the race against time, their popular names should be changed to "Junes." Our fruit trees and bushes have also come into bloom, and gone out again with a rush. A few of our popular varieties also changed places, and came into flower in a rush together. The usual order is Sloes, Damsons, Gages, Cherries, Pears, Apples. This year Cherries were mostly in front; and for this and other reasons best known to the birds, the early Cherries, such as May Dukes, have been devoured, or knocked off, germ and petals. Later ones, such as White and Black Hearts, are setting well. Another peculiarity of the fruit-blooming was that the leaves of most Plums were so greatly ahead of the blossom as to hide most of the latter. However, there were few spreads of Damsons, Gages, or Plums white as sheets this year. Possibly, however, barring the frosts to come or not in May, there may be a fair yield. Cherries bloomed profusely, and with the exception of May Dukes, promise well. Pears were hardly an average yield, but plenty for a good crop, the remainder of May permitting. But the Apples are the great show of the season; orchard after orchard, county succeeding county, vie with others in unbroken succession in their prodigal spreads of pink and white. These, however, though the most beautiful signs of the orchards and fruit gardens, are hardly the most hopeful. The latter may be secure in their general freedom from insect pests, and in the abnormal redundancy of their leaves. The latter will be useful in ensuring a safe set of Apples, and in protecting from cold frost-snaps through May. Gooseberries and Currants promise a full crop, fruit-picking beginning from the 13th, though a good many growers will wait another week or so, finding that size and bulk pay better than fancy prices for the first picking. The thunder-storm and wind of the 12th will greatly benefit Strawberries and Raspberries, the two crops most in need of a stimulus to pull them up to time and average yield. The rain will also prove invaluable to setting Plums, Cherries, Pears, Peaches, Apricots, Nectarines, Gooseberries, and Currants. Walnuts have suffered a good deal from the severe frosts of February in some districts, and Filberts and other nuts are still uncertain. *D. T. Fish.*

SCHIZOCODON SOLDANELLOIDES.—I regret that the plant I brought over from Japan four years ago has been blooming for the last three weeks and the flowers have fallen off; but I showed it at the Horticultural Meeting on Tuesday, thinking it might interest any of the members who may have seen it in bloom last year. It may interest your readers to know that these plants have been in a cold frame all this winter, and that I planted one out last year on my rockery, and that I did not treat it more kindly than other plants that have withstood this last severe winter. It is now in flower, and, I believe, for the first time out in the open in England. The foliage is beautiful, the leaves being like those of a Berberis, shiny, bright and crisp, and of a dwarf character. My gardener, William Pascoe, will gladly show the Schizocodon to any one who may care to come down here and see it. *Alfred Torrens, Baston Manor, Hayes, Kent.* [A fine addition to our evergreen rockery plants. Ed.]

PRICKLY SPINACH AS A SALAD PLANT. — The value of Spinach as a winter vegetable is well known, and its constitution being so hardy as to withstand a temperature greatly below zero, as it has done during the past winter, it will be more prized when it is known that it makes an excellent salad. It was much used as such here during early spring, when Lettuces were scarce; and, although it is deficient in the crispness of the Lettuce, and has more of the flavour of Corn Salad, it is greatly appreciated by all who have tried it. *A. Groombridge, Brome Hall Gardens, Scole.*

GREVILLEA ROBUSTA.—I have carefully read the article on page 585 of the *Gardeners' Chronicle*, and would ask "D. T. F." to kindly enlighten me as to a few points contained in it. Firstly, is Grevillea robusta in flower at Cambridge? for it is so implied, but not definitely stated. If it is, a little description of the flower would be of interest to many, for it is so seldom seen in bloom. Next, what species would "D. T. F." recommend for the clothing of walls, pillars, rafters, and arches? Thirdly, by drawing a comparison between the different Grevilleas and the Cytisus as grown in quantity, surely a flight of fancy is indulged in, for "D. T. F." must bear in mind that to command a very large sale a plant must be grown in a 48-sized pot, that is, one 5 inches in diameter, and if it is possible to flower G. robusta in a satisfactory manner when no larger than that, I and many others would like to learn how it is done. Messrs. Low of Clapton, with an experience of hard-wooded plants second to no other dealers in the country, would be well able to form an opinion as to the market value of the Grevilleas compared with Cytisus racemosus, and they would doubtless grow them in quantities if a ready sale could be depended upon. Then, what other species does "D. T. F." recommend for market work? Lastly, what is the normal species referred to in the article in question? Certainly not robusta, for several others were introduced before that. That Grevilleas are very pretty flowering shrubs I perfectly agree with your correspondent, but when they are advocated as desirable market plants for the production of blossoms (and especially G. robusta, which so seldom flowers), I must beg to differ entirely from "D. T. F." *W. T.*

SCOTLAND.

ORCHIDS AT EDINBURGH.

Truly has it been stated that these plants are suitable for the amateur as well as for the professional horticulturist. And with the former class of cultivators this becomes apparent in the fine collections which occasionally come under notice. In Edinburgh, one of the best collections is that grown by Mr. J. Hunter at Grange Loan, in the southern outskirts of the town. Here this enthusiastic lover of Orchids devotes four small houses at the rear of his residence to them, all the principal genera being represented, some of which would do credit to establishments of much larger pretensions. The first house is occupied by Masdevallias and Odontoglossums principally, the former consisting of many of the species and best varieties procurable, looking the picture of health with their large leathery foliage

and strong flower-spikes; of those noted in flower at the time of my visit the following may be mentioned: M. Shuttleworthii, M. Chimera, M bella, M. Wagneriana, M. Harryana and its variety grandiflora, of fine form and colour; M. ignea, and the deeply-coloured M. amabilis, M. Estradæ, a lovely violet-purple shade. The leaves of some of the stronger-growing kinds measuring more than 1 foot long, by 1½ inch at their widest part. Besides those in flower, others such as M. Chestertoni, M. coccinea, M. leontoglossa, and numerous others were doing well. Of the Odontoglossums, many are plants selected from the best importations of O. crispum and O. Pescatorei, several very fine forms adorning the house. O. crispum looked the picture of health, and some very fine varieties were in bloom, as were also O. Pescatorei and O. miniatum. Miltonia Phalænopsis with its flat flowers and prettily blotched purple lip, was doing well. Some fine forms of O. Rossii majus, with bold flowers were noted; these plants having hung in a cool-house near the roof where the temperature must on some occasions have reached the freezing point. Oncidium ampliatum majus and O. luridum amongst numerous other species were doing well. Of the Dendrobiums, most of the good species are here to be seen. The pretty small-growing D. japonicum with its pure white fragrant flowers, looked very attractive; this Mr. Hunter has hybridised with the pollen of D. Hildebrandtii. D. nobile, and several of the finer varieties, were finely set with flowers; the pendulous pseudobulbs of the old favourite D. Devonianum looking very graceful among the green foliage of the neighbouring plants, D. Brymerianum and D chrysotoxum swelling the numbers of plants in flower. The strong spikes of Phaius Sanderiana were bearing large flowers of a good colour. Cœlogyne sparsa and C. lactea are both effective plants when seen hanging from the roof. A good plant of C. cristata alba was also pushing well into growth. A good plant of Vanda Sanderiana looked perfectly at home under the treatment received. Many more good species were noted which, although not flowering at the time of our visit, must keep up a succession of bloom pleasing at all times to their enthusiastic owner. A large number of seedlings from good and carefully-selected parents are being raised, and these may be seen from the stage of making their first leaf to that of when they possess three or four small leaves in thumb-pots. The attention these plants receive is given by Mr. Hunter in the time he can spare from business, and by his daughter, who devotes the hours before and after school to their culture. That the plants receive the treatment necessary for their well-being is evident from their appearance, scarcely an unhealthy plant being visible amongst them. *H.*

Fruit Prospects, &c., in South Scotland.

I am pleased to say that the prospect of Pears, Plums, Cherries, and Damsons (these are in full bloom), also Apples and Strawberries (these are just beginning to open), Gooseberries, Currants (black, red, and white), and Raspberries, is very good. Apricots and Peaches are very poor, these trees having suffered terribly from the frost in the early months of the year, the young wood not being ripe enough to withstand it. The Wilson Junior Blackberry are all killed to the ground with me; this is my first experience with it, having planted it last spring. Being a North American plant, I thought they would be perfectly hardy in this country, but it appears this is not so. The Parsley-leaved variety growing by its side is hardier. The Wilson Junior cannot fruit with me this year, unless it fruits the same as the autumn "Rasp." Can you say if it will do so?

Jedburgh, which is noted for Pears, is a sight worth travelling a long way to see just now, when the trees (many of them very old) are in bloom. We had a nice rain yesterday, registering 0·09, which has softened the air, for although we registered last week 108°, 110°, and 113° in the sun (with blackball in vacuum), the nights were cold, registering 3° and 4° of frost in the kitchen-garden. It was this moon last year that spoilt our fruit crop, but it was not full till the 19th, then on the 20th we registered 5½°; 21st, 8°; 22nd, 9°; 23rd, 9½° and 24th, 9° of frost, which spoilt all our fruit, cut down Peas that were just coming into bloom, and did much damage to Beech, Ash, Oak, Walnut, and other trees. Now, if we escape the full moon next month, I think we shall get a very heavy crop of fruit, it will be full about the 6th. Should the wind be in the south or south-west, we shall most likely be all right; but if it is in the east, I shall be very much afraid that our crops will again be very poor. Mahonias and the common Laurel have suffered very much from frost, Portugal Laurels, some Yews (English), and some Rhododendrons, are very brown, and the young Douglas firs are terribly hard hit. *John Page, Monteviot Gardens.*

OUR POULTRY.

By Harrison Weir.

(Copyright.)

(Continued from p. 488.)

From the foregoing it may be gathered that the coloured five-toed fowl is not entitled to the name of Dorking, nor was it so called until about the "forties" of the present century, and thus it is that the name heedlessly given has now by custom become so far current as to be adopted rightly or wrongly, whereas the breed most likely was truer and better kept in Kent than ever it was in Surrey, the larger fowls of which were notoriously of a different character, furnishing but four toes instead of the five that usually predominated in the Kent and a very large proportion of the Sussex fowls.

Fig. 98.—Model of good fowl for table.

As to the points of excellence, it will be best to give those that were always looked for, bred for, and every endeavour was made to preserve, and that was as nearly as possible a perfect table-fowl, eggs generally being "secondary consideration."

In the first place, size was a consideration, next the breadth and squareness of make, plump and wide in the breast, tapering towards the tail, wing large and full, head large and thick; thighs short, stout, and muscular—and so the legs, the lower portion, shank or beam, as it was called, was of a fair length, not too short, yet by no means long, the very short "beam" was considered objectionable, on account of the fowls getting wet when among grass. The tail large and full, and carried well up, what is foolishly called squirrel-tail in the present day was one of the points sought for, as it was thought to betoken courage and high mettle. The comb was large, and either rose double or single in its formation, the wattles also large and pendulous, the deaf ear full size and white, sometimes slightly tinted or stained with red. Red deaf-ears were unknown in the breed until the importation of the Cochin or Shanghai fowls, and are a decided sign of impurity, and should not be allowed. The body was short and thick, but longer than that of the farm fowl, though not so long as the Old White Dorking breed. The shape that was sought for, was as near that of the Partridge as could be got by careful matching and unwearied selection. Many and many a time, more than half-a-century ago, have fowls been shown trussed for the table with the proud remark that they were partridge-breasted; and beyond this, the skin was thin, white, and clear, and the round full breasts were well veined and marbled with clean white fat, not long and lean. The beak, shank, feet, and toe-nails were clear white, with not the slightest sootiness between the scales, as is far too often seen now even among the prize birds—nor would dark or black toe-nails be tolerated at the best homesteads. Here is the shape sought to be attained by the old farming poultry breeders more than sixty years since.

Now it is thought that a long-bodied bird has more flesh on the breast than a short one, but this is entirely a mistake, the pectoral muscles are simply elongated, instead of being short and full, as shown, there never is, or ever can be, the depth, fulness, and breadth, in a long-breasted fowl, nor is the keel of the sternum or breast-bone so strong, or, as a rule, so straight.

As to plumage, it varied considerably, some localities preferring one colour to another, they were to be seen nearly black, dark grey, brown, or tawny-red, or game-cock colour, as they were called, nearly white, with dark hackles and tails, and pure white; while the old "speckled" was a colour unknown in any other breed of fowls, the nearest to it being the splashed black-breasted red game, or they might be termed the almond-mottled, among fowls, being almost as rich in colour as the variety so named is among pigeons. It is to be feared the breed is now entirely extinct, as also the bright reds, none having been seen for many years. Some of the old spangled, or black and white, are occasionally met with, but are rare. The shows have also helped to get rid of the old rose-combed varieties; these were generally of a more sturdy appearance than the single-combed, which latter in all probability sometimes had a cross with the 'blue blood" of the old English game. They were fairly good layers, the early pullets laying about Christmas, which enabled the henwives to often have a good supply of spring chickens, though the breed is now said to be tender in constitution. It is more from mismanagement than anything else that the chickens are not reared as easily as they once were.

(To be continued.)

JOHN WALKER.

In our last issue it was our melancholy task to chronicle the death of this worthy man, and to supplement the details then given, we now publish the following sketch of his career, kindly furnished by Mr. R. Dean.

John Walker's career as a florist and nurseryman extends over a number of years. About the year 1834—then a stripling—he came to Thame to assist his uncle in the business of a grocer, which in course of time was transferred to the house in which Mr. Walker carried on his business for so many years. Even then he had a taste for some of the popular flowers of the day, and in 1846, having acquired a certain fame as a cultivator and exhibitor, he, though still assisting his uncle in the grocery business, commenced on his own account that of a florist, beginning with 20 poles of ground and a two-light frame, a commencement which in course of time grew to the dimensions of 30 acres or more. About 1850 Mr. Walker added the business of a seedsman to that of a florist, and opened in the town the smaller of the two seed-shops he occupied for years. Two years previously, in conjunction with others, he was mainly instrumental in forming the Thame Horticultural Society, becoming co-hon. secretary with Mr. Shrimpton, which post he held up to his death. He grew the Tulip, the Ranunculus, Carnation, Pink, and other florists' flowers, and exhibited at the annual shows with success. For some years he had ceased to compete, but a fine collection of plants and cut-flowers was always a leading feature in the principal marquee of the local show. His fame as a florist spreading, obliged him to take in more land, including the Leahlake Gardens, which were destined to become the chief home nursery, and where much glass was erected; and Mr. Walker became a successful exhibitor at

Buckingham, Oxford, Aylesbury, Wycombe, and other places. In course of time nurseries in the Queen's Road, chiefly for Roses and fruit trees, and at Chilton were added; also the Field Nursery near the railway station. It is at the Lashlake Gardens that the fine and deep coloured Maréchal Niel Roses so finely shown by Mr. Walker, were grown. Mr. Walker won many prizes, and especially cups and medals for Dahlias, Roses, Pelargoniums, Asters, especially of the quilled type, of which a superb strain is grown at Thame, and where several new varieties of great beauty originated; Sweet Williams, various vegetables, &c. At the London and other exhibitions of Dahlias, he was always to the fore; he was a supporter of the National Dahlia Society, always exhibiting blooms of high quality. His new white show Dahlia, John Walker, is unrivalled in its class, and will be grown for years to come. He raised or selected and sent out several fine types of vegetables, such as the Improved Exhibition Onion, the Perpetual Bearer, Unique, Oxfordshire Gem, Imperial Blue, and other Peas, Magnum Bonum Red Carrot, Marvellous Longpod Bean, Sugarloaf Bath Cos Lettuce, and others, and the Magnum Bonum Red Currant.

Mr. Walker took an interest in local matters; he was for some years a member of the Local Board of Health and Board of Guardians, &c. It was mainly through his instrumentality that an exhibition of Chrysanthemums was instituted in 1890, and is carried out by the local society. His enthusiasm as a florist was active to the last, and he never missed an exhibition in London if well enough to reach it. The business will be carried on by his widow and eldest son, Mr. Stephen Walker, who for some years has taken a very active part in its management. The deceased was buried at Thame churchyard on May 11.

SOCIETIES.

ROYAL HORTICULTURAL.

May 14.—Judged by the abnormally large show at the previous meeting, the display in the Drill Hall, Westminster, on Tuesday last, showed a considerable falling off. The meeting, however, was satisfactory, especially in view of the fact that the great Temple Show is now so near. Tulips were much in evidence, and there was a fine lot of Daffodils and other hardy flowers. The lecture on the Canary Islands by Dr. Morris, of Kew, was the subject of considerable interest, and by the aid of the lantern, realism was imparted to the interesting descriptions the lecturer gave.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, O. Thomas, C. T. Druery, H. B. May, H. Herbst, R. Dean, J. Jennings, C. E. Pearson, J. D. Pawle, G. H. Engleheart, H. Bennett-Poë, C. E. Shea, H. J. Jones, E. Beckett, C. Blick, E. Mawley, G. Paul, H. H. Dombrain, G. Gordon, G. Nicholson, J. W. Barr, and J. Walker.

Messrs. W. Paul & Son, Waltham Cross, Herts, had a collection of new Roses, including the tolerably well-known Clio and Corinna, the former a soft flesh-coloured H.P., and the latter a very pretty Tea variety, charming in the bud, and opening into large blooms of a tender flesh colour. A new Tea also is Empress Alexandra of Russia, having a pretty and quite new shade of deep salmon colour. Queen Mab is a capital little China Rose, with a pretty bud.

Messrs. R. Wayelenburg & Son, Hazerswoude, near Leiden, sent a plant of Sambucus racemosus plumosus fol. aureis, a finely-cut, graceful-looking variety, with pale yellow foliage (Award of Merit).

A high-coloured seedling Lilac (S. vulgaris ruberrima) was exhibited by Messrs Saltmarsh & Son, Chelmsford.

An excellent display of Roses was furnished by Mr. Geo. Mount, Canterbury, who had half-a-dozen blooms of General Jacqueminot, La France, and Ulrich Brunner, beside a number of single blooms in variety. A dozen blooms of Mrs. John Laing were very good (Silver-gilt Banksian Medal).

Messrs. De Rothschild, Gunnersbury House, Acton, W. (gr., Mr. J. Hudson), showed sprays of the bright and free-flowering Rose, Turner's Crimson Rambler; and flowering sprays of Cercis siliquastrum, from an unpruned specimen growing against a building. The shoots were covered with their rosy-lilac flowers for a length of from 2 to 3 feet.

Some sprays of Aucuba japonica in fruit came from the Marquis of Huntley, Peterborough (gr., Mr. A. Harding).

Mr. F. W. Moore, Botanic Gardens, Glasnevin, sent cut blooms of the following interesting plants:—A variety of Crinum capense, from the open air; Browne a Ariza, an immense scarlet-lake-flowered variety; a number of hybrid Sarracenias, Acanthophippium javanicum, Darlingtonia californica, Brownea macrophylla×, and Strophanthus dichotomus. G. F. Wilson, Esq., Weybridge and Wisley, exhibited flower and leaf of Rheum Moorcroftianum, described as a pretty, dwarf variety, growing less than 2 feet high. Syringa alba grandiflora and the deep-coloured variety, S. Souvenir de L. Späth, of excellent merit, were shown by Mr. A. Waterer, Knap Hill Nursery, Woking, Surrey.

A group of Gloxinias, tastefully arranged with Ferns, was staged by Messrs. Jno. Laing & Sons, Forest Hill Nurseries, S.E. Lord Hillingdon, scarlet-crimson, and white edge; Leopard, a minutely spotted flower; Jno. Laing, intense rosy-crimson; Mrs. Laing, deep purple, with white edge; and Majestic, heliotrope and white, were the best types. The strain was very commendable. A few plants were shown of a good hybrid Streptocarpus, with rather large blue flowers, striped with purple. Caladiums Rose Laing, La Duchere, and Pauline Guichard were included, the first-named being in very fine condition (Silver-gilt Banksian Medal).

An interesting exhibit of Lilacs, Hippeastrums, Cannas, and Rhododendron blooms was made by Messrs. Paul & Son, the Old Nurseries, Cheshunt. These new varieties of Canna are well worthy the prominence lately given them, the foliage and flowers being equally handsome, Alphonse Bouvier and Miss Sarah Hill are both self-coloured crimson varieties, the former being rather taller, and the flowers a little larger. Of the spotted varieties, Progression, Antoine Barton, L. E. Bailly, and President Chandre are all good. The last-named is rich apricot-yellow, with indistinct spottings, Cheshunt Yellow is very pretty, and Mrs. Tasker and Chas. Moore are attractive. An Award of Merit was granted to Lilac La Tour d'Auvergne, a semi-double large-flowered variety of pleasing colour. A fine bunch of the intense coloured Louis Späth was shown, and the others were Virginite, a semi-double flesh-coloured and white flower, Comte H. de Choiseul, small flowered double white; Madame Lemoine, large double white; Marie Legraze, large single white; Léon Simon, very double and lilac coloured; President Carnot, of similar colour, but less double; Madame Kreuter, a very bright single, and Lemoine flora-plena, a semi-double flower of pale blue. The Rhododendron blooms were hybrids of R. Fortunei, chiefly light in colour, and were rather noteworthy (Bronze Banksian Medal).

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., showed a pretty group of Caladiums, Dracænas, and other fine-foliaged plants. A pan filled with plants of Begonia Arthur Mallet, of a port-wine colour with a silvery sheen, was very pretty; Strobilanthes Dyerianus and Dracæna Sanderiana were included. The more noticeable of the Caladiums were Mrs. Harry Veitch, L'Insolite, Wm. Bull, Linné, Charlemagne, Comte de Germiny (a very pretty, rather new, spotted variety), Triomphe de Compté, Reine de Danmark, and others.

Mr. J. F. McLeod, gr. to J. P. Morgan, Esq., Dover House, Roehampton, S.W., exhibited a large specimen plant in bloom of Medinilla magnifica, a plant that might be grown with advantage in places where the houses are not exceptionally small.

Messrs. J. Cheal & Sons, Crawley, exhibited a collection of hardy decorative and flowering shrubs in sprays. Pyrus malus floribunda, Cerasus avium, C. a. rexii, C. Sieboldi rosea-pleno, Akebia quinata, Amelanchier canadensis var. ovalis, Pyrus Sieversi, Spiræa confusa, Philadelphus coronarius foliis aureis, varieties of Acer and other things, including a few varieties of bedding Violas were noticed (Bronze Banksian Medal).

From Earl Cowper, Panshanger, Herts (gr., Mr. J. Fitt), came some capital sprays of a large white Lilac (Syringa alba grandiflora). The sprays and individual blossoms alike were very noteworthy.

An excellent and large display of hardy plants and flowers was made by Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, which included a number of varieties of Tulips, varieties of Gladiolus Colvillei, Irises, Spiræa japonica nana compacta, a small compact variety; S. palmata, S. astilboides, Aquilegias, and a very fine lot of Tree Pæonies in pots (Silver Flora Medal).

Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, exhibited four new varieties of Caladiums. Lord Derby, had a rather dull pale red leaf with very distinct green veining; Sir William Broadbent, had a green ground marked with pale flesh and deep red suffused veins. Sir Julian Goldsmid had a fair sized leaf of rather ovate shape, and the colour consists of silver and coral in different shades, apparently showing green also as the leaf matures; Marquis of Camden is a larger leaf with rich coloured veins and centre, and showing green mottling and margins.

Daffodils.

Daffodils were again largely shown. In a competition for Messrs. Barr & Son's Medal, a 1st prize was awarded to R. Maitland, Esq., Comrie Castle, Dunfermline, Fife (gr., Mr. G. McIvor), who staged a very nice collection of the choicer and principally of the smaller flowered kinds. The large trumpet varieties were not so evident; Burbidgei, Leedsii, Odorus, Incomparabilis, and Poeticus varieties were well represented, and a bloom of the new trumpet variety, Glory of Leiden, was included. C. J. Backhouse, Esq., St. John's, Walsingham, Darlington, was 2nd, with another noticeable collection. This exhibitor also staged a collection in competition for the Silver Cup of Messrs. Barr. A considerable variety was manifest here, but the quality was not equal to that of the collection shown by Rev. S. E. Bourne at the last meeting in the same competition.

Some good panfuls of dwarf plants, suitable for rockeries and front lines in borders, came from Messrs. Barr & Sons, King Street, Covent Garden. These consisted of Androsace sarmentosa, Aubrietia Leichtlinii, A. Eyrei, violet-purple; A. rosea, Phlox nivalis, P. setacea, and Arenaria montana. Other plants shown by them were Camassia Leichtlinii, a tall scape with starry-white blossoms; Fritillaria persica, and a Symphytum-like plant, Lindelofia longifolia, with bright blue flowers.

Tulips.

Though on this occasion Tulips of various types were somewhat largely shown, but one collection of English "Amateur" Tulips—though what is to be understood by an English "Amateur" Tulip is not quite clear—came from J. T. Bennett-Poë, Esq., Holmwood, Cheshunt, in competition for the Barr Medals. It was a fairly representative one of some of the leading florists' varieties, the flowers large, but the colours in several instances somewhat run for lack of adequate shading. Of bizarres there were representatives of Sir J. Paxton, both feathered and flamed; Dr. Hardy, as usual, bright in colour; George Hayward, Masterpiece, Sulphur, and Charles X. Byblœmens were represented by Talisman, Adonis, Queen of the North (Princess Royal), Lord Denman, and Music. Roses, by Mabel, Nanny Gibson, and Anastasia; also representatives of the three classes of breeders. This collection was backed by bunches of T. Gesneriana major, a deep crimson form of well-known species; and T. macrospila, a pale crimson self, having a base like the well-known T. oculis solis, pale yellow, with black spots. To this collection the Barr Silver Medal was awarded.

Messrs. Barr & Son, King Street, Covent Garden, had a large collection, illustrative of both the florists' and the border varieties; but why do they rob the roses and byblœmens of half their effectiveness by setting the blooms upon whitey-brown stands? Of rectified bizarre flowers, there were some fine blooms of Sir J. Paxton, both feathered and flamed; Dr. Hardy, Perfection, and Charles Tait, both closely resembling Sir J. Paxton; Colbert, having a deep golden ground with a dark feathering; George Hayward, much flooded with colour; and Duke of Devonshire, large and bright. Of byblœmens, Black Diamond, heavily feathered and flamed; Princess Royal, Lord Denman, Bienfait, Incomparable (one of the best of the Dutch varieties), and Mrs. Jackson, very heavy in colour. Of roses, Aglaia, a flower that is close on the borderland of byblœmen and rose; Mabel, and Annie McGregor; also bunches of rectified varieties, and many charming breeders. Then of the late tall-flowering Darwin section, The Sultan, almost black; Salmon King, bright salmon-rose; Gipsy Queen, Loveliness, Scarlet Beauty, very bright; Queen of Brilliants, brilliant rose; May Queen, rosy-pink; Purple King, Golden Beauty, a pure deep yellow self; Gala Beauty, yellow, flaked and flamed with red; Picotee, white, edged with rose; Buenoventura, a very bright yellow ground; Fairy Queen, quite novel, a blending of canary-yellow, lilac, and white—a variety found in Ireland; and several Parrot Tulips, Crimson Beauty being very fine in colour (Silver-gilt Banksian Medal). An Award of Merit was recommended to a white variety of Tulipa elegans (T. e. alba) shown by Messrs. Barr. The flower is edged with rose.

Messrs. James Veitch & Sons, Exotic Nurseries, Chelsea, had a fine collection of the singular Parrot Tulips, such as rubra major, Perfecta, Precio-a, Café Brun, Cramoise Brilliante, Admiral de Constantinople, lutea major, and Mark Graaf, a very representative collection of the best varieties; and a large collection of Darwin varieties, such as Lion d'Hollande, very dark; William III., brilliant rose; Wilhelmina, crimson; Prima Donna, dark crimson; Queen of the Reds, brilliant red; Isabella, bright rose and white, &c. (Silver Flora Medal).

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also had Tulips in a large collection of hardy flowers, but not grouped together to form a group.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Secretary), D. B. Crawshay, H. M. Pollett, W. H. Protheroe, H. J. Chapman, J. T. Gabriel, C. Pilcher, E. Hill, T. W. Bond, W. Cobb, H. M. Ballantine, F. Sander, T. Statter, T. B. Haywood, J. Douglas, S. Courtauld, and Dr. Maxwell T. Masters.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, the only exhibitors of an extensive group, staged a number of finely-flowered species, including some hybrids of great interest. Notable amongst these was a rose-purple-coloured form of their red Epidendrum × O'Brienianum, which has been obtained from uncrossed seeds of the original red variety; and, singularly enough, while the form of D. × O'Brienianum was unchanged, the colour had reverted to that of E. erectum, which was one of the parents of the type (Award of Merit). Other interesting plants in this group were the Lælia × Latona (cinnabarina × purpurata), L. c. × Hippolyta (L. cinnabarina × C. Mossiæ), Disa × Langleyensis (tripetaloides × racemosa); a singular form of Dendrobium taurinum (Botanical Certificate); Cypripedium caudatum Wallisi, with four very fine flowers on one spike; Cypripedium × orphanum, C. × selligerum majus, C. × Euryale, C. Rothschildianum, Epidendrum Wallisii, Chysis × Chelsoni, Maxillaria Sanderiana, Lycaste cruenta, Masdevallia × caudato-Estradæ and fine examples of Oncidium superbiens, Cattleya Mendeli, C. Schroderæ, C. Mossiæ, Lælia purpurata, Odontoglossum crispum, &c. (Silver Flora Medal).

Messrs. Hugh Low & Co., Clapton, showed a noble hybrid Cypripedium, raised by Mr. Ayling, gr. to A. J. Hollington, Esq., Forty Hill, Enfield, and which was named C. × Gertrude Hollington (ciliolare ♀, bellatulum ♂). Of the several species of the class which have hitherto been exhibited, this may safely be pronounced to be by far the largest, its excellence being attributable to the extraordinary character of C. bellatulum, one of the parents. Its large upper sepal is cream-white, with emerald-green in the centre, and dotted and feathered purple lines formed rays originating from the base. The broad, oval, flat-shaped petals have lines of

purple dots, with spotting between them, and these lines and petals prevail over the whole surface of the creamy-white ground-colour. The lip which is large, is of greenish-white on the under, and rose-purple on the upper-side; the staminode purple-coloured. The handsome, broad, vigorous foliage proclaims it a free doer, as it certainly shows a triumph of the hybridist, and was well deserving of the First-class Certificate unanimously awarded it. Messrs. Low also showed the curious little bronzy Dendrobium strongylanthum (Botanical Certificate), two pretty, light-coloured Laelia purpurata, and Cattleya Schilleriana.

W. THOMPSON, Esq., Walton Grange, Stone, Staff. (gr., Mr. W. Stevens), showed the fine white Odontoglossum crispum The Bride (Award of Merit); a pretty O. crispum with small purple spots on the petals; the handsome rose tinted and richly-spotted O. Ruckerianum ocellatum; O. Andersonianum, Thompson's var., a large cream-white flower, heavily blotched with brown; O. cordatum aureum, O. Rossii rubescens, and cut examples of attleya intermedia alba and C. Skinneri alba. The small group was awarded a Silver Banksian Medal.

D. B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), staged a few very choice Orchids, of which the best was Cattleya Mendeli Princess of Wales, a grandly-coloured flower of exquisite form, and named by permission of Her Royal Highness. The sepals and petals were white, with a pearly-pink tint, and the front lobe of the lip indescribably bright with blended carmine, crimson, and purple colours. It received an Award of Merit. Mr. Crawshay also showed the fine pink-tinted and spotted Odontoglossum crispum "Florrie," a beautiful form of O. Andersonianum and a good O. Halli. H. GRINLING, Esq, Harrow Weald House, Stanmore (gr., Mr. Rapley), sent very fine Cypripedium caudatum Wallisii and C. Philippinense.

R. I MEASURES, Esq, Cambridge Lodge, Flodden Road, Camberwell (gr., Mr. H. J. Chapman), showed a grand form of Cypripedium Godefroyæ leucocheilum, which resembled a good C. bellatulum with a fleshy pale yellow unspotted lip. The unspotted-lipped class is distinct, and this variety is a fine representative of it (First-class Certificate).

T. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a very charming form of Cattleya Mendeli, named C. M. leucoglossa. It had the petals faintly tinted with lilac, and the lip of a clear white, without any colour except a little yellow at the base (Award of Merit). Mr. Statter also showed two fine-coloured forms of C. Mendeli, and a grand variety of C. intermedia (as C. Claesiana). Mr. CHAS TERRY, Tatton Park Gardens, Knutsford, sent flowers of Cattleya Mossiæ, and a magnificent form of Oncidium variicosum Rogersii.

Sir CHAS. W. STRICKLAND Bart., Hildenley, Malton, Yorkshire, sent three plants of Cypripedium concolor × bellatulum, which closely approached some of the forms of C. Godefroyæ in appearance. T. W. SWINBURNE, Esq., Corndean Hall, near Cheltenham (gr., Mr. W. J. Rendell), sent Cypripedium × Corndeanii (supposed parentage Lawrenceanum × Sedeni), but which, while bearing strong evidence of C. Lawrenceanum, gave no apparent trace of C. × Sedenii.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), showed Cattleya Mendeli, "Glebelands var.," a grand white form, with a fine carmine-crimson tinted lip, besides other varieties of C. Mendeli.

Mr. F. HORSMAN, Colchester, showed a singular Odontoglossum, seemingly intermediate between O. cordatum and O. maculatum. Mrs. JAMES LANGTON, Hillfield, Reigate (gr., Mr. J. Pearce), showed Cirrhopetalum grandiflorum, with singular-looking yellow flowers which are streaked with crimson, and delicate fringing on the upper sepal (Botanical Certificate), also Dendrobium aureum. H. WEETMAN, Esq, The Hawthorns, Little Haywood, showed two well-cultivated plants of the large Pnaius, which has been shown before as P. Sanderianum, and secured on this occasion a Cultural Commendation.

A. WARBURTON, Esq., Vine House, Haslingden, showed a grand spike of a fine form of Oncidium lamelligerum. Mr. H. W. WARD, Longford Castle Gardens, Salisbury, sent a pretty spotted Odontoglossum crispum and a Cattleya Mossiæ. W. COBB, Esq, Dulcote, Tunbridge Wells (gr., Mr. J. Howe), sent Cattleya Mossiæ, Dulcote variety, with a very large and highly-coloured lip. Mr. E. J. WICKENDEN, Heathfield, New Southgate, sent Cattleya Loddigesii. A. H. SMEE, Esq., The Grange, Wallington (gr., Mr. Cummins), showed a plant of Odontoglossum cirrosum, which exhibited a singular freak of the long spikes which bloomed last year, produced bracts or leaves, and flowering again this year, besides making new flower-spikes this season.

Fruit Committee.

Present: T. F. Rivers, Esq., in the chair; and Messrs. G. Bunyard, H. J. Pearson, H. Balderson, G. W. Cummins, J. Cheal, T. J. Saltmarsh, J. Wright, A. Dean, J. A. Laing, W. Bates, T. Glen, G. Wythes, F. Q. Lane, G. Reynolds, J. Smith, G. Norman, E. Gilman, and J. Hudson.

Excellent examples of the productions of the Canary Islands were furnished by Messrs. ELDER, DEMPSTER & Co., Liverpool. These included first-rate Potatos and Tomatos, and a very large and heavy bunch of unripe Bananas.

Several seedling Cucumbers were shown, including one called Vert's Improved Favourite, a long, rather useful-looking fruit. Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, exhibited a large coarsely-ribbed but good variety named Allen's Favourite. And from Mr. S. MORTIMER, Swiss Nursery, Rowledge, Farnham, came some fruits of a variety named Marvel; these fruits were exceedingly even in size, about 14 inches long, smooth, straight, and deep green in colour.

The Earl of SHREWSBURY, Ingestre Hall, Stafford (gr., Mr. E. Gilman), showed a seedling Melon named May Prolific, from Ritching's Perfection and Hero of Lockinge. The fruit was of fair size, and had white flesh.

Mr. J. F. McLeod, gr. to J. P. MORGAN, Esq., Dover House, Roehampton, had a bundle of well-grown Asparagus (Vote of Thanks).

A dish of fine ripe Amsden June Peaches was exhibited by Mr. Geo Wythes, gr. to the Earl PERCY, Syon House, Brentford (Cultural Commendation).

Messrs. LAXTON BROS, Bedford, exhibited their new Strawberry, Leader, noticed in our last issue. The fruits were even finer than those sent to us, and the flavour brisker and better. There is a decided flavour in it of Loxford Hall or Elton Pine that is very refreshing (First-class Certificate).

A good fleshy French Bean came from Messrs. B. S. WILLIAMS & SON, Paradise and Victoria Nurseries, Holloway.

Lecture.

Dr. Morris, C.M.G., Assistant Director, Royal Gardens, Kew, gave an interesting lecture on the Plants and Gardens of the Canary Islands; illustrating his remarks with numerous lantern-slides. The following is a summary of the lecture:—

The Canary Islands are sixty miles off the N.W. coast of Africa, in lat. 28° N. They have a mild and equable temperature, which seldom falls, even in winter, below 55° to 60° Fah. The rainfall is small. The climatic conditions are necessarily dry, and most of the cultivation below 1000 feet is carried on by means of irrigation. The surface is composed of volcanic rock, ash, hard volcanic mud, and lava. It is rugged, very much broken into ravines, and rather barren along the coast, but even there much variety of colour is presented by the rocks of different formations.

The scanty vegetation of the coast becomes more developed inland, until the cloud region is reached, where there are Laurels and evergreen trees, and shrubs, such as Arbutus, Hollies, Tree Heaths, Ivy, and numerous Ferns. Higher up still are Pines and Junipers, and on the Cañadas, below the Peak of Teneriffe, are the singular Retama (Spartium), and glaucous-leaved Violas, a Cheiranthus, and grasses.

Since the days of Humboldt, the vegetation of the Canary Islands has afforded interesting facts and figures connected with the distribution of plant life. The plants themselves present characteristics of habit exhibiting special adaptation to their surroundings. They have long, far-reaching roots, by means of which they obtain moisture during periods of prolonged drought. They have thick, fleshy leaves, and a stout habit, enabling them to resist great heat, and the force of the storms that sometimes sweep over them from the Atlantic. They conserve their energies by flowering at long intervals, but the inflorescence when produced is large in size, and composed of small and very numerous flowers.

The lecturer mentioned many Canary-plants that have long been cherished inhabitants of greenhouses in this country. He described and illustrated such special plants as the Cactus-like Euphorbia, the remarkable Dragon's-blood trees of Teneriffe, the native Date Palm (Phœnix canariensis), the arboreous species of Sonchus, Statice, Convolvulus, and the singular House Leeks (Sempervivum), some of the latter having large rosettes of leaves 12 to 15 inches across.

A very interesting set of Canary plants in flower was shown from the Royal Gardens, Kew. Amongst these was a large handsome Buttercup (Ranunculus cortusæ olius) with flowers 2 inches across. Two species of Cineraria (Senecio) were shown, viz, the annual Cineraria cruenta, which is now of special interest, owing to the discussion going on respecting its claim to be regarded as the origin of the cultivated Cineraria of gardens; and the shrubby C. lanata, with white felted leaves and beautiful white flowers, tipped with reddish-purple. The habit and the graceful colours of these plants were much admired. Two species of Canary Chrysanthemums were also shown. These are largely cultivated in this country under the name of Marguerites or Paris Daisies. C. fœniculaceum has green pinnatisect leaves, while C. Broussoneti has fine glaucous leaves. Cytisus canariensis and C. filipes were also shown.

In his closing remarks the lecturer mentioned that the native plants of the Canaries were not dying out as was generally supposed. They appeared to hold their own against the introduced plants, and were likely to increase rather than diminish in the future, especially if their merits were more generally recognised. The number of plants peculiar to the Islands were stated to be about 400. Of these more than one-fourth was represented in the growing collection at Kew. A fact of historical interest mentioned by Dr. Morris, was the presence at Kew of a living branch of the celebrated Dragon tree of Orotava, destroyed by a storm in 1867. This was one of the most celebrated trees in the annals of natural history. It was first described by the navigators in the early part of the fifteenth century, and was supposed by Humboldt and others to be of extreme age. The specimen at Kew was obtained many years ago, and it is probably the only portion of the original tree now existing. [The only authentic figure of this tree is that given in the *Gardeners' Chronicle*, June 8, 1872. ED.]

ROYAL BOTANIC.

MAY 15.—The summer exhibition of the Royal Botanic Society was held on Wednesday last in the gardens at Regent's Park. The arrangement of the collection was, as usual, effected upon mounds, in a tent—a system worthy every commendation. Non-competitive exhibits from the trade formed by far the principal part of the show, and the falling off in the number of exhibitors in the classes still continues. Stove and greenhouse plants, exotic Ferns, and fine-foliage plants (specimen), were totally unrepresented, and many of the other classes were also without an entry.

ROSES.

A grand lot of Roses was staged for exhibition only, the best and largest collection being that from Messrs. W. PAUL & SON, Waltham Cross Nurseries, Herts. A large bank of plants in pots were included here, and among them particularly noticeable were H.P.'s Garden Favourite, Mrs. John Laing, Ulrich Brunner, Duke of Wellington, Magna Charta, Abel Carrière, Victor Verdier, Crimson Queen, and Madame Montet. Teas Princess May, Sunset, Climbing Niphetos, &c. The standard Teas relieved the effect considerably, and several Polyantha and Noisette varieties were useful in the same way. Clio (H.P.), Maréchal Niel (T.), Spenser (H.P.), and La France (H.P.), figured largely among the best of cut blooms.

Mr. W. RUMSEY, Joyning's Nurseries, Waltham Cross, was the exhibitor of another large collection of pot plants and cut blooms of Roses. The plants generally were good, and among the cut blooms there were quantities of Niphetos, Maréchal Niel, and others. A new H.P. variety named Mrs. Rumsey was exhibited. It has a rather flat and thin flower of warm pink colour and vigorous foliage.

A small collection of Rose plants in pots was exhibited by Mr. Perry, gr. to J. C. TASKER, Esq., Middleton Hall, Brentwood. The quality was commendable as coming from an amateur.

MISCELLANEOUS.

Mr. T. S. WARE, Hale Farm Nurseries, near Tottenham, staged a considerable collection of TULIPS, very fresh in appearance, and of good quality. None of the parrot varieties were noticed, but bizarres and bybloemens of Darwin Tulips were well represented. Amongst a group of excellent TREE PÆONIES from Mr. Ware we noticed Souvenir de Ducher, Reine Elizabeth, Comte de Flandre, and Blanche d Hiese, as very desirable in regard to size and colour.

Messrs. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, put up an excellent lot of Tulips; and Messrs. BARR & SON, King Street, Covent Garden, also staged a capital collection, both which were noticed in above report of the Royal Horticultural Society's meeting.

Mr. W. Barrett, gr. to Mrs. THORNTON, The Hoo, Sydenham Hill, staged half-a-dozen very well grown standard plants of Mignonette.

Mr. JULIUS HANSEN, nurseryman, Pennsburg, Germany, sent some flowering crowns (three years old) of the Lily of the Valley preserved in alcohol, presumably to show their very strong character.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, again exhibited their collection of Hippeastrums, Cannas, Rhododendron flowers, and sprays of Lilac, and in addition were plants in pots illustrating some of the varieties.

An excellent display of Viola blooms was made by Messrs. DOBBIE & Co., Rothesay, N.B, some of the blooms were somewhat drooping, but the greater part were fresh-looking and bright. A seedling, named Springfield Gem, is cream-coloured with lilac margin, and very pretty centre. Ivanhoe is almost pure white, with yellow eye. Several varieties of fancy Pansies were shown also, the best being Ceres, a large flower of yellow and dark mahogany.

Mr. R. Scott, gr. to Miss FOSTER, The Holme, Regent Park, staged a very effective group of miscellaneous stove and greenhouse plants, in which were noticed some of the newer varieties of Cannas and other choice plants.

A most tasteful group of stove and greenhouse plants was arranged by Messrs JNO. LAING & SONS Forest Hill Nurseries, S.W., which contained some choice plants. The group included a nice lot of Palms and Ferns, and suchlike plants, and was brightened by large specimen Caladiums, Begonias (tuberous), Gloxinias, Orchids, Nepenthes, and a few well-coloured Crotons.

Mr. Whillans, gr. to His Grace the Duke of MARLBOROUGH, Blenheim Palace, Woodstock, showed three plants of a new Carnation of the Souvenir de la Malmaison type; the flowers were white, and flaked with lilac.

Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, N. were the exhibitors of a large group of good-sized Stove and Greenhouse Plants. In this were some capital Palms, including a nice specimen of the new species, Phœnix Robelini, an exceedingly useful, graceful, and tolerably small-growing

plant. Well-grown Caladiums, some Hippeastrums, Anthuriums, Dracænas, and Codiæums were noticed.

Mr. F. EWBANK LEEFE, 289, Goswell Road, London, had a stand on which was exhibited a large number of natural flowers, which had been coated with silver. Ordinary flowers, it is stated, can be preserved permanently by the process.

A quantity of Daphne cneorum major was exhibited by Mr. KNOWLES, Horsell Birch Nursery, Woking; and some floral designs by Messrs. B. S. WILLIAMS & SON, Piccadilly.

FRUIT TREES IN POTS.

A group of FRUIT TREES in pots, exhibited by Messrs. T. F. RIVERS & SON, Sawbridgeworth, Herts, was one of the fine features of the show. Most of the plants were of a Seedling Nectarine, and carried a capital crop of good-sized, well-coloured fruits. A few plants of Early Beatrice Peach and May Duke Cherry, were also included. The plants were thinly staged on rising ground, and interspersed were Roses in pots.

COMPETITIVE CLASSES.

S. T. FISHER, Esq., The Grove, Streatham (gr., Mr. Geo. Bond), was awarded a 2nd prize for a group of Stove and Greenhouse Plants. This was rather low, but though the plants were small, they were well grown, and included most of the best decorative species.

EXOTIC ORCHIDS in a group were shown only by Mr. Geo. Cragg, gr. to Walter C. Walker, Esq., Percy Lodge, Winchmore Hill, who had a nice little group of Cattleyas, Dendrobiums, and a few other species. A plant of Oncidium insculptum was included.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, had a 1st prize for a group of specimen plants of distinct Roses. These were a very good lot. Alfred Colomb, François Levet, Violet Bowyer, and Ulrich Brunner were most remarked. The 1st place for a group of any-sized plants was filled by Mr. C. TURNER, Royal Nurseries, Slough, who put together as bright a group as we have seen at this show. Beside the usual pot kinds, a free use was made of Turner's Crimson Rambler, shown in dwarf bushes.

Messrs. PAUL & SON, Cheshunt, were 2nd in this class, with a less showy group, containing a number of trained Standard Teas.

AZALEA INDICA was well shown by Mr. W. Barrett, gr. to Mrs. THORNTON, The Hoo, Sydenham Hill, who was 1st in the amateur's class, and also in the open class. Mr. R. Scott, gr. to Miss FOSTER, The Holme, was 2nd in the amateur's class.

In the nurserymen's class for a group of Azaleas, Mr. C. TURNER with very pretty well-trained plants of bright varieties was awarded 1st. Princess Victoria, a double pink variety, and M. V. Savart, a very fine single red, were excellent.

Mr. C. TURNER, Slough, as usual, was awarded a 1st prize for a group of Pelargoniums including fancies, and each section was shown in first-class condition. Ellen Beck, Delicatum, and Princess Teck, though not new, are fancy varieties that ought to recommend the section to a wider cultivation than they have at present. Mr. Turner also showed some plants of new show varieties. Duke of York, a flushed-flesh flower, upper part marked purple; Duchess of York, white, with scarlet markings; and Miss Louisa Coombes, a very large rose-coloured flower with white centre, upper petals heavily marked with chocolate.

Mr. THOS. S. WARE, with an excellent collection of hardy herbaceous plants in flower, obtained 1st place for these plants; and Messrs. PAUL & SON, The Old Nurseries, Cheshunt, were 2nd.

GLOXINIAS were only poorly shown. 1st, S. T. FISHER, Esq., The Grove, Streatham (gr., Mr. Geo. Bond). 2nd, Mr. R. SCOTT.

TUBEROUS-ROOTED BEGONIAS were exhibited by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, who had a corner group of very bright colours, and was placed 1st. Single and double varieties were represented, but the singles in less degree.

MARKETS.

COVENT GARDEN, May 16.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Foliage plants, doz.	9 0-24 0
Aspidistra, per doz.	12 0-30 0	Fuchsias, per doz. ..	6 0-10 0
— specimen, each	5 0-15 0	Genistas, per doz.	8 0-10 0
Azaleas, per doz. ...	18 0-24 0	Heliotrope, per doz.	4 0- 6 0
Cinerarias, per doz.	6 0- 9 0	Hydrangeas, p. doz.	12 0-18 0
Cyperus, per dozen	4 0-10 0	Ivy Geraniums, doz.	4 0- 8 0
Dracæna, each ...	1 0- 7 6	Lobelia, per doz ...	4 0- 6 0
Erica Cavendishii, per dozen ...	36 0-42 0	Marguerites, p. doz.	6 0-12 0
— various, doz.	9 0-12 0	Mignonette, p. doz.	4 0- 6 0
Evergreen Shrubs, in variety, per dozen	6 0-24 0	Palms, various, ea.	2 0-10 0
Ferns, small, doz....	4 0-12 0	— specimens, ea.	10 6-84 0
Ferns, various, doz.	5 0-12 0	Pelargoniums, doz.	9 0-15 0
Ficus elastica, each	1 0- 7 6	Rhodanthe, per doz.	5 0- 7 0
		Spiræas, per doz. ...	8 0-10 0
		Stocks, per doz. ...	4 0- 6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, per dozen blooms	2 6- 3 0	Narcissus, Pheasant-eyed, 12 bun.	1 0- 2 0
Azaleas, per dozen sprays	0 6- 10	— Paper-white, p. 12 bun. ...	8 0-10 0
Bouvardias, p. bun.	0 6- 1 0		
Carnations, 12 blms.	1 6- 2 6	Orchids:—	
Eucharis, per dozen	4 0- 6 0	Cattleya, 12 blms.	6 0-12 0
Gardenias, per doz.	1 6- 3 0	Odontoglossum crispum, 12 blm.	3 0- 6 0
Lapageria, 12 blms.	1 0- 2 0	Pyrethrums, 12 bun.	2 0- 4 0
Lilac (French), per bunch	3 0- 4 0	Roses, Tea, per doz.	1 0- 2 0
Lilies of the Valley, doz. sprays ...	0 9- 1 6	— coloured, p. dz.	2 0- 4 0
Lilium Harrisii, per dozen	2 6- 3 6	— yellow (Maréchals), per dozen	2 0- 6 0
Maidenhair Fern, per 12 bunches ...	4 0- 6 0	— red, per dozen	2 0- 6 0
Marguerites, 12 bun.	1 0- 3 0	— (French), red, per dozen... ...	2 0- 3 0
Mignonette, 12 bun.	2 0- 4 0	Iris, per doz. buns.	6 0-12 0
Pelargoniums, scarlet, per 12 bunches	4 0- 6 0	Stephanotis, dozen sprays	3 0- 6 0
— 12 sprays ...	0 8- 1 0	Tuberoses, 12 blms.	0 4- 0 6

ORCHID-BLOOM in variety

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cobs, per 100 lb. ...	18 0-20 0	Peaches, per dozen.	10 0-18 0
Figs, per dozen ...	6 0- 8 0	Pine-apples, St. Michael, each ...	2 0- 6 0
Grapes, 1st quality, black, English, per lb.	3 6- 4 0	Strawberries, morning gathered, lb.	3 0- 4 0
Melons, each	2 0- 3 0	„ „ 2nds., lb.	1 6- 2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Asparagus, per 100 heads	1 0- 2 0	Peas, ordinary, lb.	0 6-0 10
Beans, per lb. ...	0 6- 0 8	— Telephone, lb.	0 10-1 0
Cauliflowers, p. doz.	2 0- 3 0	Potatos, Channel Islands, per lb. ...	0 4-0 5
Cucumbers, per doz.	3 0- 4 0	Seakale, p. punnet	0 6-0 9
Mint, per doz. bun.	2 0- 3 0	Tomatos, Home-grown, per lb. ...	0 9-1 0
Mushrooms, per lb.	0 6- 0 8		

OLD POTATOS.

Stocks are still heavy, notwithstanding lower prices, sales being very slow.

NEW POTATOS.

The demand is good for all kinds. Malta kidneys, 16s. to 20s. per cwt.; do., rounds, 13s. to 15s. do.; Canary Islands kidneys, 13s. to 17s. do.; do., small kidneys, 6s. to 9s. do.; Channel Islands do., 3d. to 5d. per lb. *J. B. Thomas.*

SEEDS.

LONDON: *May* 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that some belated sowing orders continue to drop in, meantime, with the closing up of the consumptive season, Clover and Grass seeds retire for a time out of notice. Spring Tares show no change. For Scarlet Runner Beans there is a brisk demand at advancing rates. Canary-seed is just now the most favourite article in the trade; with small stocks everywhere, and a strong and widening out speculative inquiry, prices keep on the up grade. Hempseed is steady. For Mustard and Rapeseed there is an increased request. Haricot Beans continue scarce. Serious injury is reported to have been caused by the weevil to the growing crop of Blue Peas.

FRUITS AND VEGETABLES.

BOROUGH: *May* 14.—Quotations:—Carrots, 1s. 9d. to 2s.; Turnips, 1s. to 1s. 9d.; Broccoli, 2s. 6d. to 3s. per bag; Horse-radish, 1s. to 1s. 3d. per bundle; Onions, foreign, 2s. 6d. to 4s. per bag; Apples, Canadian, 12s. to 18s. per barrel; do., Tasmanian, 4s. to 10s. per case.

STRATFORD: *May* 14.—The supply to this market during the past week has been excellent, and with plenty of buyers a good trade was done at the undermentioned prices:—Cabbages, 4s. to 7s. per tally; Greens, 2s. 3d. to 2s. 9d. per sieve; sprouting Broccoli, 1s. 6d. to 2s. 6d. per bushel; Cauliflowers, 6d. to 2s. per dozen; ditto, 2s. 6d. to 8s. per tally; Onions, 2s. 6d. to 3s. 6d. per dozen bunches; Cucumbers, 2s. to 4s. per dozen; Radishes, 9d. to 1s. 3d. per doz. bunches; Scotch Kale, 1s. 6d. to 2s. 6d. per bushel; Spinach, 1s. 3d. to 1s. 9d. per bushel; Carrots, household, 24s. to 40s. per ton; do., cattle-feeding, 14s. to 18s. do.; Parsnips, 3d. to 6d. per score; Mangels, 10s. to 14s. per ton; Onions, English, 80s. to 90s. do.; do., Dutch, 1s. 6d. to 2s. 6d. per bag; Apples, English, 2s. 6d. to 7s. per bushel; Watercress, 6d. per dozen.

FARRINGDON: *May* 15.—Quotations: Bunch Greens, 3s. 6d. to 4s. per dozen bunches; Onions, 3s. to 3s. 6d. per dozen bunches; Radishes, 3s. to 4s. per tally; Cabbages, 3s. 6d. to 5s. do.; Lettuces, 1s. to 1s. 6d. per score; Spinach, 5s. per bushel; Carrots, new, 7d. per bunch; Turnips, 6d. do.; Cauliflowers, 1s. 6d. per dozen; Leeks, 1s. do.; Rhubarb, 2s. per dozen bunches; Asparagus, 1s. 3d. to 1s. 6d. per bundle; Grapes, 1s. 3d. per lb.; Apples, Tasmania, 8s. to 10s. per box; do., Canadians, 10s. to 16s. per barrel Cucumbers, 3s. to 4s. per dozen.

POTATOS.

BOROUGH: *May* 14.—Quotations ranged from 80s. to 120s. per ton; and new Teneriffe Kidneys, from 12s. to 16s. per cwt.

STRATFORD: *May* 13.—Quotations:—Magnums, English, 60s. to 75s.; do., light soil, 80s. to 100s.; Bruces, 85s. to 100s.; Maincrop 90s. to 105s.; Scotch Magnums, 90s. to 100s.; Bruces, 100s. to 110s.; do., Maincrop, 110s. to 120s.; German Magnums, 4s. to 5s. per bag; Imperators, 3s. 9d. to 5s. per bag.

FARRINGDON: *May* 15.—Quotations:—Swedes [illegible] to 90s.; Reading Giants, 75s. to 90s.; Scotch Main [illegible] to 100s.; Imperators, 80s. to 90s. per ton.

LONDON AVERAGES: *May* 14.—Quotations:—[illegible] to 120s.; Hebrons, 100s. to 110s.; Magnums, [illegible] Champions, 70s. to 80s. per ton. New: Maltese, [illegible] Lisbons, 9s. to 10s. per cwt.; Jersey, 3d. to 4d. per pound.

HAY.

Averages.—The following are the averages of the prices [illegible] the principal metropolitan markets during the past week:—Clover, prime, 90s. to 115s.; do., inferior, 60s. to [illegible] best, 80s. to 90s.; do., inferior, 36s. to 60s.; mixture [illegible] 90s.; and straw, 15s. to 32s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending May 11, and for the corresponding period last year:—[illegible] Wheat, 22s. 4d.; Barley, 20s. 8d.; Oats, 1[illegible]s. 3d.; [illegible] Wheat, 24s. 9d.; Barley, 24s. 11d.; Oats, 18s. 9d.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending May 11.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	7 +	73	0	+ 22	+ 277	6 —	82	14·0	[illegible]	[illegible]
1	5 +	72	5	— 38	+ 421	5 —	64	[illegible]	[illegible]	[illegible]
2	3 +	58	0	— 1	+ 234	4 —	71	9·1	[illegible]	[illegible]
3	4 +	81	0	— 1	+ 292	4 —	65	[illegible]	[illegible]	[illegible]
4	5 +	87	4	— 21	+ 379	5 —	57	[illegible]	[illegible]	[illegible]
5	4 +	85	0	— 78	+ 334	4 —	54	[illegible]	[illegible]	[illegible]
6	4 +	75	0	— 26	+ 369	6 —	71	9·7	[illegible]	[illegible]
7	5 +	85	0	— 29	+ 306	5 —	62	9·2	[illegible]	[illegible]
8	4 +	81	0	— 81	+ 338	5 —	62	[illegible]	[illegible]	[illegible]
9	5 +	81	0	— 73	+ 278	5 —	77	[illegible]	[illegible]	[illegible]
10	3 +	80	0	— 114	+ 196	5 —	67	[illegible]	[illegible]	[illegible]
*	3 +	89	0	— 97	+ 248	5 —	72	9·4	[illegible]	[illegible]

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending May 11, is furnished from the Meteorological Office:—

"The *weather* was exceedingly fine and bright over the United Kingdom as a whole, but mist or fog was experienced occasionally at some of our southern and western coast stations.

"The *temperature* was above the mean, the excess ranging from 3° in 'England, N.E., Ireland, S., and the Channel Islands,' to 5° in 'Ireland, N., central and north-western England, and Scotland, E.,' and to as much as 7° in 'Scotland, N.' The highest of the maxima were recorded on the [illegible] over 'England,' but earlier in the week over 'Ireland' and Scotland;' they ranged from 77° in 'England, S.W.,' and [illegible] in 'England, E. and S., and Ireland, N.,' to 72° in 'Scotland, E. and W., England, N.W., and Ireland, S.' The lowest of the minima were registered during the earlier part of the week, and ranged from 30° in 'Scotland, E.,' and [illegible] 'Scotland, W.,' to 38° in 'Scotland, N.,' and to 43° in 'Channel Islands.'

"The *rainfall* was entirely absent from nearly the whole of 'Great Britain,' but a very slight fall occurred at several of the western stations, and in 'England, N.E.'

"The bright sunshine was very abundant, especially over England and Scotland, E." The percentage of the possible duration ranged from 47 in "Scotland, E.," and from 38 to 57 in "Ireland," to 73 in the "Midland Counties and the Channel Islands" and to 81 in "England, E."

Answers to Correspondents.

*** Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

*** Flowers, Fruits, etc., are as Names.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

CHERRIES FAILING TO SET THEIR BLOSSOMS: *F. B.* The cool Peach-house should suit the trees, provided that they are afforded air abundantly whilst flowering, are not hurried on too much by artificial heat at that season, and that the soil is not allowed to get dry. Dark, heavily-timbered Cherry-houses are inimical to Cherry culture; otherwise, it scarcely matters what sort of house it is. Even a northerly aspect is not unsuited to Cherry-growing. The range of temperature in a Cherry forcing-house should not exceed 50° in the first month, 55° during the second month, and in the third or ripening month 60° to 65°; and the night temperature should be from 5° to 10° less. There is a small manual on Cherry culture by Mr. D. T. Fish, published by L. Upcott Gill, 170, Strand, London, W.C., at 1s., which you might read with advantage.

DISEASED POTATOS: *R. Newstead.* The discoloration of the tubers is due to the presence of the mycelium of Phytophthora infestans, the fungus causing the potato disease. *G. M.*

FRUITS ON A RATHER STERILE SOIL: *Dens Canis.* The Medlars, Quinces, American Blackberries, Sorbus domestica, common Bramble, and in moist places, the Cranberry. None of our best fruits would do any good. The returns from the above should be fairly good, especially from the second and third.

GARDENERS' ORPHAN FUND: We have to acknowledge with many thanks the receipt of a postal order for 10s. 6d. for naming plants from J. W. & Sons, and which we have forwarded to the Secretary.

HYBRID CYPRIPEDIUMS: *X.* The list recently published by Mr. Chapman in these columns has been reprinted, and may be had on application to the Editor for 2s., the proceeds to be devoted equally between the Gardeners' Royal Benevolent and the Gardeners' Orphan Fund respectively.

INSECTS: *J. Tait.* 1, Weevils, very destructive. We fear there is not much that can be done in your case. Lay slices of Carrot about, and sweep up the insects when feeding.—*G. Uck.* Apparently the grubs of a milleped. Try a dressing of gas-lime.—*N. B.* A weevil of some sort. See answer to *J. T.*

LÆLIA MAJALIS: *T. D.* Three flowers on a scape is unusual, two being the number commonly borne. We have no record of the highest number the species has carried. The enquiry strikes us as being very futile.

NAMES OF PLANTS: *Taymouth.* Sobralia macrantha and Dendrobium superbum.—*N. F. B.* Hippeastrum equestre; 1, Tritonia (Montbretia) lineata; 2, small Ixioid Irid, not recognisable from material sent. *J. G. B.*—*W. Cam.* Amelanchier canadensis.—*L. H. F.* Should send his specimens to the editor; 1, Pyrus salicifolia; yes, we should try the Wild Pear stock; 2, Mespilus; 3, Myrobalan Plum, Prunus myrobalana.—*A. J. B.* 1, Tulipa fulgens; 2, Heuchera Richardsoni; 3, Iris pumila; 4, Doronicum plantagineum; 5, Aubrietia deltoidea; 6, Phlox setacea.—*J. Tait.* 1, Lathræa squamaria; 2, Prunus Padus.—*S. W. O. B.* Prunus Padus, Bird Cherry.—*G. C.* 1, Fritillaria imperialis, Crown Imperial; 2, Alyssum calycinum; 3, Rhododendron aureum, var. glaucum; 4, Saxifraga granulata, double.—*W. J. P.* 1, Amelanchier ovalis; 2, not recognised; 3, Ajuga reptans; 4, Prunus Padus.—*L. L.* 1, Prunus Padus; 2, Doronicum caucasicum; 3, Tiarella cordifolia; 4, Pulmonaria officinalis; 5, A milleped destructive to plants; 6, Phalaris arundinacea variegata; another variegated plant was Anthericum lineare variegatum. We are not sure about the numbers, as some were detached.—*W. Spades.* Prunus Padus, Bird Cherry.—*W. J. G.* 1, Bromus mollis; 2, Alopecurus pratensis; 3, Dactylis glomerata; 4, Poa pratensis, doubtful; 5, Anthoxanthum odoratum; 6, Poa trivialis.—*A. J. C.* Lycaste cruenta.—*C. A., Somerset.* Your Adiantums are evidently grown too warmly, and in too close an atmosphere. If you examine them you will find they have but few good roots, and consequently the fronds are too frail to last.—*W. C. C.* 1, Codiæum (Croton) angustifolium maculatum; 2, C. interruptum; 3, C. spirale; 5, C. Weismanni; 6, C. angustifolium.—*E. C.* Dendrobium aggregatum.—*J. C.* Thuya dolabrata; Geranium pusillum.

PALMS: *F. A.* Deficiency of water and draughts of impure air, probably.

PARIS GREEN: *J. E. K.* Blundell, Spence & Co., London and Hull.

PEACHES INJURED: *Rosslyn.* We think that the injury has been caused by the use of the insecticide in too strong a state. The scale insect which infests the Peach does not rob it of its juices to such an extent as to cause the fall of the fruit, nor is it at all likely to seize upon the fruit when of the size of Horsebeans.

PELON: *H. H.* Very delicate in colouring; quite worth propagating.

POTATOS: *C. N. M.* The Bordeaux Mixture, copper sulphate, 4 lb.; fresh lime, unslaked, 5 lb.; water, 40 gallons. First dissolve the sulphate in a wooden tub; then slake the lime in another vessel. Mix the two, and add the water. Two or three dressings during the season. High moulding, wide planting, laying the tops on one slope of the ridge only, and beating the sides of the ridge slightly so as to make the surface smooth, and not afford ready access of the spores of the disease to the tubers, are better modes of procedure for cottagers, than for them to have anything to do with any of the mineral remedies; and if well done they are quite as effectual in saving a crop.

STRAWBERRY BLOOM: *F. I.* There is no disease. Young unopened flowers are normal. Styles of older flowers may have been discoloured by action of frost. Sometimes, plants under glass, if weak or neglected, show exactly similar blackened styles.

TOMATOS: *B. S.* The plants are attacked by the fungus called Macrosporium Solani. Spray at intervals of seven days with the Bordeaux Mixture. *G. M.*

TRADE AGREEMENT: *S. G. W.* We think there has been a breach of the agreement, but of so trifling a character that it is better to take no notice of it, or at most to remonstrate civilly. If you go to law, you will have to expend more than the value of the damage done—if there is any.

VINE LEAF: *E. S.* The leaf is thin and small, and points to deficient ventilation. The brown spots are due to scalding by having the vinery closed when the sun was shining hotly upon it in the early morning hours.

COMMUNICATIONS RECEIVED.—A. W. W.—D. M.—W. E. B., [illegible]—S. C. B.—New Jersey.—W. G. S.—[illegible], Paris.—Essex Field Club.—C. B., Troyes.—E. A. J.—L. H. B., [illegible].—T. W. W.—C. F., Sydney.—E. A. E.—E. B.—E. A. & Co.—T. K. B.—J. M.—J. M. B., [illegible]—C. W.—S. A.—W. P.—G. M. W., Poona.—H. W.—H. H., Darmstadt.—J. K. B., Utrecht.—R. C. H.—S. B. D.—J. O'B.—J. E.—M. T.—E. L. H.—J. Mayne.—G. B.—E. F.—J. H.—J. J. W.—H. W. W.—Barr & Son.—A. F. C.—A. D.—J. T.

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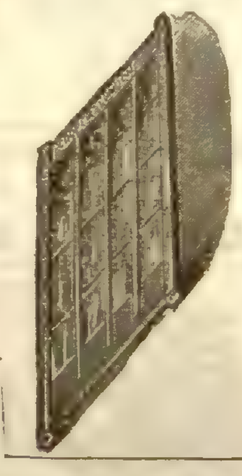

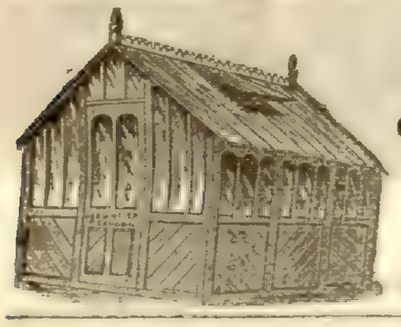

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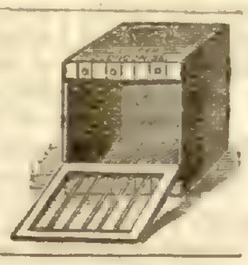

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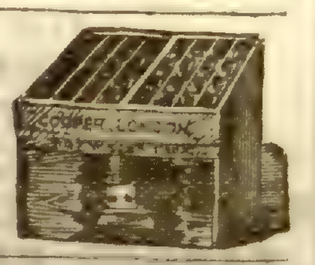

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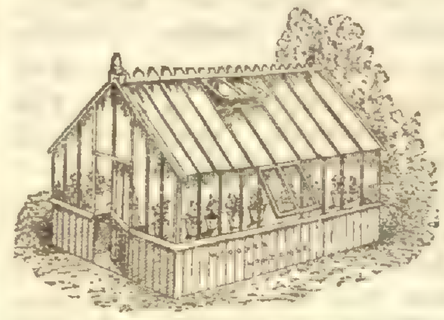

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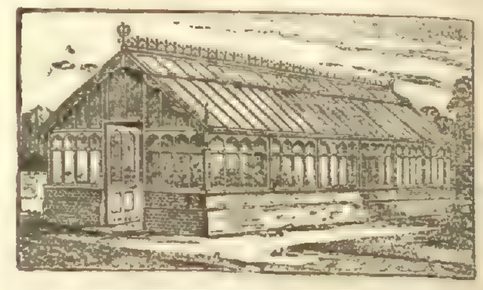

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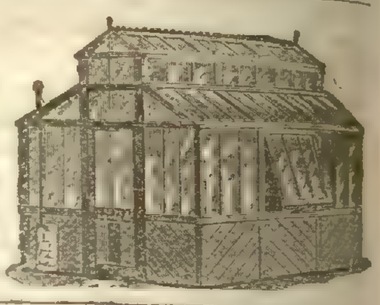

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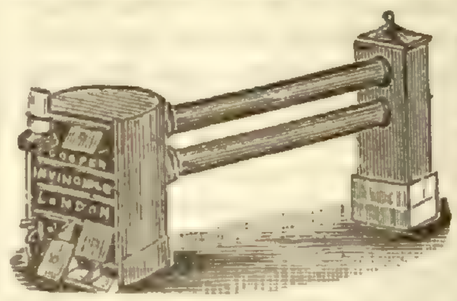

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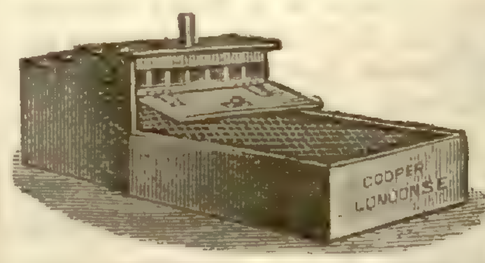

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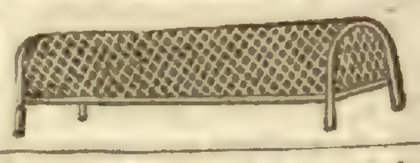

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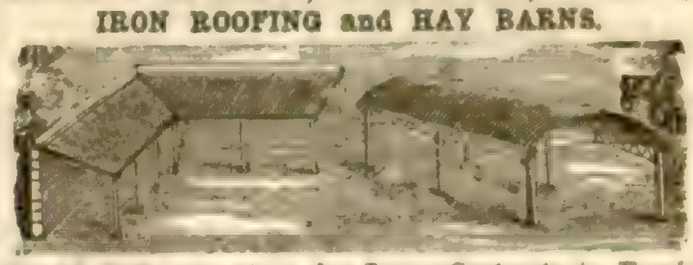

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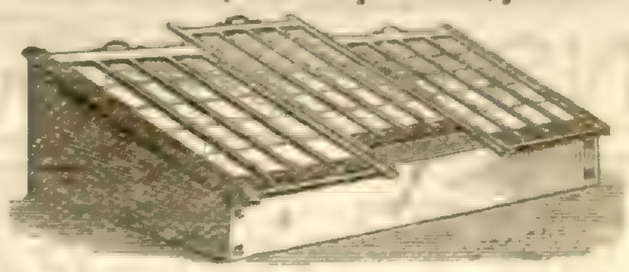

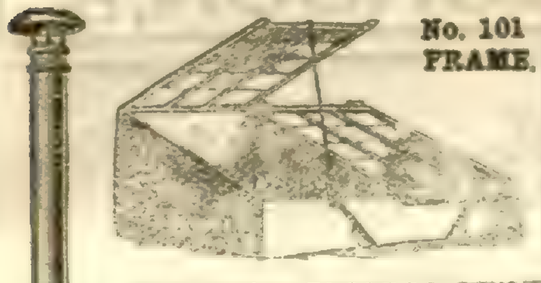

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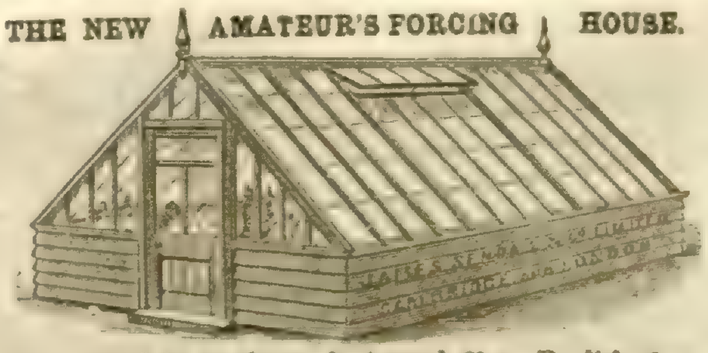

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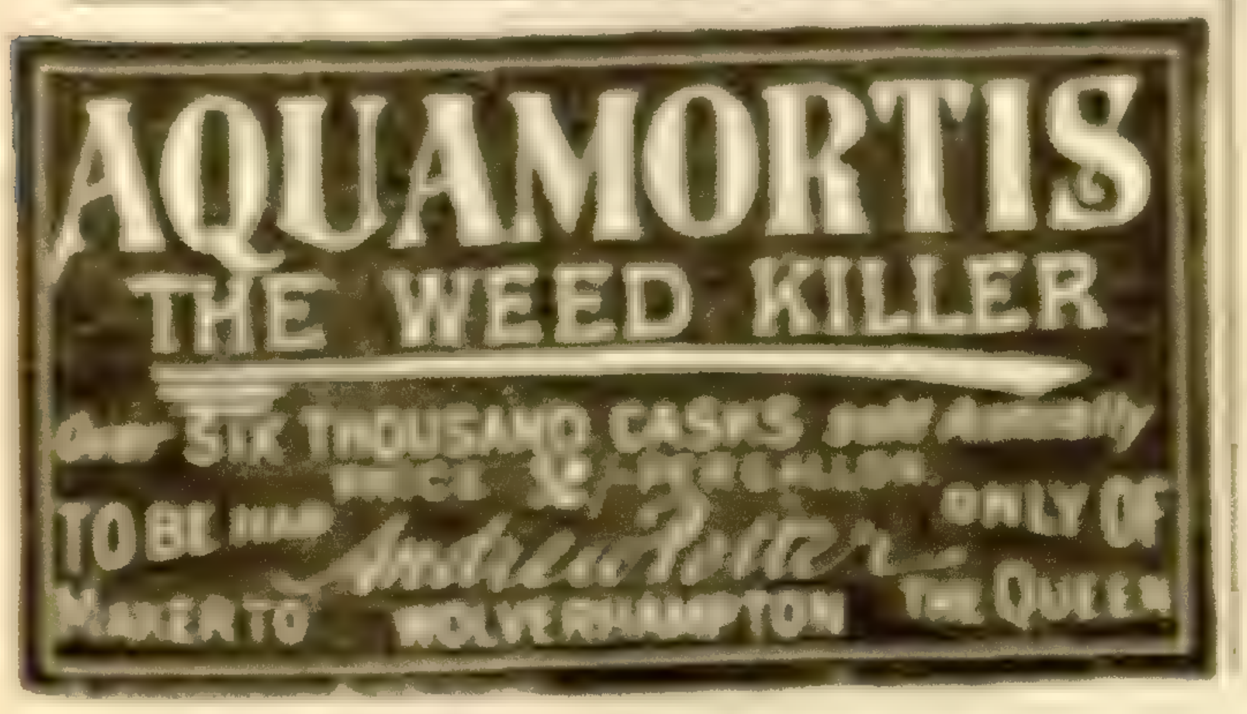

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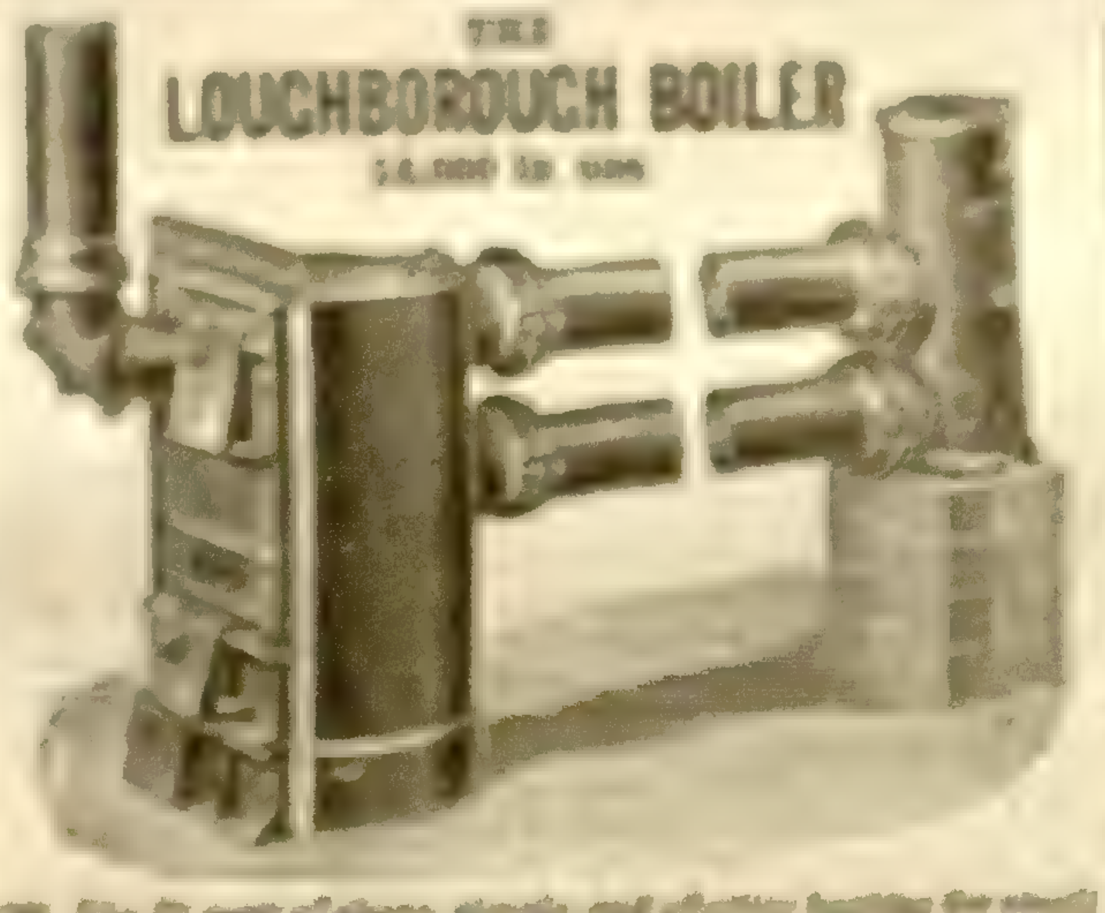

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Mr. J. Turner, until recently Gardener and Bailiff at Doghurst, Limpsfield, Redhill, as Gardener to C. Hopton, Esq., The Cottage, Greenford, Southall.

Mr. W. C. Catton, until recently Foreman in the Gardens, Clapton Lodge, Halifax, as Gardener to M. Stocks, Esq., Upper Shibden Hall, Halifax, Yorkshire.

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WANTED, an experienced MAN, with knowledge of Buying, to take charge of Garden and Root and Seed Department for wholesale house.—Reply, stating salary, to B. B., 41, Wellington Street, Strand, W.C.

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WANTED, an active, willing young MAN about 19, chiefly for the Houses.—GEO. UZZELL, Flower and Fruit Grower, Hampton Hill, Middlesex.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

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GARDENER (Head); age 32; married.—A Lady giving up her establishment, wishes to recommend her Gardener to any Lady or Gentleman in want of a trustworthy and practical man; experienced in all branches, including Orchids. Excellent character.—J. SMITH, Heathfield, Saltwell Park, Gateshead-upon-Tyne.

GARDENER (Head).—G. Jessop, age 33, married, one child, offers his services to any Nobleman or Gentleman requiring a thoroughly practical man; well up in Landscape or All-round Gardening. Reference permitted to the Dowager Lady Howard de Walden, and Mr. Coleman, Estate Agent, Eastnor.—Sansome Lodge, Sansome Walk, Worcester.

GARDENER (Head).—Age 34, married, no family. Has had good practical experience in all branches for the past eight years with the late T. Twining, Esq., Perryn House, Twickenham. High-class recommendations, and personal references.—C. B., 1, Albert Road, Staten Gardens, Twickenham.

GARDENER (Head).—Age 39, married, no family; twenty years' experience; eleven years in last situation.—JAMES HANWELL, Mr. W. Turner, Green Hill Lane, Alfreton, Derbyshire.

GARDENER (Head).—Age 40; thoroughly practical and experienced in all branches. Fourteen years' excellent recommendation from owner of a large private place.—N., Messrs. B. S. Williams & Sons, Holloway, N.

GARDENER (Head, where one or more are kept).—Alfred Downer, age 31, twelve years' experience in good situations, can be highly recommended.—Address, GEO. ABBEY, Avery Hill, Eltham, Kent.

GARDENER (Head); age 35.—J. McRonald, The Nurseries, Chichester, can recommend an exceptionally good all-round man. Life experience. Land and Stock if required.

GARDENER (Head).—G. H. Peake, Esq., giving up establishment, strongly recommends his Head Gardener, William Atkinson, age 44, married, who has had charge here of the Gardens and Conservatories, Fruits, Plant-houses, &c., for 20 years.—Reply to W. ATKINSON, Head Gardener, Westholme, Sleaford.

GARDENER (Head); age 31.—Joseph Sykes, five years in present situation as Foreman, desires an engagement as above; life experience; will be confidently recommended by Mr. Martin, Head Gardener, and also by Lord Poltimore, if necessary.—Poltimore Park Gardens, Exeter.

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GARDENER (Head, with assistance, or good Single-handed).—Age 26, single at present; excellent testimonials from first-class places, including two years Foreman in titled family; well recommended.—H. PYLE, 8, Gravel Pit, Mason's Hill, Bromley, Kent.

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GARDENER (Head Working).—Age 27, married when suited.—Josh Vessey, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches, steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (Head Working), where two or more are kept.—Age 29. Excellent characters from previous employers.—T. ATTWOOD, 17, Helvetia Street, Perry Hill, Catford, S.E.

GARDENER (Head Working).—Age 34, married, no family; thoroughly practical in all branches of the profession. Five years in last situation. First-class testimonials for past eighteen years.—C. GROVER, 2, Heathside Cottages, Roehampton, Surrey.

GARDENER (Head Working).—Age 25, married when suited. Eight years' Inside and Out in a large garden. Excellent character.—W. BODDY, The Gardens, Wilton Park, Beaconsfield, Bucks.

GARDENER (Head Working); age 37, married when suited.—Mr. J. Lockhart, Gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington, can with every confidence recommend E. Joseph, who has been with him four years as General Foreman. Experienced in all branches of Gardening. Highest references.

GARDENER (Head Working).—Age 35, married, one child, age six years; twenty years' experience in all branches; land and stock if required; excellent testimonials.—W. F., 2, Stanley Villas, Grosvenor Road, Bath Road, Hounslow.

GARDENER (Head Working).—Mr. W. Clarke, Gardener to Sir William C. Plowden, Aston Rowant House, Tetsworth, Oxon, very highly recommends his late Foreman, T. Ellam, age 30, married, one child, as above, thorough proved abilities, sober, and persevering.

GARDENER (Head Working).—Age 37, married, no family. Good practical experience. Vines, Melons, Peach-house, Stove, Flower and Kitchen Gardens. Excellent characters. Cause of leaving, place sold.—CROCKFORD, The Grange, Elstree, Herts.

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GARDENER (Head, or good Single-handed).—Married, one child at home, age 10. Life experience; eight years in present situation. Disengaged when suited. Cottage or Lodge preferred.—J. E., 14, Woodstock Road, Shepherd's Bush, London.

GARDENER (Single-handed).—Good knowledge of Gardening; three years last situation. For particulars, please address Mrs. Floyde, Hartsbourne Manor, Bushey Heath.—T. G., Lignum Cottage, Bushey Heath.

GARDENER (Single-handed).—Age 23, single; wants situation. Eight years' experience, Inside and Out. Good references.—W. CANHAM, 7, Willow Terrace, Eynsford, Kent.

GARDENER (Single-handed or Second).—Age 25; single; ten years' experience both Inside and Out; good character. Left last place of my own accord.—E. H. NORTHFIELD, 7, West Street, Sutton, Surrey.

GARDENER (Single-handed), or where help is given.—Young man (age 26); Milk, and look after Pony and Trap if required. Two years in present situation, seven and three years previous. Good character. Total abstainer.—B. J., 41, Wellington Street, Strand, W.C.

GARDENER (good Single-handed).—Thoroughly understands Gardening. Willing to be useful. Good references. Wife good cook or dairy.—L. G., Mrs. Collins, High Street, Cheshunt, Herts.

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GARDENER (Second) Inside.—Age 25; experience in all branches. With good references from last and previous situations.—A. S., 7, Nursery Road, Turnford, Broxbourne, Herts.

GARDENER (Second), Inside, or Inside and Out; age 24.—Mr. Burgess, Head Gardener, Hazelwood, King's Langley, Herts, can highly recommend W. Humphris as above. Eight years' experience.—Apply as above.

GARDENER (SECOND), Inside.—Age 26, single; eleven years' experience in Stove and Greenhouse Plants, Tomatos, &c. Good references.—F. W., 41, Wellington Street, Strand, W.C.

GARDENER (SECOND), in the Houses.—Wanted, by a strong, active young man, as above. Good experience and excellent character.—W. LAVENDER, 24, River Street, Bedford.

GARDENER (SECOND), or JOURNEYMAN (FIRST); Inside.—Seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER.—Situation wanted by a young man, age 21; SINGLE-HANDED, in small garden, with Pony and Trap; or as an IMPROVER in a good firm. Five years' excellent character. Send full particulars as to wages, &c.—THOS. DAY, Jun., Eaton Socon, St. Neot's.

GARDENER, under Glass.—£5 Premium for two years' instruction in good place; little experience. Married, no family; references. Ten years abstainer. South of England preferred.—GARDENER, Mrs. Annis, 70, Great Colmore Street, Birmingham.

£2 BONUS to anyone securing for me a situation as Second Gardener. Fourteen years' experience in the general routine of Gardening Inside and Out. Excellent character, and well recommended. Single, age 27.—E. COLLINS, 32, Church Road, Watford, Herts.

GARDENER.—Age 27; experience in Plants, Tomatos, Cucumbers, Melons, Peaches, Vines, and Wreath-making; five years in present situation.—S. OSBORNE, 44, Connaught Terrace, Littlehampton.

GARDENER.—Wanted, by a respectable Lad, situation under a Gardener; age 17. Eighteen months' character.—J. G., 18, Eden Road, West Norwood, Surrey.

GARDENER.—Age 28; married; one year's good character from present employer, who is leaving the country; five years' previous. Willing to make himself useful.—W. P., Mill House, The Glen, Hythe, Colchester.

GARDENER (UNDER, or good SINGLE-HANDED).—Age 22; three and a-half years good character; understands horses and cows.—W. R., The Cot, Bury Street, Edmonton.

GARDENER (UNDER).—Age 25; has five years' experience in Flower and Kitchen Garden; two years good character; strong and willing; total abstainer.—H. ROWE, Elstree, Herts.

GARDENER (UNDER).—Age 25; used to Pleasure-grounds and Kitchen Garden; help Inside if required. Two years' good character. Well recommended.—C. CHALLON, Victoria Road, Cotland Park, Weybridge, Surrey.

GARDENER (UNDER), where two or three are kept.—A Lady wishes to recommend a strong young Man, about 19, as above. Good character. Leaving for no fault.—Apply first by letter to Mrs. MANN, Roseneath, Winchmore Hill, London, N.

GARDENER (UNDER), age 23, seeks situation as above; willing to make himself useful. Inside or Out. Six years' experience.—H. L., 3, Grayson Terrace, Sandycombe Road, Richmond, Surrey.

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GARDENER (UNDER), in small place.—Age 22; eight years' experience. Good characters.—F. MANLEY, Hillingdon Heath, Uxbridge.

GARDENER (UNDER), Inside and Out.—Age 22, single; five years in present place. Good character. Bothy preferred.—T. WATTS, The Gardens, Chacome House, Chacombe, near Banbury.

GARDENER (UNDER), Inside, or Inside and Out.—Age 22; good references from last and previous situations.—G. SIMMONS, Burlington Road, New Malden.

GARDENER (UNDER).—A GENTLEMAN wishes to recommend a lad of 19, who is a hard-working and trustworthy lad, very willing and desirous to improve. Has been accustomed to the charge of Two Furnaces through the last winter. Has been Second hand in a large Garden where two are kept. Five years' character.—W. B. BLOOD, Witham, Essex.

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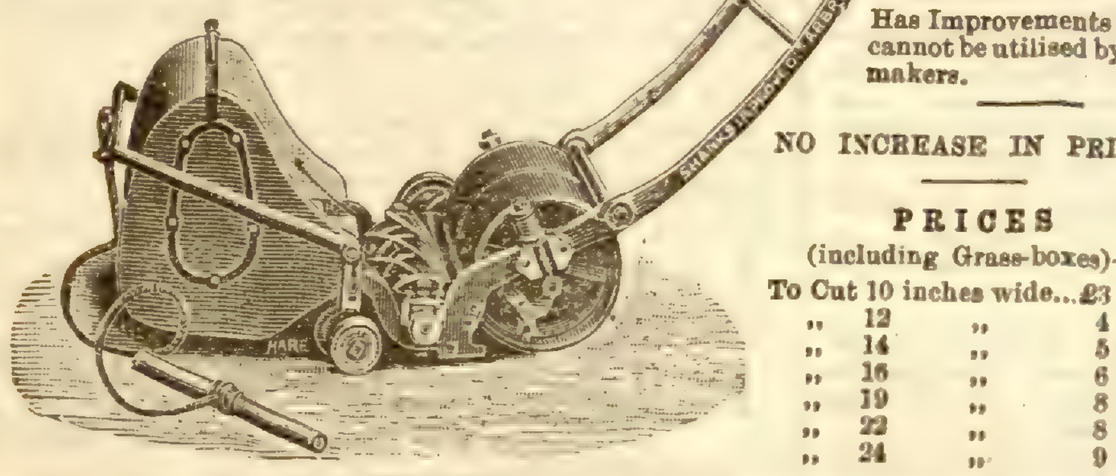

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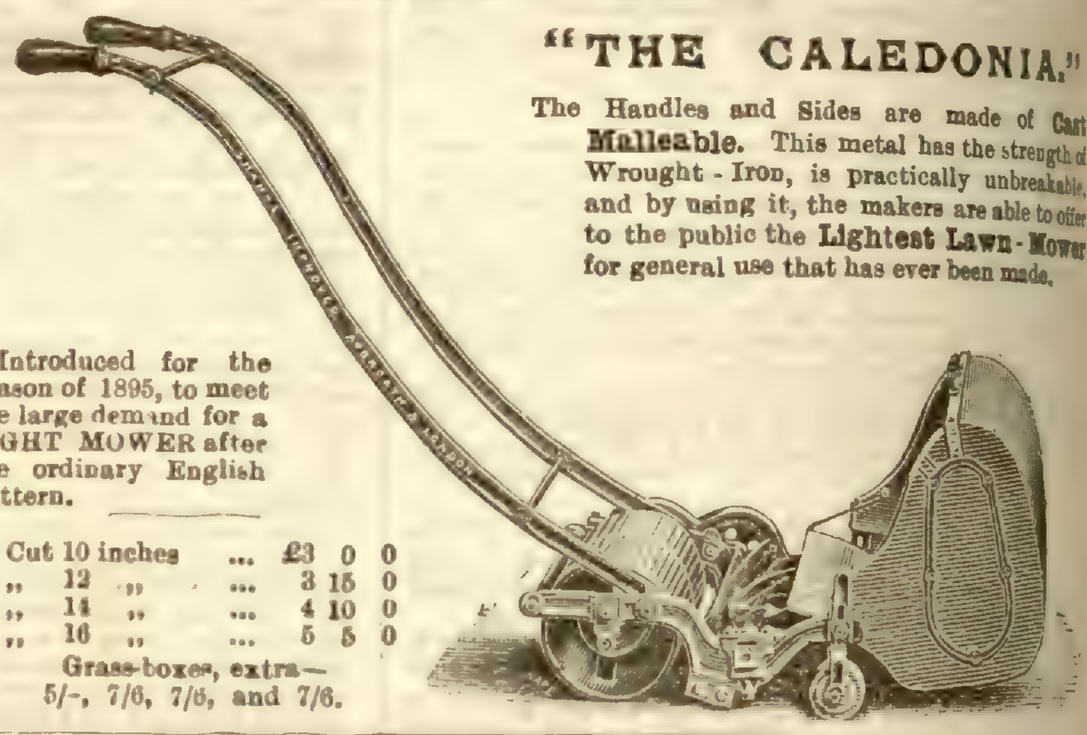

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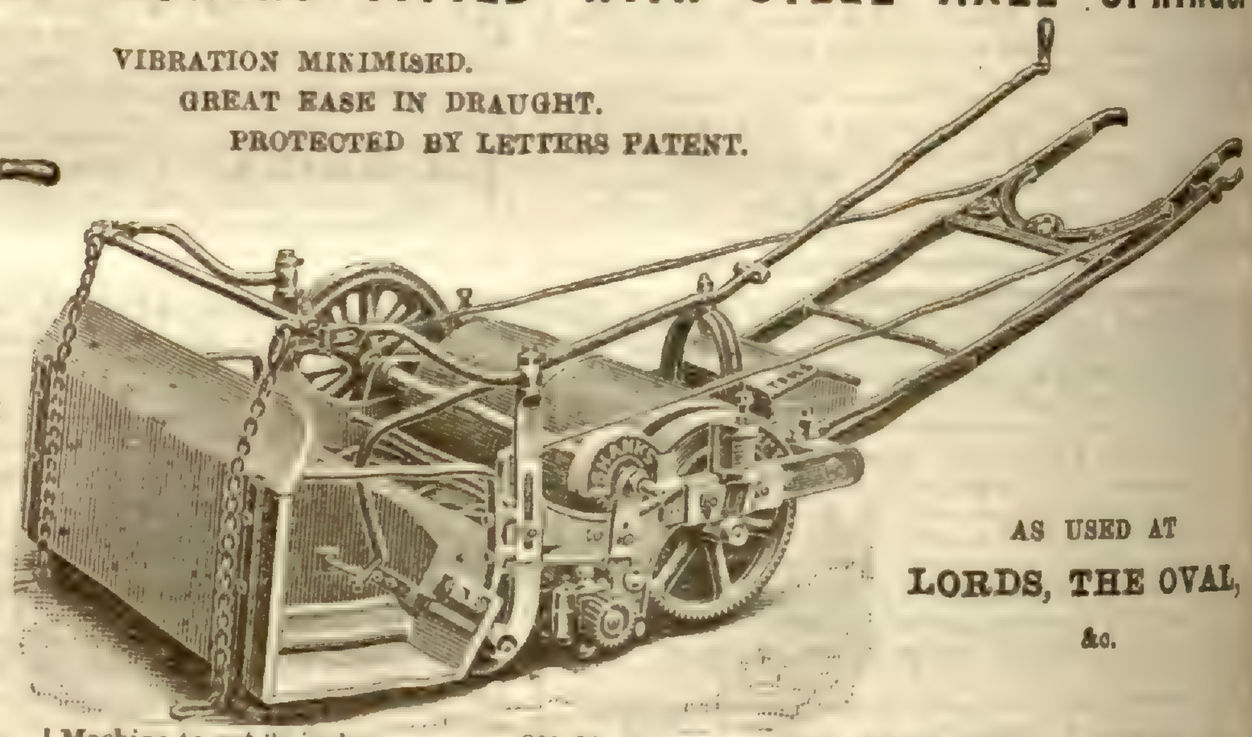

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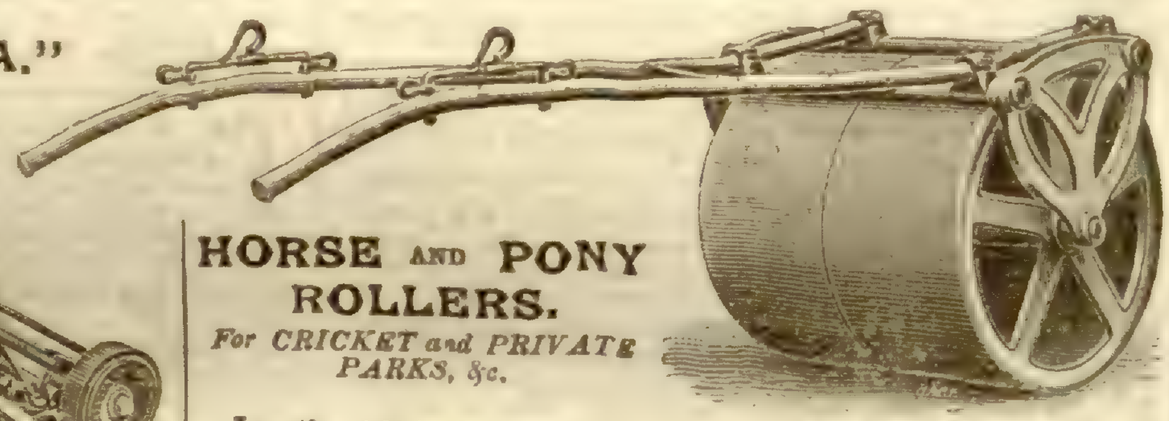

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H. & F. SHARPE are prepared to give SPECIAL QUOTATIONS for their fine selected stocks of HOME-GROWN MANGEL-WURZEL and TURNIP SEEDS of 1894 growth, and raised from the finest-selected Stocks and transplanted Bulbs. Their prices will be found very advantageous to purchasers.
SEED-GROWING ESTABLISHMENT, WISBECH.

Important to Mushroom Growers.
CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevillea, Geraniums, in 48's, 6s. doz.; Heliotrope, Fuchsias, Double Petunias, Marguerites, Genistas, in bloom, in 48's, 9s. doz.; Ficus, Palms, Dracænas, Ericas, Hydrangeas, Pelargoniums, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

Petroleum! Petroleum!! Petroleum!!!
BRILLIANT ILLUMINANT.
In casks, carriage paid, 8½d. per gallon.
ANDREW POTTER, Melbourne Works, Wolverhampton.
Maker to the Queen and Prince of Wales.

BEESON'S MANURE, Crushed Bones and all High-class Fertilisers.
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

J. WEEKS & CO., Horticultural Builders to Her Majesty. H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Friday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 31, at half-past 12 o'Clock, the following fine SELECTIONS of IMPORTED ORCHIDS, in splendid condition:—

DENDROBIUM JAMESIANUM. D. TORTILE.

ONCIDIUM TIGRINUM,

the finest of the genus. The plants offered are in robust health.

A quantity of LÆLIA AUTUMNALIS, just to hand; PERISTERIA ELATA (the Dove Orchid); huge firm bulbs of this wonderful Orchid. Oncidium crispum, Odontoglossum Insleayii, grand clumps of Cyrtopodium suavissimum, Cypripedium insigne montanum (Sander's celebrated form), C. bellatulum, Vanda Hookeriana, PHAIUS species, Cymbidium eburneum, Lælia glauca. Also Hedychium species from Brazil, and numerous others.

On view morning of Sale, and Catalogues had.

SALE, near MANCHESTER.

THE BROOMFIELD COLLECTION

OF ESTABLISHED ORCHIDS.

By order of M. WELLS, Esq.

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Broomfield, Sale, near Manchester, on WEDNESDAY and THURSDAY, June 26 and 27, 1895, at 12 o'Clock precisely each day, the above Collection of ESTABLISHED ORCHIDS, remarkable for the large number of species of exceptional merit and rarity, some being unique. The whole of the plants are in the best possible health, and amongst the several items to be offered may be mentioned the following:—

Cattleya Mendelii Broomfieldense, F.C.C.
" Chelsonii
" Morganiæ
" Princess
" Bluntii, F.C.C., 2
" striata
" May Queen
" Barnley Hall var.
" Protheroe's picta, Award of Merit
" superbissima
" Bertie Wells
" Trianæ alba, 4
" " Massangeana
" " Backhouseana, 4
" " Measuresiana
" " Reine des Belges, F.C.C.
" " plumosa
" " venosa
" " Normanii
" " albens
" " Emiliæ
" Hardyana
" " Wrigley's var.
" " Statteriana, F.C.C.
" " Massiana
" " marmorata
" " Pickering var., F.C.C.
" Gaskelliana Sunray
" " alba, 2
" " albens, 2
" " virginalis Amesiæ, 2
" Mossiæ alba
" " Wagneri, 5
" " Arnoldiana
" " aurantiaca superba, 2
" " grandis
" " Reineckiana, 6
" " gigantea
" aurea, 15
" intermedia alba
" Lord Rothschild, F.C.C.
" Aclandiæ alba
" " magnifica
" Percivaliana, very rare
" maxima Backhouseana
" Skinneri alba, 4
" " magnifica
" Schroderæ alba
" Exoniensis, Veitch's long-bulbed var.
" " short "
" " superba
" Dawsonii, rare
" Bleu's hybrid
" culummata
" speciosissima, Award of Merit
" hybrida Keenastina, F.C.C.
Cymbidium Hookerianum
Cœlogyne cristata alba
Cypripedium Pollettianum
" Leeanum giganteum
" insigne Wellsianum
" Leeanum princeps
" insigne Sanderiana
Dendrobium nobile Amesiæ, F.C.C.
" " nobilius, 2
" " Cooksoni, 4
Dendrobium nobile Heathii
" " Cypheri
" " Seedlings
" " Venus
" " Schroderæ album
" " rubens
" " Wardianum album
Lælio-Cattleya Broomfieldense, F.C.C.
" " calistoglossa, short-bulbed var.
" " Wellsiæ, Award of Merit
" " Phœbe
" " Seedling, unflowered, Bleu's hybrid
" " Arnoldiana, 3
" " Tressideriana
Lælia Mardeli
" Amanda
" autumnalis alba
" majalis alba, rare, 2
" Gouldiana
" elegans
" " præsiata
" " Blenheimense
" " Turneri
" anceps Ashworthii, F.C.C.
" " Ballantineanum
" " Bull's alba, 2
" " Amesiæ
" " Dawsonii, 2
" " Hallidayana
" " Schroderiana
" " Stella
" purpurata Hardyana
" " Chelsonii
" " Russelliana
" " gloriosa
" " Hardy's alba, 3
" " atro-purpurea, 2
" " Backhousiana
" " Broomfield var.
" " Wellsiana
" " Princess
" " Bryceana
Lycaste Skinneri alba
Odontoglossum Pescatorei, Pollett's var.
" crispum Wrigleyanum, F.C.C.
" " var. apiatum
" " Hinde's var.
" Andersonianum grandis
" " princeps
" " varieties
" " Imperialis
" guttatum
" crispum "Duchess"
" Wilckeanum, F.C.C.
" Wellsianum
" crispum Rosy Morn
" " Jenningsianum
" " The Bride
" " Fairy Queen
" vexillarium superbum Lawrenceanum
" Hallii magnificum, 2
" triumphans, 2
Phajus Cooksonii
Sobralia alba
Spathoglottis Kimballiana
Sobralia xantholeuca

And numerous other choice plants and varieties enumerated in the Catalogue.

May be viewed the day prior to the Sale, or earlier by special card to be obtained of the Auctioneers. Catalogues may be had of Mr. Hind, the head gardener, on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Tuesday Next.

800 CATTLEYA SKINNERI, and 650 C. LABIATA, from Mr. A. Van der Bogaerde; a small importation of DENDROBIUM HETERO CARPUM, Established ORCHIDS, Green TREE FROGS, and ORCHIDS in Flower and Bud; also, AMARYLLIS SPECIES, PANCRATIUM SPECIES, GLADIOLI SEEDLINGS, and BEGONIAS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 28, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Springfield, near Chelmsford.

UNRESERVED SALE of the Collection of ESTABLISHED ORCHIDS, STOVE and GREENHOUSE PLANTS, formed by the late Edward Jex, Esq., by order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Springfield Dukes, Springfield, near Chelmsford, about 1 mile from the Town of Chelmsford, on TUESDAY, June 18, at 1 o'Clock precisely, the Collection of ESTABLISHED ORCHIDS, in all about 200 lots, including Cypripediums, Cattleyas, Dendrobiums, Lælias, Odontoglossums, Masdevallias, Oncidiums, Lycastes, many varieties of each species; also Vanda Sanderiana, and others, together with the STOVE and GREENHOUSE PLANTS, consisting of Eucharis, Hibiscus, Hoya carnosa, Allamandas, Clerodendrons Davallias, Palms and Ferns in variety, Chrysanthemums, Lilies, &c.

May be viewed. Catalogues may be had on the Premises, of G. C. LEE, Esq., Solicitors, 13, Old Jewry Chambers, E.C., and of the Auctioneers, 67 and 68, Cheapside, London E.C.

Pewsey, Wilts.

Re John Fletcher Mould in Bankruptcy.

CLEARANCE SALE of EXHIBITION PLANTS and OTHER STOCK IN TRADE, certain GREENHOUSES and EFFECTS, by order of the Official Receiver in Bankruptcy.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Pewsey, Wilts, EARLY IN JUNE next, the whole of the well-grown EXHIBITION PLANTS, many of which have been successfully shown, including Ericas, Azaleas, Lapagerias, Ferns, also Roses, Clerodendrons, also the whole of the out-door NURSERY STOCK, CONTENTS of SEED SHOP, 4-wheel VAN, and UTENSILS in TRADE.

May be viewed. Catalogues may be had on the Premises, of E. HOBBS, Esq. (Messrs. Hobbs, Ravenscroft & Co., Chartered Accountants); the Trustees, Jewry House, Old Jewry, E.C.; of CHARLES BUTCHER, Esq., Solicitor, 30, Wood Street, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Preliminary Notice.

By Order of the Executors of the late H. HOLLIS, Esq., Beechcroft, Edgbaston, near Birmingham.

SALE of the IMPORTANT COLLECTION of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., in JUNE NEXT. The Plants are beatifully grown, and the Collection is well known. It includes about 1300 ODONTOGLOSSUM ALEXANDRÆ, from the principal importations of recent years, and nearly all unflowered; 100 DENDROBIUM NOBILE, 80 DENDROBIUM PHALÆNOPSIS SCHRODERÆ, LÆLIA ELEGANS, CATTLEYAS, &c.

Further particulars will appear.

Extensive Unreserved Sale of Stove, Greenhouse, and BEDDING PLANTS, &c., at the Bonehill Nurseries, Tamworth.

LYTHALL AND WALTERS will SELL by AUCTION, on TUESDAY and WEDNESDAY, May 28 and 29, at 11 o'Clock each day, the whole of the immense stock of STOVE, GREENHOUSE, and BEDDING PLANTS, including many thousands of Geraniums, Pelargoniums, Spiræas, Fuchsias, Camellias, Azaleas, Roses, choice Ferns, Palms, Chrysanthemums, &c.

The GREENHOUSES, Pits, Frames, Potting-sheds, Office, Engine, and Boiler, and the Goodwill of the Nurseries, will also be offered in one lot, unless previously disposed of by Private Treaty.

For Catalogues and further particulars, apply to C. STARKEY, Esq., Tamworth; Messrs. T. ARGYLE AND SONS, Solicitors, Tamworth; or the Auctioneers, Bingley Hall, Birmingham.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO.

Have recently received

LARGE and SPLENDID IMPORTATIONS of

CATTLEYA LABIATA AUTUMNALIS.
CATTLEYA CITRINA.
ODONTOGLOSSUM ROSSII MAJUS.
DENDROBIUM NOBILE, grand type.
DENDROBIUM PIERARDI LATIFOLIA.

And numerous other species.

The COMPANY are offering for Sale (by Private Treaty), next week, a large and splendid lot of SEMI-ESTABLISHED ORCHIDS, at Special Prices.

Descriptive and Priced CATALOGUES post-free on application to the COMPANY.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

WANTED to PURCHASE, a Sound SEED BUSINESS of moderate size, one where Nursery Stock is sold but not grown, or only to a very small extent, and in a market town preferred.
J. W., Messrs. HURST AND SON, 152, Houndsditch, E.C.

WANTED, to LEASE an ORCHARD, ten to twenty acres of good bearing assorted trees, bushes &c., near good Market Town.—Full particulars to—
DICKSONS (Limited), Chester.

FOR SALE, a small NURSERY, FLORIST'S and JOBBING GARDENER'S BUSINESS. Five Greenhouses heated by Hot-water, &c. Stock and Trade. A reasonable offer accepted.—W. H., Park Row Nursery, Greenwich.

FOR SALE, a SMALL NURSERY, near fashionable watering place; rent moderate; cash trade; no reasonable offer refused.
Address, NURSERY, 41, Wellington Street, Strand.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a FREEHOLD NURSERY and BUSINESS.—This valuable Nursery to be Sold as a going concern, situated about 14 miles from Covent Garden, in the S.W. district. It contains over 5 acres of Land (gravel subsoil), 26,972 sq. ft. under Glass, comprising 2 large Vineries, with 400 Vines in full bearing; Tomato, Cucumber, Forcing, and other Houses; a Mushroom Shed, 240 ft. × 12 ft., with 2 tiers of beds; a large Potting and Store Shed, a Packing Shed, and Office, &c. The whole in thorough repair, and completely stocked with every convenience for largely extending the Business. Part of the Purchase-money can remain on mortgage. For further particulars, apply to—
J., 12, Claremont Road, Surbiton, Surrey.

To be Sold by Private Treaty.

A FREEHOLD PLOT of LAND, containing about 6400 square yards, with Dwelling-house, Stable, Coach-house, Pigstyes, Glasshouses, and other buildings thereon, situate within 10 miles of Manchester, and within 1 mile of a railway station, in a thriving and rapidly-increasing neighbourhood, at which the present owner has carried on the business of a Nurseryman and Florist for upwards of twenty-five years. The house contains 2 Entertaining-rooms, Kitchen, Scullery, Office, 4 Bedrooms, Bathroom, W.C., 2 Cellars, Covered Yard, Outside Wash-house, W.C., &c. The Glasshouses cover an area of about 7289 square feet, are substantially built, and fitted with modern Heating-apparatus and new Patent Boiler. There is a good natural water-supply, which runs through all the glasshouses.

For further particulars and orders to view, apply to J. B. LAYCOCK, Solicitor, Altrincham.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

To Nurserymen, Florists, and Others.

TO BE LET, or for SALE, Small NURSERY GARDEN, of about Half an Acre, in Country Town, and near Markets, with 190 ft. run of Glass, comprising Vineries and Orchard-houses; also, 5-roomed Cottage, Stabling, and Storage.—Apply to EDWARD SAUNDERS AND SON, 6, Bishopsgate Street Without, E.C.

TO BE LET or SOLD, with Immediate Possession, FREEHOLD NURSERY, Catford, comprising Four Glasshouses, a total length of 600 feet, with all necessary heating appliances, in thorough working order, and a good modern residence, close to two railway stations.
J. CHAMBERS, 126, Catford Hill, S.E.

NURSERY TO LET (with or without House), about 1 acre, 3 large Glasshouses, 112 feet × 18 feet, just repainted, &c.; soft-water supply. Rent, £20; no incoming.
ALFRED RICHARDS, Estate Agent, Tottenham.

MARKET GARDENING.—2¾ Acres to LET, at Acton. For particulars address—
CALE AND CO., 1, St. Dunstan's Hill, East Acton.

FOR SALE, a Valuable SECOND-HAND SADDLE BOILER, good as new, 6 ft. by 2 ft., 6 ft. by 2 ft., with four cross tubes and furnace fittings. No reasonable offer refused.—Apply to BALL AND SON, Hot-water Engineers, 16, Low Pavement, and 32, Willoughby Street, Lenton, Nottingham.

FOR SALE, no reasonable offer refused, four years' "GARDENING ILLUSTRATED," five years' "GARDENERS' CHRONICLE."
H. G. E., 62, Bedwin Street, Salisbury.

BEGONIAS, Double and Single, for Bedding. Extra superb in quality. Selected large tubers. Also for Conservatory and Exhibition. Descriptive CATALOGUE free.
B. R. DAVIS, Yeovil Nurseries, Somerset.

POLYANTHA ROSES.—The most charming of all BEDDING ROSES, giving a perfect mass of flower and continuously in bloom until late autumn. Perle d'Or, Anne de Montravel, The Pet, Jeanne Drivon, and Gloire des Polyanthus. Plants in pots, 1s. each; 10s. per dozen; 75s. per 100.—H. LANE AND SON, Nurseries, Berkhamsted, Herts.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE 56TH ANNIVERSARY FESTIVAL DINNER in Aid of the Funds, will take place on FRIDAY, June 28, at the "Hôtel Métropole," under the Presidency of His Grace the DUKE of FIFE, K.G., P.C.

The following Contributions have already been received or promised:—

DUKE of WESTMINSTER, K.G.	£10	0	0
DUKE of SUTHERLAND	10	10	0
DUKE of PORTLAND	15	0	0
EARL DUCIE	5	0	0
N. SHERWOOD	21	0	0
Miss SHERWOOD...	5	5	0
WM. SHERWOOD	5	5	0
ED. SHERWOOD	5	5	0
ANONYMOUS (Special Gift)	20	0	0
J. G. VEITCH	10	10	0
GEO. F. WILSON, F.R.S.	5	5	0
BARON F. ROTHSCHILD, M.P.	5	5	0
W. J. NUTTING	5	5	0
W. L. CORRY	5	5	0
A. PLUMMER	5	5	0
N. L. COHEN	3	3	0
GEORGE WYTHES	2	2	0
H. J. WIMSETT	2	2	0
JAMES DOUGLAS	4	4	0
D. ROBERTS	12	0	0
JOHN LOCKYER	5	0	0
W. SALCOMBE	7	0	0
JOHN HUDDY	10	10	0
JOHN MOFFATT	11	0	0
SHROPSHIRE HORTICULTURAL SOC. (Annual)	5	5	0
J. WITT	10	10	0
MIDLAND CARNATION SOCIETY	5	5	0
H. SWANSBOROUGH	3	6	0
F. NASH	10	10	0
H. R. SAUNDERS	10	10	0
W. WEEKS	10	10	0
W. WHALLEY	3	3	0
R. McKELLAR	4	4	0
T. MITCHISON	10	10	0
S. PRATT	10	10	0
G. ORMISTON	10	10	0
F. BEDFORD	2	0	0
V. WATNEY	2	2	0
R. HURST	3	0	0
R. JORDAN	2	2	0
E. BURBURY	1	0	0
W. ELPHINSTONE	1	1	0
A. G. GOODEN	1	1	0
H. KENT	1	1	0
E. S. McLAURIN	1	1	0
Mrs. BARTRUM	1	1	0
W. PEPPER	0	15	0

Further Donations or Collections will be thankfully acknowledged by the Secretary—

GEORGE J. INGRAM, 50, Parliament Street, S.W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Geraniums, Lobelias, Verbenas, Heliotropes, &c.

JOHN SOLOMON offers, as in former years, established in single pots:—GERANIUMS, Mrs. Pollock and Sophia Dumaresque, at 21s. per 100; Silver Tricolor, Mrs. John Clutton, 18s. per 100; Silver Variegated, Mrs. Parker and Flower of Spring, 18s. per 100; best Bronze, 18s. per 100; Henri Jacoby, West Brighton Gem, Vesuvius, Madame Coulston, salmon, Mrs. Leavers, Queen of the Belgians, and Ivy-leaved, best sorts, 16s. per 100. LOBELIA, Emperor William, 2s. 6d. per 100, 20s. per 1000. Harrison's MUSK, 5s. per 100. HELIOTROPES, FUCHSIAS, and COLEUS, best Market sorts, 6s. per 100; in single pots, 12s. per 100. VERBENAS, MIMULUS, and single PETUNIAS, in single pots, 12s. per 100. Free on rail in London. Cash with order.

Oak Nursery, Forest Side, Chingford, E.

LAING'S BEGONIAS should be tried for Bedding Purposes.—We have a grand stock of plants, especially and carefully selected to colour for bedding from our out-door beds last summer. Three shades of crimson, orange-scarlet, magenta, pink, rose, scarlet, white, &c. Per dozen, 6s. Cultural Directions and Catalogues free.

JOHN LAING AND SONS, The Nurseries, Forest Hill, London, S.E.

MAIDENHAIR FERNS,

In 48s, 5s. per dozen.

Also extra fine stuff, in 32s, at 7s. per doz.

COLEUS, rooted cuttings, 5s. per 100. FUCHSIAS, rooted cuttings, 4s. per 100.

All the above packed free for Cash with Order.

T. BAKER, Manager, Blandford Nursery, Upper Teddington.

THE NEW EARLY STRAWBERRY for 1895,

STEVENS' WONDER.

The earliest variety in cultivation, and very prolific.

Solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. See *Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16. Having purchased the whole of the Stock of this grand New Early Strawberry from the Raiser, we have pleasure in offering it as follows:—

Strong Plants in pots ... £5 per 100 ... 15s. per dozen.
Strong Runners ... ... £3 per 100 ... 9s. per dozen.

Ready for delivery early in July.

EARLY ORDERS REQUESTED, AS STOCK IS LIMITED.

Further particulars upon application.

Wm. CUTBUSH & SON, Highgate Nurseries, London; And BARNET, HERTS.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY OF MANCHESTER.

The GRAND ANNUAL EXHIBITION of PLANTS and FLOWERS will open at the Gardens, Old Trafford, on the 31st inst. A SPECIAL EXHIBITION of HORTICULTURAL IMPLEMENTS and APPLIANCES will be held for a week in connection with the above. Medals will be awarded to meritorious exhibits. For further information apply to the undersigned at once. BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN.

From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony.

For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden.

O. LAMMERHIRT, 7, Glacisstrasse, Dresden, N.

Die Commission: G. KRAUSE, I. Vors.; T. J. SEIDEL, II. Vors.

WELLINGBOROUGH.—A Grand FLORAL and HORTICULTURAL SHOW will be held at Wellingborough, on FRIDAY, July 26, 1895. Open to all England. Schedules of Prizes are now ready, and may be obtained of—

CHAS. J. R. WOOLSTON, } Hon. Secs.
THOMAS VENDERED, }

Wellingborough.

RICHMOND HORTICULTURAL SOCIETY.

£300 offered in PRIZES and MEDALS.

THE SUMMER SHOW

OF THE ABOVE SOCIETY

Will be Held in the Old Deer Park, Richmond

On WEDNESDAY, June 26.

For Schedules and all particulars apply to—

C. CAPEL-SMITH, Hon. Sec.

Belle Vue Lodge, Richmond, Surrey.

FOR SALE.—GLOBE ARTICHOKES, extra strong clumps, three or four crowns on each.

WALMESLEY, The City Seed Stores, Lichfield.

ANTIRRHINUMS.—Dwarf White from Cuttings, a few thousand for Sale. Also other BEDDING PLANTS.—Apply to J. SPILSBURY, Blankney, Lincoln.

IRISH IVIES IN POTS.

Fine strong plants, good foliage.

4 to 5 ft., 12s. ... 5 to 6 ft., 18s. ... 6 to 7 ft., 24s. per doz.
7 to 8 ft., 30s. ... 8 to 10 ft., 36s. ... 10 to 12 ft., 42s. ,,

The large sizes are in 24's and 16's; smaller sizes in 32's pots.

Packing free for cash with order.

W. FROMOW AND SONS, Sutton Court Nurseries, Chiswick, London, W.; also Acton Green, Hounslow and Bagshot.

FOR SALE,

MAGNIFICENT TREE FERN

(CYATHEA INSIGNIS syn. CYBOTIUM PRINCEPS).

Fine straight trunk, 7 feet high from tub, 30 inches in girth and has eleven grand fronds, 8 and 9 feet long.

The above is a matchless specimen, 17 feet in diameter, in perfect condition, is in cool conservatory, and is believed to be the finest in the country.

Can be inspected any week-day on application to—

GEO. LEGG, Worple Nursery, Wimbledon.

PALMS, FICUS, FERNS, &c., in any quantity—PALMS, Mixed 6s., 12s., 18s., 36s. per doz.

FICUS ELASTICA			18s., 18s., 24s.	,,
MAIDENHAIR FERNS			3s., 9s., 12s.	,,
FERNS, in variety	...	2s.,	6s., 12s., 24s.	,,
CYPERUS ALTERNIFOLIUS ...			2s., 6s., 9s.	,,
ARALIA SIEBOLDI		2s.,	6s., 9s., 12s.	,,
FLOWERING PLANTS, Mixed...			9s., 12s., 18s.	,,
COLLECTION of PLANTS ...		4s.,	6s., 9s., 12s.	,,

Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

THOUSANDS OF SEEDLING FERNS,

Pteris major, Pteris cristata, and Cyrtomium.

28s. 6d. per 1000, packed free.

Sample 100, carriage free, 3s. 6d.

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15-oz., per 100 ft., 7s. 6d. } 12×10, 18×12, 18×14, 24×14
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Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½d. per foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c. Catalogues free.

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One application will keep Walks, Carriage Drives, Yards, &c., clean for at least twelve months.

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☞ Every gallon guaranteed above the usual standard strength.

Full directions for use printed on each package.

To be used in the proportion of 1 gal. to 25 gals. of water.

2 Gallon Drum	3/6	12 Gallon Cask	18/6
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In addition, packages charged as follows:—

2 Gallon Drum	1/6	12 Gallon Cask	5/-
4 ,, ,, ...	2/3	18 ,, ,, ...	5/-
6 ,, ,, ...	2/9	40 ,, Barrel... ...	5/-

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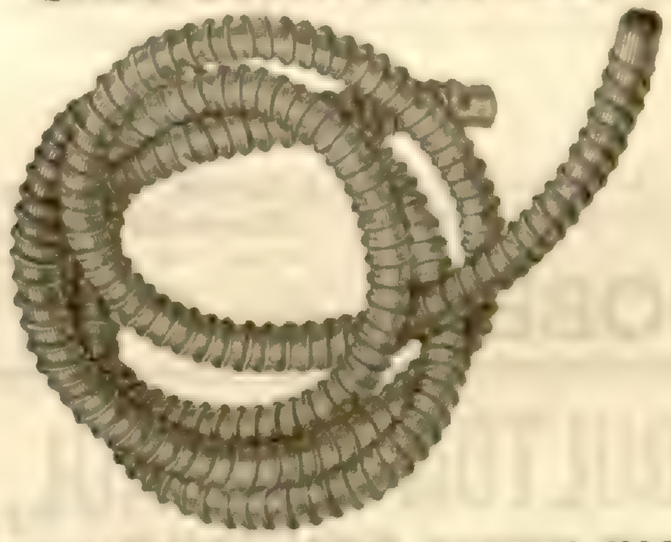

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COCOA-NUT FIBRE REFUSE.

6d. per bushel; 100 for 30s.; truck, loose (about 2 tons), 50s. Bags, 6d. each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

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YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

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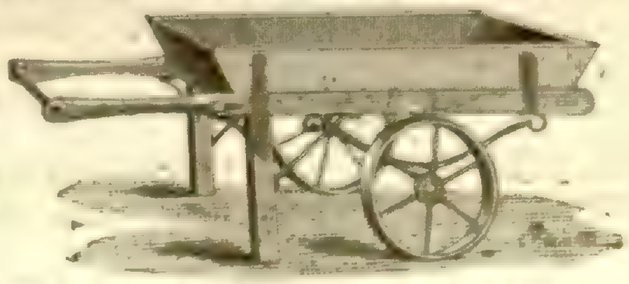

The body is 4½ feet long and 2½ feet wide.

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SINGLE DOZENS, 5s., post-free (13 to the doz.). FOUR DOZEN for 18s., post-free.

SAMPLE DOZENS, such as we send out at above prices—Grand Plants :—

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CACTUS.—Apollo (1893), Bertha Mawley (1893), Beauty of Arundel, Countess of Gosford (1893), Countess of Radnor (1893), Delicata, Viscountess Folkestone, Kynerith, Mrs. Basham, St. Catherine, Lancelot, Barón Schroeder, Lady Skelmersdale (1893).

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NOTE.—If any of the above varieties get sold out, we shall substitute other equally good varieties.

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Stott's Sprayer can be attached to this Engine, if desired.
CASH PRICES, Carriage Paid.
Width, 2 ft. 0 in., to hold 15 gals. £3 0 0
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Extreme width—15 gallons, 25 inches
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Pump only £4 0 0
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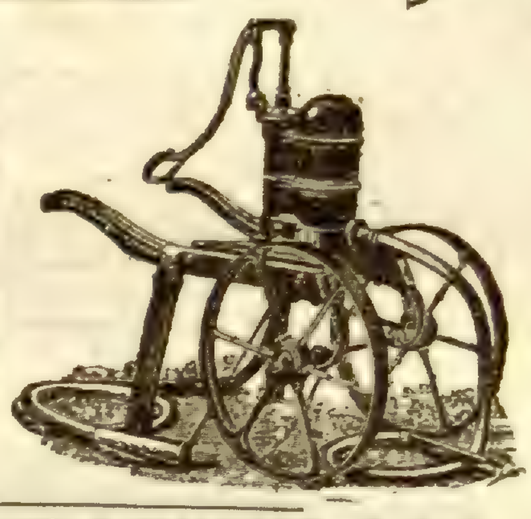
Extreme width, 27 in.



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Prepared in Bond, from Duty-Free Tobacco, by Special Permission of the Hon. Board of H.M. Customs.

One Fumigation with this clears houses of insects for double the length of time that can be accomplished by the use of any other Fumigator. Note the remarkable saving of expense:—

Compound

For using in the Fumigators.

Bottle.	Enough for cubic feet.	s.	d.
No. 1	40,000 ..	24	0
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No. 3	10,000 ..	6	6
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PATENT.

Fumigators

(Will last for Years).

To do 5,000 cubic feet of space at a time, 2*s.* each.

To do 2,000 cubic feet, 1*s.* 9*d.* each.

*** *Showing a cost for fumigating of only 8d. per 1000 cubic feet of space.*

The following is a Specimen from hundreds of Testimonials :—

From Mr. H. WALTERS, The Gardens, Eastwell Park, Ashford.

"I regard your XL ALL Vap. Fumigator as the Masterpiece of all Fumigators. It entirely destroys the insects, and does not leave that disagreeable odour in the houses which is always present for days after fumigating with the ordinary Tobacco Paper."

Beware! Inferior imitations of the Compound are reported to be in the Market.

Every label on the bottles and tins of the genuine article bears my Registered Trade Mark, No. 175,113, with Vine-leaf and Monogram. When this is not on the label the compound is not genuine. Don't be imposed upon, and probably have your plants destroyed or injured.

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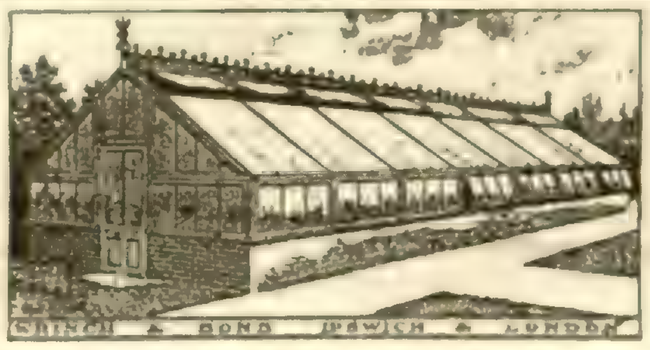

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A Further Proof of the Excellency of our Workmanship.
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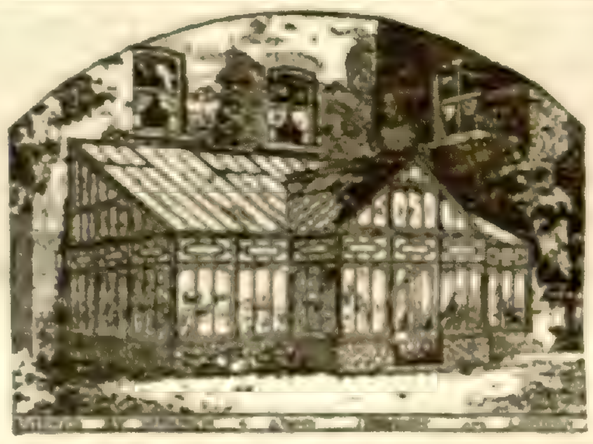

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SEND for SAMPLES and PRICES.
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(Established 1850),
WOOD GREEN, LONDON, N.

The "NEW EASY" LAWN MOWER.
LIGHTEST RUNNING AND CHEAPEST ROLLER MACHINE.
THE LARGEST SIZE (24-INCH) EASILY WORKED BY ONE MAN.
Unexcelled Durability. *Made in all Sizes from 10 to 24 inches.*

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GENTLEMEN,—Twelve years ago I purchased the first "Easy" Lawn Mower. Since then I have had several machines from you, and it is only due to you that I should tell you how entirely satisfactory they have all proved. I have for several years worked two of your 24-inch machines fastened together, drawn by a mule, and worked by a man with long reins, and it is astonishing the amount of work they got over. In my opinion, the "New Easy" is the most easy draught, the simplest, and cheapest Lawn Mower extant.
WM. SANGWIN.

CUTS 24 INCH EASY.

UNSOLICITED TESTIMONIALS

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GENTLEMEN,—We have had "The Easy" now for six years, and it has done its work well, and easily worked by our man. I sharpen it once or twice a year, otherwise it has never been out of use, and never wanted repair.
THOS. ANDERSON.

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D. JARDINE.

Biggar, August 29, 1894.
GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.
ROBERT BOA.

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I have a "New Easy" Lawn Mower, pattern 1886, which I got from you in 1889. This is the sixth season, the machine has worked well (18-in.), and has cut ½ acre lawn weekly by a lad since I got it, and it is good now.—SAMUEL ATKINSON.

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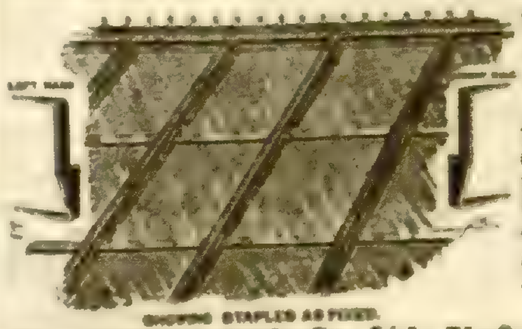
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HAVE BEEN THE LEADING MACHINES FOR OVER 50 YEARS.

THEY HAD NO RIVAL IN 1840, AND ARE UNRIVALLED IN 1895, DESPITE COMPETITION.

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Used in the ROYAL GARDENS at WINDSOR, HAMPTON COURT, BUCKINGHAM PALACE, OSBORNE, BALMORAL, and KEW;
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STANDARD GEAR or CHAIN MACHINE.

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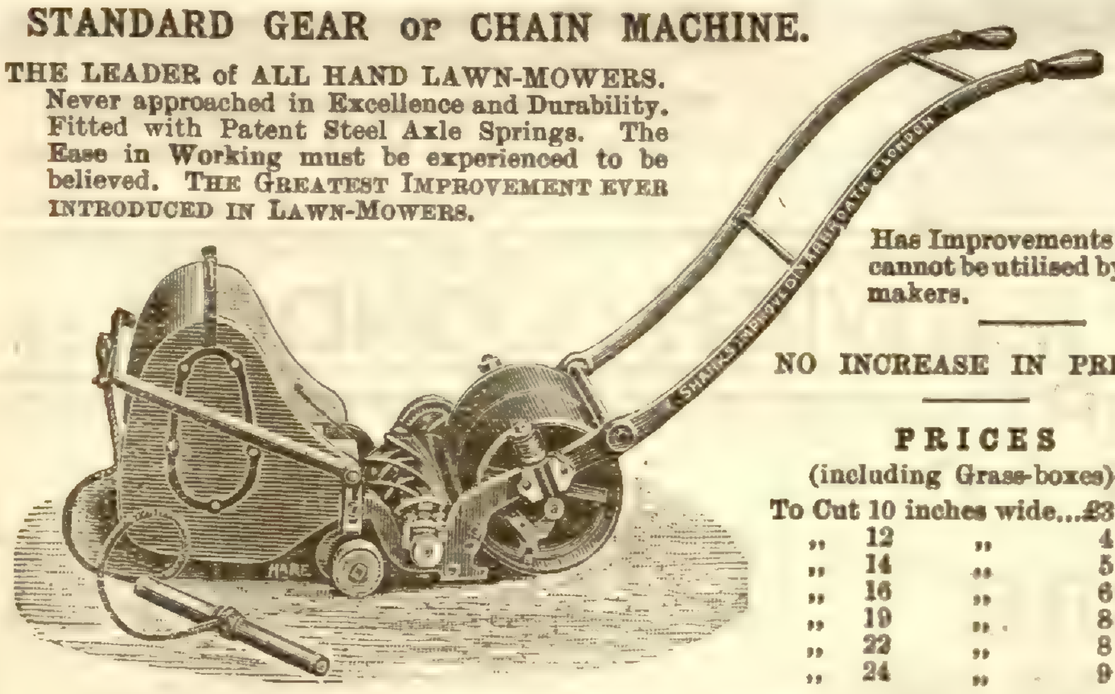

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NO INCREASE IN PRICES.

PRICES
(including Grass-boxes)—

To Cut 10 inches wide...	£3	10	0
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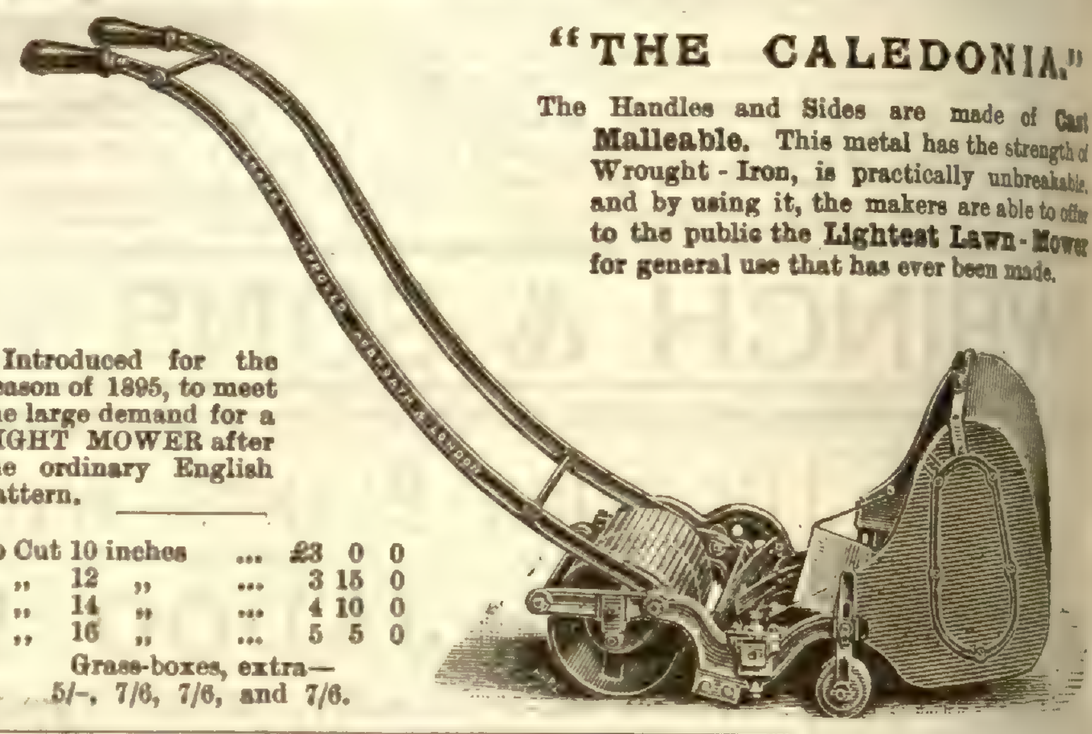
,, 14 ,,	5	10	0
,, 16 ,,	6	10	0
,, 19 ,,	8	0	0
,, 22 ,,	8	10	0
,, 24 ,,	9	0	0

"THE CALEDONIA."

The Handles and Sides are made of Cast **Malleable.** This metal has the strength of Wrought-Iron, is practically unbreakable, and by using it, the makers are able to offer to the public the **Lightest Lawn-Mower** for general use that has ever been made.



Introduced for the Season of 1895, to meet the large demand for a LIGHT MOWER after the ordinary English Pattern.

To Cut 10 inches ...	£3	0	0
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Grass-boxes, extra—
5/-, 7/6, 7/6, and 7/6.

SHANKS'S ARE THE ONLY HORSE AND PONY MOWERS FITTED WITH STEEL AXLE SPRINGS.

Since their introduction last season, these MOWERS, with SPRINGS, have been a remarkable success.

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GREAT EASE IN DRAUGHT.
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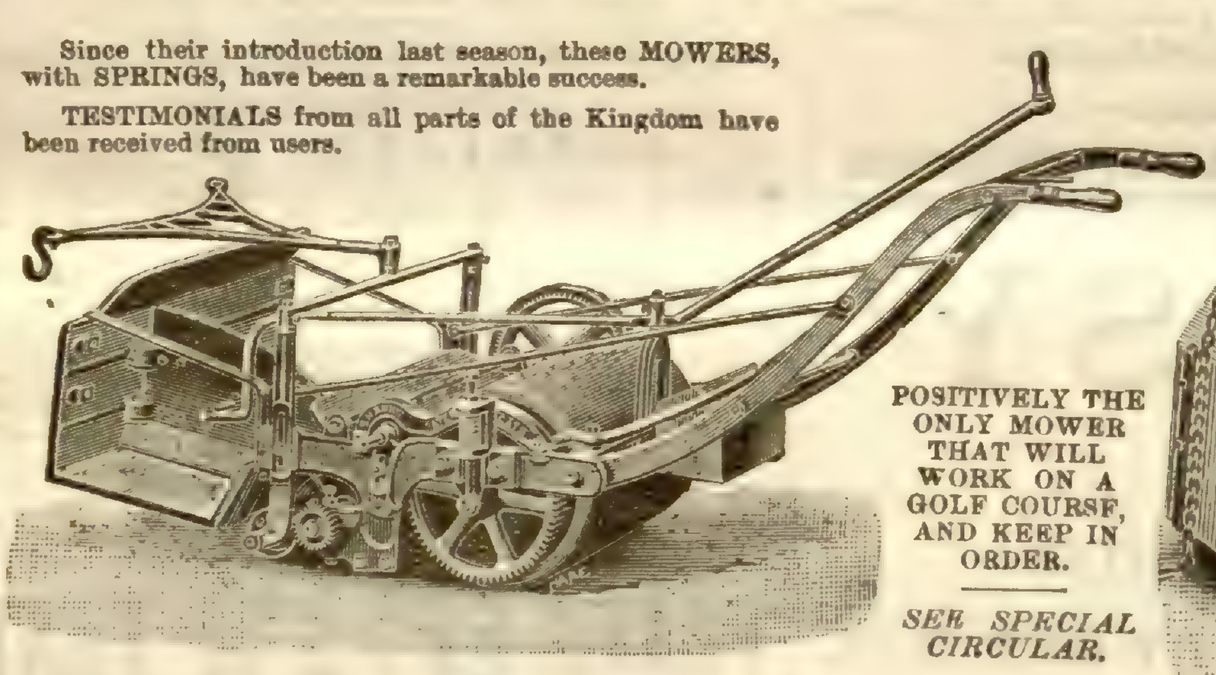

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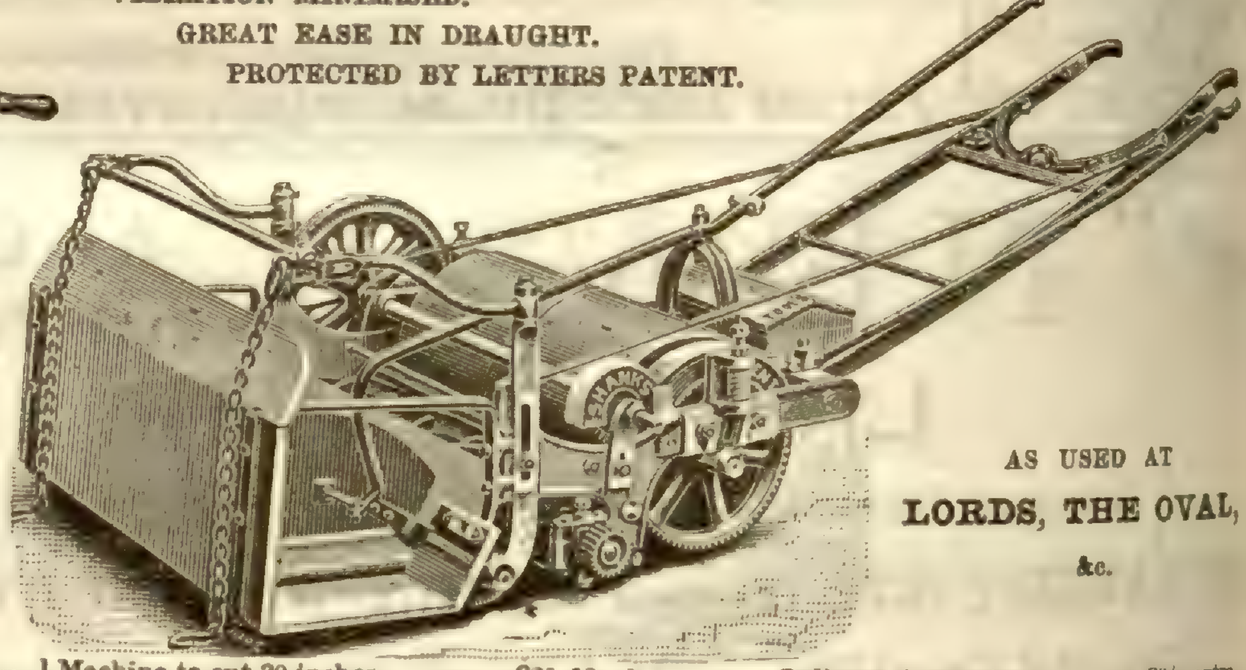

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Machine to cut 25 inches ...	£13	10	0	...	Delivery Apparatus ...	25/- extra.	Machine to cut 30 inches ...	£20 10 0 ... Delivery Apparatus ... 30/- extra.
,, 28 inches ...	15	15	0	...	,, ...	30/- ,,	,, 36 inches ...	24 0 0 ... ,, ... 40/ ,,
,, 30 inches ...	17	0	0	...	,, ...	30/- ,,	,, 42 inches ...	28 0 0 ... ,, ... 40/- ,,
							,, 48 inches ...	32 0 0 ... ,, ... 40/- ,,

THE "BRITANNIA."

The Best and Cheapest SIDE-WHEEL PATTERN LAWN-MOWER ever offered to the public.

To Cut 6 in., 25/- ...	...	Grass-box, 5/- extra.			
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,, 10 in., 35/- ...	...	,,	5/-	,,	
,, 12 in.. 45/- ...	...	,,	7/6	,,	
,, 14 in , 55/- ...	...	,,	7/6	,,	
,, 16 in., 65/- ...	...	,,	7/6	,,	

HORSE AND PONY ROLLERS.

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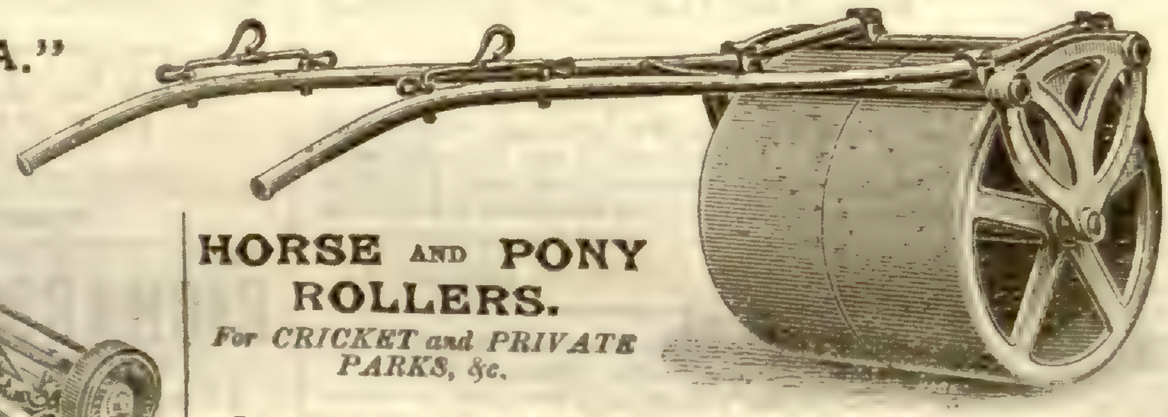

Length for Pony Draught.	30 in. by 32 in. diameter	...	£9 5 0	...	7 Cwt.	
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	30 in. by 42 in.	,,	...	11 10 0	...	9 ,,
	30 in. by 48 in.	,,	...	13 5 0	...	10½ ,,
Length for Horse Draught.	36 in. by 36 in. diameter	...	£14 0 0	...	12½ Cwt.	
	36 in. by 42 in.	,,	...	15 10 0	...	13½ ,,
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MADE IN HALVES, AND FITTED WITH COUNTER-BALANCE.

Excellent Workmanship and Finish.

SHANKS'S HAND ROLLERS.

SIZES and PRICES.

Diam. Length.	
18 in. by 20 in. ...	£2 15 0
20 in. by 22 in. ...	3 3 0
24 in. by 26 in. ...	4 5 0
26 in. by 28 in. ...	5 2 6
30 in. by 32 in. ...	6 12 6

SPECIAL SIZES FOR GOLF COURSES.

26 in. by 24 in. ...	£4 5 0
28 in. by 24 in. ...	4 15 0
30 in. by 26 in. ...	5 5 0
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THE
Gardeners' Chronicle.
SATURDAY, MAY 25, 1895.

SARRACENIAS AT HOME.

NOT the least interesting of the plants seen in a recent trip to the Carolinas and Georgia were three species of Sarracenia that were previously known to me only in cultivation. I had hoped to gather the five southern species which, with our native S. purpurea, make up the genus. But neither S. Drummondii nor S. psittacina rewarded our search.

During the short stay that we made within a few miles of Columbia, S.C., we failed to find any, but were constantly assured that Pitcher-plants grew in the rich bottom lands that we were daily traversing. One day I happened to show a specimen of the southern Asarabacca (Asarum arifolium) to a native, who at once exclaimed, "That is the Pitcher-plant." The little pitcher-shaped flowers of early spring had all withered, but now we knew how we had been misled.

On the southern confines of S. Carolina, Sarracenia rubra was first encountered, but its environment was not what I had imagined. Along one side of a lovely lake that was fringed by tall Cypresses, it sprang out of the cushions of bog-moss, and twined its roots with those of numerous shrubs that grew under the Cypress shade. To find it thus sheltered—one might almost say hidden—was contrary to my expectations, but when met with subsequently the conditions of growth were the same. The finer pitchers were from 12 to 15 inches long, but little more than an inch across.

Our first sight of S. flava and S. variolaris was got as we were whirled along by rail from Augusta to the coast line of northern Georgia. A long sunny stretch of savannah suddenly opened in the forests of long-leaved Pine, and far as the eye could reach were the tall yellow-green tubes of S. flava clustered in groups of three to twenty. Further on in our journey we could distinguish plants of S. variolaris interspersed with the last, but distinguished alike by spotted hood and shorter habit.

The locality we had selected as our next hunting ground was about thirty miles inland from Charleston, S.C., and proved to be a veritable haunt of the fly-catchers. The sod round the negro cabins was dotted over with S. variolaris, but every tube exactly resembled its neighbour except in size. Not so with the stately S. flava, which we soon saw at its best. While many of the plants were of a uniform light-green colour, examples were gathered that showed rich crimson veins traversing the lid and tube; or the colour was more or less diffused, so as to impart a pale crimson hue: or, again, the entire tube was of a deep crimson-red colour. The last, it must be confessed, were rare; but specimens were brought away which are still looking well, and will, I trust, colour up as finely under the summer suns of Pennsylvania, as under those of "South Caroline."

I am decidedly of the opinion that strong sunlight is a powerful determining factor in the coloration of green parts, for our common S. purpurea shows every intermediate tint, from deep crimson in full sunshine, to uniform green in the shade.

Some of the pitchers of S. flava were simply magnificent, and almost, if not quite, eclipsed the giants of Glasnevin Gardens; 3½ feet from the rhizome, and 3¼ inches across the mouth, were tube measurements that satisfied us.

The scenery and life of these savannahs are to me only surpassed by those of the great lone hills. Isolated individuals and irregular patches of the long-leaved Pine cover the flat or slightly undulating country. Clumps of spice-bush and other Ericaceous shrubs line the marshes, and make a good background for the stately clusters of S. flava that spring from a grassy sand-loam beneath. In such surroundings we often watched ths funny antics of some mocking-bird as, perched high on a Pine branch, it poured forth an imitation of apparently every bird-note. Wagging its tail, tossing its head, chattering from branch to branch, its song would continue till a sudden leap into the air, and a few strokes of its wings would carry it out of sight, if not out of hearing.

Our next resting-place was Wilmington, N.C., the famous home of the Venus' Fly-trap (Dionæa Muscipula). From a rather hurried previous visit I inclined to the opinion that the plant might ere long be exterminated, but a more extensive knowledge of its haunts dispels such pessimism. Acres of ground can be crossed where it almost constitutes the sod, but an exact idea of the correctness of this can be got when I say that I brought home a tuft 13 by 19 inches, which included thirty-one plants, large and small. For miles one meets with it in equal abundance where the soil is a black sandy loam.

The Sarracenias were about equal to those of the south, but for the first time in our wanderings we met with a couple of veritable hybrids. I espied them at a distance of about 10 feet, and nearer examination confirmed their identity with the plant sent me by Mr. F. Moore as a cross between purpurea and flava. But this settled, we had to find the former parent, not a specimen of which we had up to that time seen in the south. Not three feet from where we were standing the needed parent was discovered. Both hybrids I am glad to say are growing with me, while subsequent minute study of their structure confirmed their dual origin.

You will scarcely credit the show that our native S. purpurea at times makes. About three weeks after my southern tour I was botanising in New Jersey, and was carried by train past a lake bordered by the plant. I determined to make an inspection, and did not regret it. The lake was about a quarter of a mile long. Its margin was covered by a continuous sheet of large specimens mostly of a deep crimson hue. To look down on a piled-up mass of pitchers 7 to 12 feet in width, and mostly floating in the water, was a sight indeed. I hope some day to photograph the view, and you will then be able to share the pleasure.

In the sheltered bays of this lake floating beds of the purple Bladderwort (Utricularia violacea), in full bloom, alternated with sunken logs that were carpetted with Drosera rotundifolia and D. intermedia. A real carnivorous garden, you will say, and such it was. *John M. Macfarlane, Botanic Garden, University of Pennsylvania.*

Orchid Notes and Gleanings.

HAZELWOOD, KING'S LANGLEY.

Vice-Admiral R. P. Cator, in his gardens of Hazelwood, possesses a large collection of Orchids, which Mr. George Day, the Orchid grower, cultivates in a very satisfactory manner. The collection is interesting chiefly for the rare, curious, and pretty plants, which have been sent from various out-of-the-way places by friends and relatives who know the admiral's liking for such things. An instance of successful amateur importing of this kind was remarked in a number of plants of the rare Cymbidium cyperifolium. These plants occupied an overhead shelf in the cool-house; some singular Cœlogynes and Grammatophyllums which have not yet flowered; a very varied and interesting series of varieties of Dendrobium infundibulum gathered at different altitudes, and ranging from the dwarf highland form to the tall forms gathered at lower levels, which vary in the colour of the lip markings from pale yellow to the Roman-red found in those called D. Jamesianum.

Some of the houses are built on a novel plan, which seems to meet the wants of the plants admirably. The roof is curvilinear, a party wall dividing the houses longitudinally, which consequently run side by side. No putty is used in glazing, the glass being secured by strips of wood screwed to the rafters and running parallel with them. In this way a light house, which is to a certain extent self-ventilating, is secured, and the dangers arising from vitiated air when the house is closed done away with.

In the first house of this lot entered, a very fine and varied collection of Cypripediums, both hybrids and species, and novelties, was remarked. These almost covered the stages, and consist of species that have been artificially crossed. Suspended overhead in this house were warm-house Cœlogynes, C. Dayana

Fig. 90.—Cypripedium × Gertrude Hollington: cream-coloured, heavily spotted with purple.

A cross between C. ciliolare, seed parent, and C. bellatulum, male parent. Raised by Mr. Ayling, gardener to A. J. Hollington, Esq. (See *Gardeners' Chronicle*, May 18, 1895, p. 626, col. c.)

and others, furnished with their drooping flower-spikes. Many specimens of Dendrobium Phalænopsis Schroderianum and Vanda Sanderiana thrive well in this division, and give promise of much bloom in due season. The adjoining house contained a collection of fine Odontoglossums and other inmates of the cool-house, the specimens of O. crispum being well furnished with blossoms. Overhead were suspended very healthy dwarf species of Masdevallias, and amongst them M. Courtauldiana.

The older range of glass-houses have each the class of Orchids for which they are best adapted, and in some cases the wall at the back is covered with Asparagus plumosus, with Orchids mingled with foliage Begonias, and other kinds of plants which

do not harbour insects. Each house is named after one of the ships which the admiral has commanded, and some of them are decorated with mementos which have travelled thousands of miles over the seas and been present at strange scenes. The first house has a collection of Dendrobium with some of the dwarfer Brazilian Cattleyas, suspended overhead being some plants of C. Walkeriana nobilior in flower with two to three flowers on a spike. Here also Miltonia Phalænopsis thrives well hung from the roof. The next house has Cattleyas, among which C. Rex is sending up flowers. Here as in several of the other houses are some fine plants of Cymbidium

Fig. 91.—CYPRIPEDIUM STONEI, VAR. PLATYTÆNIUM.
(See Report of Temple Show, p. 662.)

Lowianum. In another house were noted in flower plants of Dendrobium chrysanthum and Saccolabium ampullaceum ; an adjoining house, a good show of varieties of Dendrobium infundibulum, D. fimbriatum oculatum, a plant in flower of D. × Venus, and other Dendrobiums; Odontoglossum crispum, O. cirrosum, O. Andersonianum, O. luteo-purpureum, Miltonia Roezlii, Lycaste Deppei, were remarked.

CATTLEYA ACKLANDIÆ.

It is now more than fifty years ago that this showy species was first imported from Bahia, and even at this day is not a common plant. Like several of the other Orchids, such as Dacrium (Epidendrum) bicornutum, which in their native habitats enjoy the sea-breezes, its culture may be said to have never been mastered in gardens generally. A very fine and distinct form of it, with broad sepals and petals, almost wholly of a dark purplish-chocolate hue, and scarcely displaying the intervening olive-green ground colour usually seen in flowers of the species, comes from H. Brittan Evans, Esq., Pembroke Road, Clifton. The contrast between the dark sepals and petals and the fleshy purple column and purplish-rose labellum renders it a striking flower; it is, moreover, very fragrant.

DENDROBIUM FARMERI AUREO-FLAVUM.

Plants bearing this name are not uncommon in gardens, but they are almost invariably either D. densiflorum or D. Griffithianum. The inflorescence of the latter closely resembles that of the true D. Farmeri aureo-flavum, but its irregular pseudobulbs and dark green leaves of a thick whalebone-like texture conclusively distinguish it from D. Farmeri. The true plant, which is extremely rare, has just flowered with F. E. Marshall, Esq., M.A., at Newlands, Harrow-on-the-Hill (gr., Mr. Page). It is in every respect like a typical D. Farmeri, and has similarly thinnish leaves, but the flowers are light yellow, with a darker yellow labellum. Mr. Page has had the plant some time, and it is supposed to have arrived as a small scrap in an amateur importation from India.

CATTLEYA GIGAS VAR. FRANCONVILLENSIS, *H. Williams.*

Sepals and petals pure white, lip undulate, rosy-lilac, edged with white, and with two yellow blotches near the base. Flowered in the collection of the Duc de Massa. *Orchid Album*, t. 505.

CYPRIPEDIUM CONCO LAWRE, *Lawrence.*

A hybrid between C. concolor and C. Lawrenceanum. *Orchid Album*, t. 506.

SCHOMBURGKIA HUMBOLDTII, *H. S. Rchb. f.*

Racemes erect, many flowered. The perianth 2½ inches across, segments oblong, rounded, white, flushed with rose; lip convolute at the base, anterior lobe flat, rounded, notched, rosy-lilac, with a yellow blotch in the throat. *Orchid Album*, t. 507.

CYPRIPEDIUM CHARLESWORTHII, *Rolfe.*

Orchid Album, t. 508.

THE DEVELOPMENT OF PLANTS.

(Continued from p. 612.)

As regards the vegetable kingdom, the phenomena of variation run precisely parallel with those already cited, both as regards gradation and sudden jumps. Bud-sports, however, by which these latter are usually manifested, find no counterpart in the animal kingdom, unless it may be in the unexplored field of the corals and polyps, where new individuals are produced by budding, precisely as in plants, and are presumably subject to the same general laws.

Thanks to the easier manipulation of most plants, and the rapidity with which they reach maturity, selective breeding or culture yields far more striking results within a man's lifetime than is possible in the case of animals. Some of our most highly-modified flowers of the present day—Tuberous Begonias, to wit—have been entirely developed from insignificant, unpromising blooms in about a dozen years; so that from single small flowers of one colour, red, and barely an inch across, we have now hundreds of splendid varieties, single and double, and all tints of red, white, salmon, &c., rivalling the very Roses themselves in everything but the scent, and in some instances measuring 6 inches in diameter. In this case numerous "special creations" have asserted themselves as seedlings. The well-known Shirley Poppies form another example of what can be done through profiting by a natural "jump" of even small extent. A single wild Poppy was noticed by the Rev. Mr. Wilks in his garden as differing in colour from its companions: he marked the flower, sowed the seed, and obtained such varying progeny that in a few years he gave to the world the wonderful variety of single and double Poppies, of all tints, from white through rose to scarlet, and all conceivable delicacies of edge, laciniated and plain, which is now familiar to everybody. There, indeed, was no very obvious specialty at the outset, but what a capacity was lying latent in that little pod, whose flower first caught Mr. Wilks' observant eye!

Few people who visit our flower shows and see the marvellous multiplicity of form and colour which distinguishes the cultivated flora of the present day, have any clear idea of how these results are arrived at. Many, doubtless, imagine that the variety is mainly due to contributions from various parts of the world, where climatal differences induce difference of type—and in some cases, such as Orchids, this is chiefly the case.

*

Of these, the specimens are found growing wild in quantities in the hilly regions of the tropics, where the dangers and difficulties of collection are such that only high prices can repay the importer. Some of the rarest and choicest, however, have been found as isolated "sports," and through such "sports" and their combination by hybridizing, we are indebted for a good number of the most valuable forms.

With regard to the bulk of florists' flowers, such as Roses, Chrysanthemums, Dahlias, Pansies, Auriculas, &c., spontaneous "sports" have played an important *rôle* in the development of all of them. In these cases it is not merely that unexpected variations have made their appearance among the seedlings, which may arise through reversion or crossing by alien pollen; but frequently wide departures from the normal have originated through simple buds on the parent plant, branches resulting which bear leaves, flowers, and fruits of highly modified character, and permitting of propagation by cuttings, or even seed, though that is rarely to be depended upon in such cases. A red Rose, for instance, has sent up a sucker bearing pure white Roses; and this being severed for propagating purposes, another bud from same points gave a striped Rose. Ordinary dwarf bushes have produced long rambling climbing branches, plain Roses have yielded Moss Roses, the double pink Hawthorn produced a branch of intense double crimson, and a Peach tree forty years old has suddenly taken into its head to bear a crop of Nectarines. In such cases as these, we have obviously something far more striking to deal with than the minor variations upon which breeders chiefly have to depend. There is no intermediate stage, and no theory has ever been formulated to account for the phenomena; all we know is, that some subtle change takes place in the bud which implants hitherto unknown characters in it and its progeny, and usually establishes these permanently.

The field of natural science is so immense and inexhaustible, that the normal forms of life monopolise almost entirely the research of the scientist, and there is far too great a tendency to stigmatise the abnormalities as mere "monstrosities." We are, however, convinced that in the long history of evolution, the "sports," or "special creations" of our theme, may have largely contributed to diversity of type as well as the slow moulding of changing environment. Innumerable "sports" have doubtless occurred, only to be destroyed because the environment was antagonistic; but some have certainly been in the right direction, and who shall say that strongly-marked individuals with such prepotent powers as existed in the otter-ram and Niata cattle might not be capable, in a very short time, in entirely supplanting the previous normal type and establishing a new race without any apparent link whatever. "Sports" may be constitutional and not merely of outward form; given, therefore, a great and favourable modification of the brain of one of the higher Simians, add prepotency, and a conquering race might arise and flourish, and call itself Homo when the time came.

In fine, grant that Nature can and does act occasionally *per saltum*, and our search for missing links is at an end.

* * * * * * *

Since writing the foregoing, my attention has been drawn to the Marquis of Salisbury's address to the British Association at Oxford in August last, in which it is assumed that such a suddenly modified breed as I have indicated, could not continue in existence unless the extremely unlikely contingency arose of both a similarly-modified male and female originating simultaneously and meeting at maturity. It appears to me, however, that such prepotency, as undoubtedly occurs in males, and did indeed occur in the curious Niata and other breeds of cattle and sheep, destroys this objection entirely, by doing away with the need for a similarly-varied partner. If the influence of the male is strong enough to obliterate the normal female type in the offspring altogether, the second generation may yield not only males and females of the pure modified type, but these may be the progeny of various females, the evil effects of constant in-breeding being thus eliminated. That no record exists of such cases having been followed up, is no argument against their possibility, while in the vegetable kingdom a good parallel case of the establishment of an abnormal form, and consequent ousting of the normal, has come under the writer's personal notice, and was duly recorded several years ago.

There is a long stone-wall in Dartmoor, a few miles from Holne Chase, which for many yards was, and probably is, densely covered with an abnormal caudate and depauperate form of Asplenium adiantum nigrum. Both ends of the wall are covered with normal plants of that species, but in the middle portion the writer could not detect one normal plant among the many hundreds of very dissimilar ones, the inevitable presumption being that the abnormal form can not only hold its own, but has some advantage over the normal, which enables it to oust it. The abnormal type is quite permanent under culture, and cannot possibly be attributed to local influences. This caudate form has been found nowhere else, and as this species has no creeping rhizome which would enable a single individual to spread and cover the wall, we must assume that a single "sport" occurred, the spores of which yielded a large number of individuals of same type which gradually dispossessed the normal, and took its place. This, be it observed, has occurred entirely under natural conditions, and without the interference of the "breeder," who, in the address before us, is considered essential to the perpetuation of any suddenly originating abnormal type. Such a case as this, which is quite open to verification, demonstrates at any rate the possibility of new forms becoming permanent types by natural selection only, a very wide difference thus suddenly originating which would demand an immense period of time, were the slow and imperceptible changes of ordinary natural selection alone in question. *Chas. T. Druery, F.L.S.*

A BRIGHT CHURCHYARD.

It is pleasing as we pass to and fro to meet with a well-kept churchyard, such as it was my privilege to come across the other day at Rouse Leach, an out-of-the-way place in Worcestershire, about seven miles from Evesham and six from any railway station. Not only was it adorned with bright and charming flowers, but well-grown Conifers and the traditional ancient Yew, beneath the shadows of which

"The rude forefathers of the hamlet sleep."

Passing from the entrance-gate to the church-door, the path on each side is skirted with a broad border, and on the day that I walked through the village (May 2) it was one glowing mass of Tulips, all in the highest state of perfection. I paused for a moment, as it was impossible to pass along without staying to enjoy the rich repast for the eye that had been so generously placed there for the enjoyment of everyone who visits the precincts of the sacred place. Amongst the Tulips I noticed such good sorts as Keizerskroon, La Candeur, Rex Rubrorum, and others, all useful for spring bedding, and such as are calculated to produce a grand and imposing effect. Near the church-door were other beds of Tulips, and here and there several of the graves were all a-glow with them. Many of the head-stones were covered with climbing Roses, neatly trained, though not too stiffly, but just sufficient to harmonise with the high keeping of the churchyard. At each side of the entrance-gate there was a fine pair of specimen Thuia gigantea and Libocedrus decurrens, full of foliage, and feathered down to the ground. At each side the church-door were two Thuia aurea, or Biota orientalis lutea or aurea, clothed with a sheen of golden-yellow, of fine symmetrical shape, and perfect in contour. From the opposite end of the church to the entrance into the park was an avenue of Cupressus Lawsoniana erecta viridis. Dotted about in other parts of the churchyard were noble specimens of Retinospora plumosa in variety, Abies Nordmanniana, Irish Juniper and Chinese Juniper, Thuiopsis borealis, Araucaria imbricata, and a noble specimen of Cryptomeria elegans. The walks and the grass were kept scrupulously clean and neat, the graves all uniform, and of the same height and shape, the grass closely shaven. *Quintin Read.*

SCOTLAND.

STRAWBERRIES AND THE FROST.

The past winter was the most severe known by the oldest inhabitant in Stirlingshire, and there being no snow at any time during the winter, plants were quite unprotected. We expected to find numerous deaths, but few plants have succumbed, although they may, as they often do, exhibit signs of distress as the season advances. Choice and common species of shrubs which appeared quite green till sun became powerful, are now brown in the foliage, and, I think, dying. Vegetables in the open were generally destroyed in most gardens. Strawberry plants are at present in as fine condition as I ever saw them; the foliage robust, and flowers in abundance, although for nine or ten weeks nothing was to be seen but brown dead leaves, and the plants seemed to have no life left in them; at least such was the case when I visited gardens in this county, Forfarshire, and Perthshire. While on a visit to Ayr, by the "Banks and braes o' bonny Doune," I noticed that even in that favoured district many things (Strawberries among them) had suffered severely. At a large gathering of the Ayrshire gardeners, most of them had a woeful tale to tell regarding their weather experiences.

I put no litter or protection of any kind over or among my Strawberry-plants, thinking that on damp, tenacious ground, they are better without it; and certainly it has been so this year. I have wondered how those plants have fared which are dug between the rows, and coatings of manure are turned in. The plants get, especially in southern England, gross young foliage, which I fear would not be matured sufficiently to withstand the hard frost experienced in 1895. In Scotland, the Strawberry crop bids fair to be one of the best which we have had for some years past; President, Duke of Edinburgh, Vicomtesse Héricart du Thury, Aberdeen Favourite, Rivers' Eliza; and, on sloping ridges, John Ruskin and Black Prince have done admirably. British Queen, and varieties raised from that excellent variety, have suffered somewhat.

Strawberries in pots for forcing never wintered better than they did here this season. A few hundreds of the earliest varieties, viz., John Ruskin and Black Prince, in order to have ripe fruit at the end of the month of February, were kept under glass throughout; but President, Vicomtesse Héricart du Thury, Garibaldi, and Duke of Edinburgh, plunged in fine ashes to the rims of the pots stood the winter capitally, not a plant being injured—although from the end of the year and for ten weeks onwards the pots were encased in ice, the frost penetrating to a

depth of 2 to 3 feet. When successions of plants had to be taken in to be forced, they had to be thawed in sheds or other places. When prepared for forcing, it was found that the roots were white and healthy, and the pots almost bursting with them. The plants have done well; flowers and new foliage were thrown up in fine form. Especially good is President. It is many years since I forced Black Prince, but it certainly is the earliest I have ever tried, and a certain fruiter. Though small, it is very preferable to John Ruskin, which is a most insipid Strawberry when forced; it is handsome and prolific, but wanting in flavour.

Golden Elder, and it may be seen at a long distance. There can be no doubt its being a perfectly hardy plant, and being assured of this, we have planted in a cold position in Forfarshire a number of trees of about 9 feet in height. The tree does well at Carron in Stirlingshire, where trees have been planted some years. Our plants were presented to us by the late Mr. Downie, who had a goodly stock of this tree in his nursery. *M. Temple, Carron.*

Cycads in the Edinburgh Botanic Garden.

When the alterations in the Palm-house were completed in 1893, it was decided to group the Cycads in one of the beds under the annexe where an abundance of light would be obtained, and where they would be seen to advantage. The space now occupied by them is about 60 feet in length, and 12 feet in breadth. The bed has about 2 feet depth of drainage composed of broken stone, and above this was placed a layer of fibry turf, the bed afterwards being filled with good loam to a depth of about 3 feet 6 inches. Previous to this time the plants had been in varying houses, the majority in a greenhouse temperature, where very little growth was made. In removing them into their present positions, care was taken to leave the old ball undisturbed as much as possible, the tubs being removed after placing them in position. By some specimens three heads of leaves have been formed, while all of them have made fresh leaves, and it is necessary to allow more space to prevent overcrowding. By grouping the plants in this manner, not only are the characteristic differences of the genera and species more clearly seen, but their cultivation is simplified, and water can be supplied or withheld as required. Among the most prominent of the group is a fine plant of Cycas Riuminiana, a rare species, and a native of the Philippine Islands. The leaves are about 5 feet long, the pinnæ having wavy margins, and the stem somewhat resembling those of C. circinalis; this plant is a female, and flowers frequently. The male and female forms of

Fig. 92.—Clematise Countess of Onslow.
(See Report of Temple Show, p. 660.)

Reverting to the storing of Strawberries in pots for forcing, I have always thought that when the roots were kept dry, or the plants coddled, such was contrary to their well-being. Some Strawberries may not stand so long and severe an ordeal as that of this year, when the thermometer went down to zero; but I have never known any to be destroyed by frost if the roots were protected in some way. Thorough ripening of the growth prior to forcing is a matter of primary importance. *M. Temple, Carron, Stirlingshire.*

Corstorphine Plane.

Among shrubs with golden variegation I have seen none that surpass the Corstorphine Plane, Acer pseudo-platanus, it being of a more decided tint than

C. revoluta are represented by fine plants. C. siamensis is worthy of being more often seen, and is a very free grower. A more slender plant is C. media, an Australian species, with short spines upon the petiole, between the lower pinnæ and the stem. Encephalartos pungens is a noble plant, with a crown of foliage 10 or more feet across. The margins of the pinnæ are armed with short, sharp spines. E. Lehmanni and E. horridus are very similar in habit and appearance, both possessing leaves with a waxy covering of a rather blue-slate colour, the latter armed with numerous formidable points at the ends of the pinnæ. E. Hildebrandtii is a much different plant, with dark green foliage, and a more erect habit. The Macrozamias all do well, the long leaves of M. Perowskiana rising above the

others, and forming a good background. The short, thick stem of M. Fraseri, and its rather twisted leaves, make the plant a conspicuous object; while M. Moorei is a very pretty border-plant with slender leaves. The Australian Bowenia spectabilis forms a pretty specimen, with its long, erect petioles and branching pinnæ. The variety B. spectabilis serrulata has serrated margins. A female form of Stangeria paradoxa annually produces its stalked cone, which on account of its appearance has been called Hottentot's-head; the leaves are very large, and have a less stiff habit than the majority of the Cycads. The Dioons from Mexico are well-known plants, especially D. edule, with its rather flattened leaves, and very sharp-pointed pinnæ. D. spinulosum is among the most handsome of all, and has erect leaves, which give the species a most distinct character. The genus Zamia is a comparatively large one, several species of which are said to be in use by the native in the preparation of a kind of Arrowroot. Z. furfuracea is one of the best known. Z. Lindeni is a distinct species, with a small, erect stem, shorter leaves, and broad, veinless pinnæ. The number of species in cultivation is not numerous; indeed, it is only in a few gardens, such as Kew, that a fairly representative group of these interesting plants can be seen. *R. L. Harrow, Edin.*

THE LUCOMBE OAK.

This Oak, now very plentiful in the west of England, and fairly so throughout the country, has fared rather badly around Exeter during the late frost. Specimens of it here and there show evident signs of suffering, although they are gradually coming round. It is about 130 years since it was raised by William Lucombe at Exeter, and by a remarkable coincidence, the original tree, which stood at the entrance to his nursery, died in the year that the old firm of Lucombe, Pince & Co. merged into the Exeter Nurseries Company of to-day. Loudon in his *Derby Arboretum* (1840), describes the variety as "Quercus Cerris Lucombeana, sub-evergreen; and closely resembling Q. Cerris fulhamensis (the Fulham Oak)." Its origin having often been called in question, the following, which is, in all probability, the first published description of it, may be interesting:—

"*Account of a new and singular species of Oak.*
(*In a letter from John Zephaniah Holwell, Esq., F.R.S.*)
Exeter, Feb. 24 [1773].

"Sir,—In my rambles through this city, I have been tempted to visit the nursery of Mr. William Lucombe, of St. Thomas, on the report of a very extraordinary and new species of Oak, first discovered and propagated by that ingenious gardener; and as this plant appears to me capable of proving an inestimable acquisition to this kingdom, I cannot resist the desire I feel of communicating to you some particulars relative to its history and character.

"About seven years past, Mr. Lucombe sowed a parcel of acorns, saved from a tree of his own growth, of the iron or wainscot species. When they came up, he observed one amongst them that kept his leaves throughout the winter. Struck with the phenomenon, he cherished, and paid particular attention to it, and propagated, by grafting, some thousands from it, which I had the pleasure of seeing, eight days ago, in high flourishing beauty and verdure, notwithstanding the severity of the winter. Its growth is straight, and handsome as Fir, its leaves evergreen, and the wood is thought, by the best judges, in hardness and strength to exceed all other Oak. He makes but one shoot in the year, viz., in May; and continues growing without interruption; whereas other Oaks shoot twice, namely, in May and in August.

"But the peculiar and inestimable part of its character is, the amazing quickness of its growth, which I imagine may be attributed (in some degree at least), to its making but one shoot in the year; for I believe all trees that shoot twice are for some time at a stand before they make the second.

"I had the curiosity to take the dimensions of the parent tree (seven years old), and some of the grafts the first measured 21 feet high, and full 20 inches in the girt; a graft of four years old 16 feet high, and full 14 inches in the girt; the first he grafted is six years old and has outshot his parent 2 feet in height. The parent tree seems to promise his acorns soon, as he blossoms, and forms his foot-stalks strong, and the cup upon the foot-stalk with the appearance of the acorn, which, with a little more age, will swell to perfection. This Oak is distinguished in this country by the title of the Lucombe Oak. His shoots in general are from 4 to 5 feet every year, so that he will, in the space of thirty or forty years, outgrow in altitude and girt the common Oak of a hundred. I have a walking-pole full 5 feet long, a side-shoot from one of the grafts, only a year and a half old. From the similarity of the leaves of this Oak to those of the iron or wainscot Oak, it appears to be a descendant from that species, though it differs from it in every other particular. Several gentlemen round this neighbourhood, and in the adjoining counties of Cornwall and Somerset, have planted them, and they are found to flourish in all soils. *Phil. Trans.*"

AMATEURS' COLUMN.

HARDY FLOWERS FOR AMATEURS' AND VILLA GARDENS (*continued from p.* 520).—In my last paper I referred to the Aubrietias as forming a class of highly-ornamental spring-flowering plants, and now I wish to say a little about the old-fashioned Arabis, or Rock-cress. Of this we have several useful and distinct varieties. The most useful are Arabis albida, a native of the mountains of Greece, Southern Russia, and many other adjacent regions, A. albida variegata, and A. lucida variegata. Unless we wish to grow a number of sorts for some special purpose, the last-named will be found ample for all spring-flower garden arrangements. Arabis albida is a most useful plant for rockwork, and when it can be so arranged as to fall gracefully over the rough stones, it is quite at home. Arabis lucida variegata has very bright foliage, and is the best of the variegated Rock-cresses. It is at home in almost any position—as a rock plant, an edging to beds of dwarf shrubs, or associated with other plants in the flower garden. Being naturally a rock plant, it flourishes in dry situations, and where the ground is wet it will soon dwindle and die. Generally, the Arabises begin to bloom by the middle of February, or at least early in March, but this season it was the first week in April before we were delighted with their snow-white blooms in quantity. For many years I have grown A. lucida variegata by the hundred, and I have planted it in every form that imagination can invent, and everywhere it is ornamental. It is effective mixed with the Aubrietias, the latter to form the centre of the bed, and the Arabis for an edging—and it also makes an excellent bordering to beds on grass when the centre is planted with something either with dark foliage or dark flowers; its variegated leaves form a striking contrast between the grass and the colour of the other plants and flowers. I have frequently used it as an edging to dwarf dark Wallflowers, and whether in flower or not, combined with the latter it has always formed a pleasing feature amongst other flower-beds. It can be propagated by cuttings struck in a shady border, and also by pegging down the long strings which are terminated by a tuft of foliage—these will take root freely, and make good plants by the autumn; they may also be divided during the early part of the winter, and where spring gardening is carried out, when they are removed from the beds in the spring. If, however, the weather sets in dry, they must not be stinted for water. Although the Arabis is such an accommodating plant, if we wish for fine masses of bloom, I would rather not divide them in the autumn.

Alyssum saxatile compactum.—This is amongst the most valuable and the most beautiful of spring flowers. They are of a bright yellow, and they mix well and produce a grand effect in combination with Aubrietias and blue Pansies. It is perfectly hardy, and this, combined with its profusion of brilliant flowers, and its adaptability for any situation or soil, renders it one of the most popular of spring flowers. It is not only adapted for spring bedding, but it is equally at home in the mixed border, or associated with choice rock plants; it grows about 8 inches high, and makes a capital centre for a round bed when bordered with a plant with dark flowers. In a dry soil and warm situation, it will begin to bloom early in April, and continue more or less till the end of May. It, however, produces the greatest display in ordinary seasons, through the latter part of April and the month of May, when its rich trusses of golden blossoms come out in great profusion. It is of easy culture, and though it delights in a rich, light, sandy loam, yet will do well in any soil or situation. Although it is so useful in the spring garden arrangements, there are other positions where it shows itself to great advantage. Bold clumps on rockwork produce a telling effect; nor is it out of place on any bed of any shape, but to bring out its glorious golden colour to perfection, it should be planted in a circular bed and edged with one of the Aubrietias, which would be quite equal to a bright bed of the yellow Calceolaria, edged with blue Lobelia, any time during the summer. It is best propagated by cuttings under hand-lights, or bell-glasses placed in a shady situation, the cuttings to be taken when growth has fairly started and the bloom is fading; or it may be increased by sowing seed any time in early spring, just the same as I have previously described for tender annuals. As I have just stated, it is a grand plant for the rockery or mixed border, but when used as a spring bedding plant, it will have to be moved from the flower beds about the third week in May, and planted in nursery beds in the kitchen garden, where they remain until they are again required in the autumn. When once a stock is obtained, very little propagating will be required, as the same plants will bloom from year to year, and will flower more freely than newly-struck cuttings. However, in the course of time, the plants become leggy, and are not quite so compact as younger stock; it is, therefore, advisable to strike a few plants annually, or raise a few from seed, in order to keep up a healthy, ample stock. It is found in Eastern Europe, Transylvania, and at Pedolia in Southern Russia, and is popularly known in France by the name of Gold Dust.

Hepatica.—Though we have but few species and varieties of this charming spring flower, yet it is amongst the most valuable, and should be included in every collection. All the species bloom early in spring, indeed they are amongst the first to cheer us with their bright and beautiful flowers. They are not grown so extensively as they deserve, but odd clumps may be found occasionally in gentlemen's as well as cottage gardens. For the embellishment of the rockery, and the ornamentation of beds and borders, few plants can compare with the Hepaticas, especially when they are intelligently managed. They enjoy an open porous soil; anything bordering on stagnation is fatal to their well being. A position of partial shade is a necessity, for when much exposed to the full force of the sun, the foliage soon assumes a dingy appearance. They are increased by division, which operation should be performed early in the autumn when the foliage is fully ripe. When growing on the rockery or amongst herbaceous plants, they are best left undisturbed, though like some other subjects in the flower garden, in a few years the crowns rise too high above the ground, therefore should be carefully taken up and replanted. The Hepaticas are worth a little careful attention, and when this is given, they reward the cultivator with a profusion of their lovely flowers. The two leading sorts are Hepatica angulosa, and H. triloba. The former, the five-lobed Hepatica, is the more beautiful, producing dense masses of bright blue flowers, though it is not so well known as the more common variety, H. triloba, the three-lobed Hepatica, which is found in many small gardens, and is a native of continental Europe. *R.*

(To be continued.)

APPLYING PLANT FOOD.

A bulletin of the Cornell Experimental Station says that, in a general way, the following rules may be of some aid in applying plant food, under ordinary conditions: Reclaimed lowland that is rich in vegetable matter, is likely to be also rich in nitrogen, but deficient in phosphoric acid. Well-drained high-lying land, particularly on exposed situations, is more likely to be deficient in nitrogen than in phosphoric acid. Where crops have made a small growth of leaf or stalk, under otherwise favourable conditions, nitrogen is likely to be deficient in the soil. When plant maturation is conspicuous rather than luxuriance of stem and leaf, it would indicate

in the soil an abundance of phosphoric acid and potash, and a comparative deficient amount of nitrogen. An abnormal development of leaf or plant stem, with but little tendency to seed formation, would indicate an abundance of soil nitrogen, and an insufficient amount of phosphoric acid and potash.

As a rule, plants having the greatest leaf development require the most potash as food. Farmyard and stable manures that have been well preserved contain about twice as much nitrogen as phosphoric acid, and, consequently, soils that have received recent liberal applications of these manures are not likely to be deficient in the ingredient nitrogen. High-class commercial fertilisers generally give more plant-food for their cost than those of low grade. Pure nitrate of soda (Chile saltpetre) in 100 lb. contains 16 5 lb. of nitrogen. Pure sulphate of ammonia in 100 lb. contains 21·2 lb. of nitrogen. Pure chloride or muriate of potash in 100 lb. contains 63 5 lb. of actual potash. Pure sulphate of potash in 100 lb. contains 54 lb. of actual potash. Kainit salt should contain in 100 lb. about 12·5 lb. of potash, and 10 lb. of magnesia. Pure phosphate of potash should contain in 100 lb. 32 5 lb. of actual potash, and 37·5 lb. of phosphoric acid. Nitrate of potash contains in each 100 lb. about 12 7 lb. of nitrogen, and 45·2 lb. of actual potash. More than 300 analyses of wood-ashes gives a mean result in each 100 lb. of dry ashes by weight of 5·3 lb. of potash, 1·5 lb. of phosphoric acid, 33 lb. of lime, and 3 lb. of magnesia. The best results from nitrate of soda, sulphate of ammonia, and all similar concentrated fertilisers are secured by frequent applications of small amounts to the growing plant given as a top-dressing. *J. J. Willis, Harpenden.*

BELGIUM.

M. PEETERS' ORCHIDS AT BRUSSELS.

We noted in bloom, at a recent visit, a fine Cattleya intermedia alba of a very pure dull white colour; Lælio-Cattleya Ascania from C. Trianæi × L. xanthina; the old and rare Oncidium monachicum, very free-flowering; Epiphronitis Veitchi (Sophronitis radicans × Epidendrum vitellinum); some fresh blooms on Odontoglossum crispum guttatum; Masdevallia Veitchi, Prince de Galles; and many fine specimens of Miltonia vexillaria and M. Bleuana.

MEETING AT GHENT ON MAY 5.

Among the novelties staged I must mention a seedling Anthurium, sent by the Ghent Horticultural Society, with a very fine, pearly, ivory-white spathe, and of a good shape; Begonia Stephaniæ (B. fulgens × Pearcei) and B. velutina, from the same parents, both very pretty; B. M. Louis Cappe, and Scolopendrium scalariforme, a peculiar Fern, came from M. L. De Smet-Davivier; Dracæna indivisa Leopold II., with very elegant rosy leaves, is a novel and excellent plant, sent out by M. Ed. Pynaert Van Geert; as is also the Strawberry Souvenir de Madame Struelens, which, when forced, yielded a satisfactory crop when other varieties, grown under the same conditions, were still unripe.

M. Jules Hye staged a splendid Miltonia vexillaria Hyeana, striped, and dark rose-coloured; also a M. vexillaria alba, which was almost white.

Some fine plants won Certificates for cultivation and blooming, as, for instance, Rhododendron Mdlle. Marie Van Houtte, from M. Em. de Cock; the graceful Cocos Weddeliana, from MM. Duriez Frères; Smilax argyrea, from M. Petrick; Rhododendron Lindleyi, from M. Desbois and a fine specimen of the magnificent Phœnix reclinata, from M. Em. de Cock.

MM. DURIEZ' FERNS.

MM. Duriez Frères at Wondelghem, Ghent, have some pretty herbaceous Ferns, notably Dictyogramma japonica fol. var., a plant sure of a good future; Adiantum macrophyllum fol. var., much to be recommended; Asparagus scandens deflexus is covered with minute white flowers; A. plumosus cristatus is an exceedingly pretty plant; Blechnum brasiliense, on a stump is difficult to grow, but there is a fine specimen here. *Ch. de B.*

NURSERY NOTES.

MR. H. J. JONES' PELARGONIUMS.

What may be the reason why such uncommonly showy plants as the Cape Pelargoniums meet with comparative neglect now-a-days is not plain. It may be due to that desire for change merely which has frequently caused the gardener, as well as many other persons, to regard with favour a less worthy object than the one which they have ceased to admire or care for. Whatever the reason, it is noticeable that in many gardens a good collection of Pelargoniums is absent, and again in others where the plants may be found, they are frequently but indifferently cultivated. Yet the show varieties have not lost their popularity with the market grower, for the writer has recently seen thousands of them under glass in the neighbourhood of Tottenham, Broxbourne, and other centres of market establishments, exhibiting such cultivation as it would be difficult to surpass. The fancy varieties have been banished much more effectually than the others, so that but for the excellent exhibits made annually by Mr. C. Turner, of Slough, we might search long for an example.

FIG. 93.—SEEDLING STAGE OF CUPRESSUS.

Three or four years ago the culture of the show, regal, and decorative sections for commercial purposes was commenced by Mr. H. J. Jones, of Ryecroft Nursery, Hither Green, Lewisham, who, although it is but a few years since he took the nursery, has already made a reputation in the Chrysanthemum world. An excellent show may now be seen at this establishment, consisting of a numerous collection of well-cultivated, profusely-flowered plants, of a strain with considerable constitution, producing numbers of large bright flowers, but devoid of the neat prim character peculiar to the florists' varieties. They are a decided improvement upon the old kinds, especially in the matter of habit, as only a minimum amount of tying is required, compared with what used to be necessary in order to get a good plant.

The best of the varieties are those enumerated below, most of which are new, but others have been in commerce several years:—Mr. H. J. Jones is only comparatively new, but it is a sterling variety, with dwarf, close habit, very free in flower; the colour of the blooms is rosy-pink, the upper petals marked with chocolate, and the flower is 3 inches across. The name of Mrs. H. J. Jones has been given to a variety, also bearing large flowers: they are nearly white, and have scarlet markings on the upper petals. Jubilee is a pretty flower, flushed with rose, and heavily marked above. A very similar variety, but having a rather taller habit, and better bloom, is Rose Queen. Mr. E. Boyes is rose-coloured, with scarlet feathering, and heavily blotched. May Queen owes much of its attractiveness to a pretty white eye, and it is very free. Another pair are named after Mr. H. M. Stanley and Mrs. H. M. Stanley respectively; the former flower is very pale lilac, very distinct; the latter has lower petals of light scarlet-lake, the upper ones much darker. Edward Perkins has been known some time, but is deserving of mention, by reason of its extraordinary bright scarlet flowers. Eucharis is the name of a very pure white flower, with purple style, the petals open very wide, flower almost flat, like the zonal varieties. Mrs. W. Wright has a large flower of good substance; the lower petals are faintly blush, upper petals purple. A high-coloured flower of much merit is Rose Bard. Empress of India, Sir T. Lawrence, and Prince Henry are all very good.

In one large house there is a grand lot of Ivy-leaved plants in variety, which should give a rare display of bloom in a short time. The plants are now in 6 and 7-inch pots, and look very well. Souvenir de Chas. Turner, Beauty of Castle Hill, Lamartine, and Madame Thurvin are amongst the best sorts. Ryecroft Surprise is an excellent double flower of salmon-pink, a variety raised from Madame Thibaut and Souvenir de Chas. Turner; several of the varieties, including the last-named, are as suitable for growing in pots as for trailers. The best trailer even now appears to be Souvenir de Chas. Turner. A house full of seedling Begonias, just breaking into flower, is carefully watched, and it is expected that a strain, with extra erect blooming habit, will be obtained from them. Of the Chrysanthemums all that can be said at this early date is, that the plants could not look more promising than they do at the present.

VARIATION.

Now that the question of variation, whether innate, or induced by cross-fertilisation, is so much discussed, it is well to bear in mind the great variation that exists in the same plant in the different stages of its growth. In fig. 93 is shown a seedling plant of a Cupressus, with the primordial leaves linear and spreading, and the adult leaves small, densely packed, and overlapping. The primordial leaves usually disappear after a time, but in some of the Cypresses, Thuyas, and Junipers, they remain intermingled with the adult foliage. Again, these peculiar leaves sometimes assume a more or less permanent character, and, indeed, are the only form of leaf produced by the bush, as in the case of the so-called Retinosporas, which are all merely stages of growth of some of the genera we have mentioned. That this is so is amply demonstrated by watching the development of the plants, and by the numerous intermediate forms that may be observed. We do not suppose that any one now will contend that these primordial leaves are the result of intercrossing. At one time Thuya filiformis was considered to have originated in this way between Juniperus virginiana and a Thuya. The true plant is now, however, well known to be a growth-stage of Thuya (Biota) orientalis. Whether these primordial leaves are the survivals of ancestral forms is another matter. Certainly they resemble the foliage of some of the primæval Lycopods.

PLANT NOTES.

MYOSOTIS ALPESTRIS VICTORIA.

This, when true, is not only very distinct, but in many important respects is to be preferred to M. alpestris, the type variety, or to M. dissitiflora. The colour is a bright, telling, azure-blue, with a well-defined, bird-like eye. The flower has ten petals. In habit it differs more than in anything else; for, instead of being sprawling, the plant forms a neat clump, with upright, well-clothed branches, carrying the flowers clear above them, and in a corymbose or cluster form. For rockery-work it is charming. Botanically it is specially interesting, see fig. 94, and also p. 159, vol. x., 1891. *A. H.*

Veronicas.

The shrubby species of Veronica are useful and attractive plants during the autumn, winter, and early spring months, the spikes of flowers of various shades of blue, purple, and crimson, showing boldly above the glossy oblong coriaceous foliage. The plants are, moreover, nearly hardy, and survive all but the hardest winters if planted in sheltered situations out-of-doors in Wales, and in the south and south-western counties of England and in Ireland. A well-grown bushy plant is an admirable embellishment for a portico or for the cold greenhouse during the colder parts of the year. The variety Blue Gem is dwarf and free-blooming, with light blue-coloured flowers and small foliage; Bolide has red flowers and a good habit; Celestial has sky-blue flowers with white centres, free and of good habit; Crème-et-Violette, bushy habit, producing flowers of a flesh-pink, clear mauve at the base; Marie Antoinette, is a free-flowering pink; salicifolia has willow-like leaves and flowers of a light blue colour; Hulkeana has spikes 18 inches in length of creamy-pink flowers; Andersoni has large, dark-green foliage, above which the spikes of blue and white flowers show well; Diamant has flowers of a deep red colour, darker in the centre; Eveline is of good habit, and produces fine spikes of flowers of a pretty shade of rosy-lilac; Reine des Blanches, pure white.

Cuttings of these Veronicas if taken off two joints in length, soon form roots in heat. When rooted, gradually harden them off, afterwards planting them in a south or west border in a compost of five parts sandy loam and one of leaf-mould, making this firm round about the roots; a space of about 1½ feet should be allowed between the plants. The young growths should be pinched two or three times during the summer months to make them branch, and water afforded at the roots when the soil is dry. Early in September, the plants should be potted up into pots of a suitable size, using the compost indicated. *H. W. W.*

Honesty (Lunaria biennis).

This well-known spring-flowering biennial has shown a wonderful recuperative power after the past winter. Nothing could have looked worse than some patches of these plants; they appeared hopelessly killed, but as soon as the thaw was succeeded by growing weather, signs of growth were put forth from what seemed to be simply rotten stumps, and fine heads of flower have resulted. As a matter of course, the quantity of bloom is not so great as if the heads had not been partly destroyed by the frost; still, the quantity is remarkable when one thinks how utterly hopeless the plants appeared. I have now patches of three distinct varieties—the fine reddish-purple or early crimson, the ordinary purple, and the white, and they are all very effective in patches. Occasionally, plants come flaked purple and white, and they assist to make variety, but it is well not to seed from them, if the colours are to be kept true. Honesty is best sown where the plants have to flower, because they form large fleshy roots, and the plants move indifferently when they get into size. If transplantation is inevitable, it is best to sow the seeds in a shallow box, and transplant to a well-prepared bed in the open as soon as the plants are large enough. It is almost time the Honesty was taken in hand, and attempts made to improve it by means of selection. It is such a useful and effective spring-flowering plant, that it is well worthy of being taken in hand. *R. D.*

RUSSIAN INDUSTRIES.

A bulky volume has been published entitled *The Industries of Russia*, and dealing with the agriculture and forestry of that country. It was issued from St. Petersburg, by the Department of Agricultural Ministry of Crown Domains, for the World's Columbian Exposition at Chicago, and an English translation, edited by John Martin Crawford, U. S. Consul-General to Russia, now lies before us. It may well be believed that a work dealing with the industries of so large a country as is Russia, contains no mean store of information which should be of interest, not merely to the agriculturists of the districts referred to, but also to followers of this industry in other lands.

It is not possible here to do more than allude to the contents of this work, which comprise careful and statistical papers prepared by various authorities, and dealing with the following subjects: Climate,

Fig. 94.—Myosotis alpestre victoria—hen-and-chickens forget-me-not.

soil, rural population and landed property, systems of agriculture and field rotation, cultivation of the soil, bread-stuffs, grain trade, field produce, Flax and Hemp, gardening, viticulture and orcharding, live stock, rural economy, farming machines and implements, agricultural schools, industrial rural credit, forestry, goods-freights in conjunction with transport statistics, household industry, manufactures from farm produce, fisheries, rural industries of the Caucasus, rural industries and forestry of Turkestan, and administrative measures concerning rural industry. Add to this an abundance of elaborate maps and statistical tables, and some idea of the importance of the work before us may be arrived at.

It is perhaps invidious to make selection from pages wherein there is so much which, if space were less valuable, it would be tempting to transcribe; the following extract however, describing the manufacture of wooden spoons, is inserted as likely to be welcome to our readers, and to show the minuteness of detail evinced in this book.

Wooden Spoons.

"The manufacture of spoons is specially worthy of attention. It is mainly concentrated in the Semenovsk district of the Nishni-Novgorod Government. The principal materials employed in it are Birch wood, supplied on the spot; to a less degre Pine wood, and still less imported Maple wood and Box wood (Buxus sempervirens). More than 7000 persons are engaged in the Semenovsk district alone in this industry. From each load of Birch wood, about 0·1 cubic sagene (1 cubic sagene=343 cubic feet), 400 spoons are made; one workman turning out each day about 180, and the entire number prepared in the district amounting to not less than 126,000,000 a year, and in the production of which more than 30,000 cubic sagenes of Birch wood are employed. The spoons are priced at from six to eight roubles (one rouble = 3s. 2d., *circa*) a thousand. The wholesale spoon trade is in the hands of some ten merchants, and all the products are sent first to the village Gorodets, on the Volga, and thence to Nishni-Novgorod and Ixbit. The Semenovsk spoons are transported to Persia, China, Bokhara, and Kokan. The industry is divided into three principal branches: first, the spoon-makers prepare a spoon in its rough outline, for which purpose they saw the Birch logs into blocks 5 inches in length, split the blocks into halves, and square one of the ends which is to serve as the handle. In this shape such blocks are called "spoon-blocks." The block is next rounded, so that a circular shape is given to the bowl portion; after which, this part is hollowed out, and with a turning-gouge the outer surface is pared, and the inner surface is cut into an oval form, so that, when it has been planed quite smooth, it has already the shape and form of a spoon in the rough. Secondly, when the spoons are in this stage of preparation, the spoonmaker takes his wares to the Semenovsk market, and sells them to a middle man, who, in his turn, gives them into the hands of a turner, who edges off the ball-shaped tip of the handle, and, by way of ornament, makes on the handle a series of bossed spiral lines. Thirdly, the spoons are now subjected to a process of bleaching, that is, their surface is cleansed by means of alum, and a threefold colouring given them, being well dried in a stove after each colouring; they are then coated with varnish, and kept for a night in an air-tight stove, and thus are effectually hardened and seasoned. As is thus seen, an ordinary wooden spoon has, in the course of its manufacture, to pass no less than fifteen times through the hands of three specialists."

FORESTRY.

PROFITABLE WOOD MANAGEMENT.

I read with interest "J. S. W.'s" remarks on this subject in the *Gardeners' Chronicle* of May 11, and while I agree with him that Mr. Mackenzie's estimate—if he made it—of hundreds per cent. of profit on the growth of wood for market is much too large, still I cannot see why British-grown timber, properly selected, properly thinned, and properly attended to in every respect, should not pay landowners. What if it does not pay a present proprietor to plant? He may be turning land otherwise useless—or nearly so—into a source of profitable income for his successor; and in land-owning as in farm-renting, it should be an imperative duty for owners and occupiers to maintain the value of the land. In the case of the owners, they have generally the inducement to maintain their lands in good order by the thought that their own kith and kin will inherit them, and he must be a strange man indeed who would not wish to hand on his estates better and more profitable than he found them. Only those proprietors who care neither for their country's nor for their friends' welfare would grudge the present outlay, if in the future there was the prospect of increased returns.

I speak, of course, of those who are not impoverished, but are able to expend for the benefit of futurity. There are many estates where the proprietors can well afford to plant for the future, and it would be well for all concerned if much of the land at present left waste and unproductive were planted with such timber as would yield a fair return in the future if properly attended to.

The amount of timber consumed in one way and another in this country is immense, and surely it would leave a margin of profit to plant land at present bearing nothing with properly selected varieties of timber. That many acres of timber fit for pit-props should be left to rot on the ground, as described by "J. S. W.," is much to be deplored, seeing, as he remarks, that wood for the same purpose is imported from abroad in large quantities. This is bad management, and does not prove that judicious planting of forest trees in this country is unprofitable. Landowners would do well to turn their serious attention to this matter, and, while they may not realize the hundreds per cent. that Mr. Mackenzie supposes can be gained from timber growing, they may at least earn a margin of profit, if not for themselves, for their successors. If they can do this, and in doing it, utilize waste ground, they have not only conferred a benefit on their successors, but on the country generally.

Surely the timber that can be grown in this country is worth growing well! and it is a national loss when, either through neglect, or want of knowledge, forests are allowed to go to waste, either by being allowed to rot after being levelled by gales as "J. S. W." describes, or by being left unthinned and rendered useless. The landowner who plants judiciously, thins judiciously, and sells judiciously, is almost certain to reap a moderate profit if he live to a moderately old age, and if he does not actually reap the fruit of his labours, he may see a certain amount of profit secured for his successor. *John Thomson, Clovenfords.*

VEGETABLES.

EXTRA EARLY MILAN TURNIP.

As an early variety, this is by far the best, and a better Turnip in every way than Purple-top Munich As a proof of what a quick grower it is, I sowed a few rows on a south border of the kitchen garden on March 5, and have been using from it since May 5, the bulbs being about the size of billiard-balls. Compared with Munich, it is rounder, quicker in growth, and milder in flavour, resembling in many respects Veitch's Red Garden Globe, but it is very much earlier than that excellent variety. *A. H.*

Late Seakale.

Owing to the general scarcity of all kinds of vegetables in the late spring months in most years, we are glad to turn our attention to Seakale, a most useful vegetable, and one that few gardeners now force in beds where it grows. When the home-grown roots are taken up to be forced in the Mushroom-house or elsewhere, where a steady temperature, not exceeding 60°, can be maintained, the "thongs," that is, the small roots, that are trimmed off to make the roots of convenient size for being stowed close together in light soil, should be put on one side for propagating purposes. It suffices at that time to put them in soil where they are come-at-able in the event of frost. In April sort out all that are as thick as a man's finger, cut them into pieces of 6 or 8 inches in length, and plant them in rows at 3 feet by 1½ foot apart on well-manured trenched land in an open part of the garden. The sets should be dibbled in, and made firm, and when the top-growth appears out of all the shoots, except the strongest one, frequently ply the hoe between the rows, and in wet weather apply dressings of fish-manure or guano. Root-cuttings produce few flowering heads, and those which do appear should be removed early; the same remark applies to the small side-shoots, which if they are allowed to remain rob the plant. In November clear away the leaves, and put a heap 6 inches high of fine coal-ashes over each crown. This keeps the roots moist and cool, and the shoots come out of it clean-looking and uninjured. This cool and natural treatment of the plant results in very stout shoots or heads, some being as thick as one's wrist. If the plant be of a dry nature, copious waterings must be afforded the plants in dry weather from June to September. To have the heads perfectly blanched, the soil between the rows should be placed over the heaps of coal-ashes, the more effectually to exclude the light, and be made firm with the back of the spade; this should be done before there is growth made. The added soil should be quite 6 inches in thickness. To keep some of the plants to as late a date as possible, I cover them with long dry litter, and thus keep out much of the sun-heat. If leaf-mould be plentiful, it answers as well as coal-ashes for covering the plants, and soil is not needed, but the leaf-mould must then be laid on at least 12 inches thick, and if over the entire quarter, so much the better. Good Seakale can be obtained in this way well into the month of May. The tops at times will push through the covering, but even then there is no waste, the partially green top being a good vegetable, if not so good as that which is blanched. *G. Wythes.*

Ellam's Early Dwarf Cabbage.

This useful variety has been many times extolled in the gardening papers, and nothing new can be said about it, unless it be merely to record its behaviour this year. At this garden it came through the winter admirably, and I may safely say that not 10 per cent. have perished, which is a marvellously small amount of loss, considering the slightness of the covering of snow, which remained efficient as a covering for a few days only. When ice took the place of snow the plants looked miserable enough, but on the advent of mild weather they started into growth, and we now have a quantity of nice compact Cabbages ready for use. Not a plant bolted. I have grown Ellam's Early for many years as a variety to come into use early, and it has never failed me. *J. Easter, Nostell Priory Gardens, Yorkshire.*

BOOK NOTICE.

Manual of Forestry. By William Schlick, C.I.E. Vol. III.—Management of Forests. (Bradbury, Agnew & Co.).

Under the title of "Forest Management," Professor Schlich, in the third volume of this excellent *Manual* presents the reader with able expositions of three branches of forest science, viz., Forest Mensuration, Valuation, and Organisation. The two first are simply applied mathematics, by means of which the volume of woods, and their value as rent-producers, are calculated. Into these two sections the author has condensed a vast mass of material from German works on the subjects named, with the result that, while nothing entirely novel can be found, no important points have been omitted which are essential to a clear understanding of these important branches of advanced forestry.

In Part I., the uses and construction of yield-tables, form-figures, &c., are fully described, together with the various methods devised by Hartig, Drandl, Urich, &c., for measuring sample-plots in growing woods.

The part devoted to Forest Valuation gives the various formulæ used in calculating the returns obtainable from land under timber crops, which are lucidly set forth and explained, and a careful perusal of this section will give the owner of woodlands a comprehensive view of the financial aspects of timber-growing.

Under the headings, "Principles" and "Preparation of Working Plans," the author goes into the "Forsteinrichtung" of German foresters. While we fully agree with his remarks on the choice of a rotation, the principle laid down (p. 205) that "the financial rotation is high in localities with an unfavourable soil or climate," seems hardly borne out by continental experience and custom. For instance, we usually find the crop in a poor locality arrives at maturity earlier than one where the soil and situation are good. By maturity we mean, of course, the culmination of the average increment in value, which naturally falls earlier when the maximum annual increase in volume occurs at a comparatively early age, although much depends upon species and markets. Possibly, however, the author uses the word "locality" in its general sense, and not as the equivalent of "standard," which alters the case considerably. The principal methods for the determination of the normal yield and the conversion of the natural forest into a normal condition as regards age-classes, stock, and increment, are briefly sketched, the sylvicultural method of Judrich, which regards the actual condition of the existing stock as the chief feature in the working plan, meeting with the most favourable notice from the author. The addition of a miniature typical stock map (*bestandskarte*) would have greatly assisted the reader in gaining a clear idea of working plans, several concrete examples of which are given in appendices.

If this volume meets with a less favourable reception from the public than its predecessors, the cause must be sought for in the nature of the subjects upon which it deals. A book teeming with formulæ is not likely to prove attractive to the general reader, who possibly recalls to mind bad quarters of an hour passed in the company of the latter in his youth. As a text-book for the student, or a book of reference for the forester, it is all that could be desired, and forms a fitting companion to those volumes of the *Manual* which have preceded it. The attention of those interested in the introduction of scientific forestry in Great Britain should be especially directed towards forest organisation, as it is a branch of forestry entirely ignored in this country. It is, of course, a subject which concerns the woodland proprietor more closely than the practical forester; and until the former recognises and appreciates its importance, the study of the subject by the latter can have little influence upon his work. The numerous instances of woods proving unremunerative may be traced to the absence of any definite rotations quite as much as to faulty sylviculture; and until the owner of an estate sanctions the adoption of a suitable working plan for his woods, little can be done by those temporarily in charge to remedy the present hap-hazard system of felling. Such plans are not, of course, applicable to parks or ornamental woodlands, but every large estate possesses woodland, in some cases of considerable extent, for which an easily-worked and not too rigid plan of operations is absolutely essential if anything like an adequate return is to be maintained. We cannot look for the highly perfected arrangement and distribution of age-classes on private estates, which exists or ought to exist in State forests, but method and order are usually considered the characteristics of civilisation and its industries, and there is no reason why British forestry should languish for want of them.

FRUIT REGISTER.

PEACH EDWARD ANDRÉ.

This is a handsome early free-stone Peach, raised and sent out by M. Nazet of Trevoux. The skin is of a rich vinous red, the flesh being also mottled with the same colour. It ripens earlier than Hales' Early, and is reported to be of excellent flavour. A coloured figure and a description are given in the *Revue Horticole* for May 1.

The Lord Napier Nectarine at Gunnersbury House.

This is probably one of the finest—perhaps the finest—trees of this Nectarine in the country. It fills the whole of the interior of a house 24 feet by 13 feet; its foliage is superb, and it has set about 400 fruits, which are rapidly swelling. Any fruit formed below the level of the foliage are raised up near the glass by simply raising the shoot which has the fruit, and keeping it in position by placing a wooden label across two other shoots, and so holding it in position. Last year the tree carried a larger number of fruit, but what Mr. Hudson loses in quantity, he will gain in quality. The tree is a masterpiece of high and successful cultivation. *R. D.*

THE HERBACEOUS BORDER.

NEW FORMS OF TROLLIUS.

Dr. Stuart, Chirnside, N.B., has been highly successful in making some crosses with Globe flowers. By crossing T. europæus on to T. americanus, he has succeeded in obtaining varieties of large size, fully double, and some of them remarkable for their deep tint of brilliant orange. As an originator of new varieties, Dr. Stuart appears to be as markedly successful with the Mountain Globe-flower as with other things he has taken in hand. I have seen among the Lancashire florists forms of T. europæus with considerable depth of colour, but nothing approaching the richness of tint found in the varieties which represent Dr. Stuart's last adventure in raising new plants, a box of blooms of which he sent me a few days ago. He speaks of them as resembling orange Roses, and it is not too much to say that the description is a correct one. Should they find their way into cultivation they will be warmly welcomed by lovers of hardy plants. *R. D.*

Trollius.

This is a most useful genus for the mixed border early in May, when hardy border flowers are scarce. To grow them well the soil must be rich and moist, and the situation sheltered from hot sun. Those who advise a northern aspect for such plants do not observe that the afternoon and evening sun in summer are the most burning. The best aspect is east. As for species, I pay little attention to nursery names, nearly all the Trollius in cultivation are either T. europæus or T. asiaticus, or intermediate forms. The brightest orange I ever saw in Trollius came to me as a seedling from Mr. W. Thompson, of Ipswich, six or seven years ago. The seed of this produces every shade, from pale citron to rich orange, with great variety of stature and size of flower. I have now some hundred or more large plants; raised from this seedling when three or four years old, are better than they ever are again after division. Large plants cut into three or four pieces never do well again. *If it is desired to perpetuate any individual plant it should be divided into small pieces, and the old root cut away, and the pieces should not be expected to make a show for at least two years.* I find the seed does best if sown as soon as ripe. Seed sown in July, 1895, should flower well in May, 1897, if the seedlings are properly encouraged. *C. Wolley Dod, Edge Hall, Malpas.*

CULTURAL MEMORANDA.

CORONILLA GLAUCA.

This old-fashioned but useful and showy decorative greenhouse and window plant, is of easy culture, and is an almost perpetual flowering subject. Cuttings, a couple of inches long, taken with a little of the old wood attached, and inserted in small pots, which have been well crocked and filled with light mould, will soon form roots if placed under a bell-glass in a warm house. They should then be potted singly into thumb-pots, using the same kind of mould as before; stand the pots on sifted coal-ashes in a shallow frame, water, keep close, and shade during the heat of the day, until the roots are active, when the plants should be gradually inured to sunshine and air. Pinch the shoots to make them branch, and shift into larger pots as required.

Isolepis gracilis.

The present is a good time to divide old plants of this useful decorative grass, potting up the divisions in small 60-size pots for autumn and winter use. Cut the old grass down nearly to the soil and shorten back the roots before potting, using a compost consisting of about four parts sandy loam and one of sweet leaf-soil. Place the pots on sifted ashes in a shallow frame, keep close, shade during the hottest part of the day, and damp the plants well overhead at closing time, say at from 3.30 to 4 o'clock. The plants should never be allowed to get dry.

Richardia (Calla) æthiopica.

Flowering plants of the Arum Lily are always in demand during the interval from Christmas to Eastertide (inclusive). The plants having passed from flower should be turned out of the pots, and the balls chopped across in the middle with a spade, divided into two or more pieces according to the size of the individual plants, and afterwards planted in prepared soil in rows, two feet apart, and eighteen inches from plant to plant. The soil may consist of five-parts fibry loam and one of horse droppings. Make the soil fairly firm about the roots, and give a surface-dressing of short dung to the depth of two or three inches. A stake should be placed to each of the plants, and the foliage loosely secured thereto. Afterwards water the ground to settle the soil about the roots, and the plants should be kept well supplied with water at the roots during dry weather until they are potted up at the end of August or early in September.

White-flowered Cyclamens.

With the large demand that there is for white flowers, it does seem a matter for surprise that so few private gardeners grow more than a scanty lot of white Cyclamens. What is perhaps more striking than anything about Cyclamens, is the long season in which the plants remain in flower. Commencing in November, the same plants will keep on flowering up to the third week in March. These plants can be raised from seed to the flowering age in one year. Sow in moist heat in November; prick off the young plants into pans directly they are large enough to handle, and grow them on steadily during the summer in a cool house, shading them as may be required.

Like other plants which have soft succulent leaves, insect-pests must be sedulously destroyed by frequent fumigation with tobacco. *E. M.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

MORELLO CHERRIES.—These should have the fruits thinned betimes, although if left to themselves the trees cast many of their fruits naturally, but this is weakening to the trees, and ought to be avoided. Rub off all fore-right shoots, and those behind the branches, reserving laterals for laying in thinly between the old wood and to take the place of shoots that are carrying fruit this season; pinching others where spurs are desirable at the second or third leaf. Fruiting spurs or shoots may be pinched at the second leaf.

APRICOTS: THINNING FRUIT, NAILING-IN SHOOTS, ETC.—Apricot trees on which the fruits are about to stone should be finally thinned, taking the health and vigour of the trees as a guide to the quantity to be left on them for a crop. Nail or tie-in extending shoots early, so as to run little risk of their being twisted or broken by wind, being careful in doing so to allow room for the swelling of the wood. Shoots laid-in to fill up the middle of the tree or for next year's fruiting may generally be sufficiently secured or guided into the space allotted for them by small twigs laid across them, and the ends pushed under the older shoots and branches.

OUTDOOR GRAPE-VINES.—Vines on walls, &c., will need disbudding, those laterals showing the best bunches being secured to the wall. One such lateral is generally sufficient to leave at a joint, pinching it at the first leaf beyond the bunch. Strong shoots near the base of the Vine should be laid in annually in order that they may take the place of those rods or stems which are more than four years old, securing them to the wall or other support as growth advances, and bearing in mind that they must be allowed as much air and light as will properly ripen the wood. These young shoots may be stopped when 6 feet in length. A good syringing afforded occasionally on warm afternoons is of great benefit to out-of-doors Vines. If mildew should make its appearance, dust the affected leaves with flowers-of-sulphur.

STRAWBERRIES: THINNING THE FRUIT, ETC.—Strawberries are this season very promising, the blossom being abundant and strong, and the thinning of the trusses may be undertaken as soon as a good set is obtained. If extra fine fruits are required, reduce the fruit on each truss to three or four of the earliest, and those that are of the best shape. If these are supported by forked twigs stuck round the plant, or by wire supports, the colour and quality generally will be improved. Afford the plants liquid manure at the root freely on dry or thin soils, this aid being specially needful. A slight dressing with nitrate of soda is also of much assistance if afforded at this season, care being taken not to touch the young foliage. For preserving purposes and ordinary use thinning is not necessary, and but one good application of liquid-manure needs be made. Cut off all runners that are not required for increase.

RASPBERRIES: THINNING SUCKERS.—Thin Raspberry-canes to about five on a stool, reserving the strongest. If it be desired to form new plantations another year, preserve the best of the outlying suckers. Take off their tips when the canes are 3 feet in height. Autumn-fruiting varieties should be thinned to the number of canes required, tying them in thinly to stakes or wires; it is essential that these have space to develop and ripen their growth, as the fruit is borne on canes of the current year's growth. Afford liquid-manure occasionally, and frequently stir the surface soil with the hoe.

NEWLY-GRAFTED FRUIT TREES.—When the scions are seen to be growing freely, remove the clay carefully, and loosen the tying materials; rub off all growths issuing from the stock, and secure the scions to sticks to prevent their being blown off by the wind.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CŒLOGYNE ASPERATA (LOWII) is now pushing its flower-spikes, together with the young growths, and should be kept almost saturated with water until the growths are fully matured. × Epiphronitis Veitchi and Epidendrum Endressio-Wallisii × are two beautiful hybrids, neat and compact in growth, and they last in flower from two to three months. Both plants are easily cultivated, succeeding well in an intermediate temperature suspended over such plants as Miltonia vexillaria; small shallow pans with a compost of fresh fibrous peat and moss, suits them admirably. The pretty and distinct × Sophro-Cattleya Calypso should be grown under the same conditions. All of the Barkerias, when successfully cultivated, are very useful for cutting purposes during the dull time of the year. The plants are now starting well into growth, and should be fastened to slender twigs of Apple-wood, the ends of which may be held firm in a pot full of crocks surfaced with growing sphagnum. Their roots should not be covered, but allowed to ramble in the air as they choose. Whilst growth is being made, the plants should be placed in a light airy position in the Mexican-house, and be kept always moist. Syringe them well overhead several times every day until the flower-spikes appear.

REMOVAL OF PLANTS FROM THE INTERMEDIATE-HOUSE.—The following Orchids which have been wintered in the intermediate-house may now with safety be removed to cooler quarters in the Odontoglossum-house. Dendrobium infundibulum and its variety Jamesianum, Lælia harpophylla, Odontoglossum Insleayii leopardinum, O. blandum, O. nævium majus, O. Krameri, Miltonia Phalænopsis, M. Warscewiczi, M. vexillaria, Oncidium bifrons, Cryptophoranthus Dayanus, Masdevallia tovarensis, M. Schlimi, M. ephippium, and those of the Chimæra section, also Dendrobium Wallianum and D. longicornu. If there is one end of the house that is warmer than the other, place them there, and for the first few weeks, especially if the weather continues so cold as at the time of writing, keep them a trifle drier than they have been in the warmer house. Miltonia Roezlii when well cultivated is undoubtedly a lovely Orchid. It requires more heat during winter than others of the same genus, but if subjected to a high temperature during the summer months, the foliage frequently becomes spotted and infested with insect pests. Plants of this species that are not doing well should have their flower-spikes removed, and be repotted in well-drained peat and sphagnum; it is a compact-rooting plant, and therefore should not be over-potted. When well rooted, it delights in almost unlimited supplies of water. During summer, O. Roezlii does best in a moist shady corner of the Cattleya-house.

CYMBIDIUM EBURNEUM.—A spring-flowering Orchid, and the autumn-flowering C. Mastersii, are

both deserving the coolest and shadiest part of the intermediate-house, a position which will suit them the whole year round. Those plants that require more root room should receive attention at the present time. The thick fleshy roots of these species require plenty of room to ramble in, therefore it is necessary to use extra sized well-drained pots. Use a compost of one-half good turfy loam, peat and sphagnum one-half, to which may be added a little leaf soil and broken crocks. Instead of elevating the plants above the rim, keep the soil at least half-an-inch below it, as these plants require large quantities of water at the root during the hot summer months.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

BEDDING PLANTS.—In the milder parts of the country bedding-out will soon commence; and the gardener should take care that all of the plants are thoroughly soaked with water before turning them out of the pots or boxes in which they have been growing, another watering following after planting. Do not apply water in the evenings if the weather is cold. Where possible, the flower-beds that are planted should be mulched with exhausted Mushroom-bed dung, or something of a similar nature. This will aid in keeping the soil moist without the necessity to afford water often, although a sprinkle overhead on mild evenings is beneficial until they have become established.

DAHLIAS.—When planting the show Dahlias, first drive a strong stake into the ground where the plant is to stand, then excavate a good-sized hole with the spade, put a peck of rotten manure at the bottom, and the plant on the top of it, securing it to the stake forthwith. To keep the slugs at bay, make a ring of mixed lime and soot round each plant, and when the weather gets warm and dry, mulch the soil with manure.

STOCKS, ASTERS, MARIGOLDS AND ANNUAL CHRYSANTHEMUMS.—These annual plants should be carefully watched during showery weather, snails being very troublesome at such times.

SHRUBBERIES.—Attention should be given to the watering of newly-planted trees, shrubs, Azaleas, Rhododendrons, &c., the warm, dry weather of the past fortnight having dried the ground very much in some localities. The soil round about the stems of trees and big shrubs should be scooped out, so that the water will flow towards the stem, and not away from it. A mulch should be put over the roots of all recently-planted subjects. See that the ties and stakes and guys afforded newly-planted trees do not cause injury to the bark, and that they are securely fixed.

LAWNS.—These will require to be mown weekly, collecting the grass if the lawn be a small one, but removing the grass-box from the mowing-machine if it be a large lawn. Plantain and other coarse weeds should be taken out of the turf with a knife, or lawn-sand used for killing them.

PLEASURE-GROUND WALKS AND ROADS.—When the gravel has been moistened by rain, it is a suitable time to apply a weed-killer, using a watering-can with a flat rose, and one that will hold about 2 gallons. Do not let it touch any live edgings, and with this in view, a windless day should be chosen for the work. The grass verges should be cut every week or ten days with the shears or edging-cutter, and the walks frequently rolled, if formed of binding gravel.

CARNATIONS AND PICOTEES.—Those planted in borders should have the stems tied to neat sticks early, as they are quickly broken and twisted by the wind. Bamboo-canes are very suitable, besides being durable. The beds should be weeded by hand, not hoed or raked, for fear of injuring the plants. Mulch the beds or round about groups of these plants in borders with short manure, and afford water when the soil is dry, and occasionally weak liquid-manure, a sprinkling of nitrate of soda being very beneficial to Carnations, if strewn on the soil in showery weather. Seedlings should be planted out in well-drained, deeply-dug ground that has had a dressing of fresh loam and manure. On narrow borders they may be planted in lines 18 inches apart and 12 inches between the plants, and on wide borders in rows 15 inches apart, planting four rows and missing one, so as to afford an alley between the beds. Frequently dust the soil with lime and soot to deter the slugs.

BORDER PINKS.—These will require similar treatment to the Carnation. When making beds of Pinks set them out in lines at 1 foot apart. Pipings should be taken from two-year-old plants without waiting for the plants to flower, first sticking them in light sandy soil in a warm shaded pit or frame.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

THE ORCHARD HOUSE.—Fruit trees in pots require frequent surface dressings through the growing season. A mulching of farmyard manure will greatly assist fruit that is swelling, but the strength of such dressings is soon exhausted by the copious supplies of water given to the roots. To maintain pot-trees in a fruitful condition, top-dressings consisting of fresh loam, decayed farmyard manure, and a sprinkling of mortar-rubble, with pounded fine and crushed bones, or some approved fertiliser, are the best. This should be packed firmly round the rim of the pot, and form a basin round the stem to receive subsequent applications of liquid manure. Trees in borders carrying full crops may be slightly mulched with fresh farmyard-manure, and the dressing repeated as this becomes exhausted. Any pot trees that have failed to set a crop should be stood outside, and those carrying fruit re-arranged, to allow light and air to act on all parts of the tree. Thinning the fruit should commence as soon as it is seen which are likely to swell to maturity. There will be little fear of the fruit falling if the trees are kept well supplied with moisture. Stopping the shoots should also receive attention, commencing with the strongest at the summit of the trees. Disbud and cut back all superfluous growth, only retaining what is required to furnish the tree with fruit-bearing wood for another season. The foliage must be syringed twice a day. Commence to ventilate the house early in the morning, and increase it in degree, until midday, preserving a temperature of from 70° to 75° until 3.30, when the ventilation should be gradually reduced, and the house finally closed by 4.30 after receiving a thorough syringing. A gentle warmth in the hotwater-pipes at night will assist in keeping the atmosphere buoyant. If the trees are kept well supplied with moisture at the roots, and the borders and pathways are damped down several times a day, syringing of the foliage being properly carried out, red-spider will be effectually checked.

CHERRY-HOUSE.—Ripe fruit may be retarded a little by affording a slight shade during bright weather, and by keeping the atmosphere dry. Give plenty of ventilation, but closely net the apertures to prevent the entry of birds. Sufficient clear water should be given to keep the roots in a moist condition. Supply later crops with weak liquid-manure until the fruit approaches maturity, and afterwards clear water only. Syringe regularly trees from which the fruit has been gathered, and give a plentiful supply of water at the roots. The ventilators may be left open day and night. Trees in pots may be stood in a sheltered corner outside until the foliage can stand full exposure to the sun, when the pots should be plunged in ashes.

FIGS.—The second crop in the early house will now be swelling fast, and should be given more liquid at the roots. Pinch out weak growths, and stop gross shoots. Trees growing in later houses must be well mulched, and may receive copious waterings and abundant syringing. If the fruit is well advanced, a second crop may be secured by generous treatment; but as a rule one crop only should be taken from these trees, and they will then produce the finest fruit of the year.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

TOMATOS intended for planting at the foot of outside walls, and which have been properly hardened off, may now be planted. In late districts it may be well to have protecting material ready in case of frost occurring. If Tomatos were grown in the same position last season a change of soil should be given. For this purpose chop up some fresh loam, adding a little bone-meal, burnt refuse, also spent Mushroom-bed manure. A little of this compost should be substituted for the old soil where each plant is put in. Plant about 18 inches apart, and allow the plants but a single stem. They should be well watered before attempting to turn them out of the pots, and a good soaking will be required to settle the soil about the roots when planted. Tomatos should not be given too frequent waterings, neither should they be left to flag badly, especially in the early part of the summer. Earlier fruit will be obtained if the plants have already grown to a height of 18 inches, with fruit set or showing on them. Those for the open ground may be treated similarly, but should not be planted until June. It is good practice to pot these plants into 10-inch pots, and when established to plunge the pot 2 inches deep below the surface of the soil in the place intended for them. This will have a tendency to check too luxuriant growth and cause them to fruit well, they will soon root over the rim of the pots, and may be lifted and transferred indoors at end of summer if the fruits are not fully ripened.

ONIONS.—Those raised in pots for exhibition may be transplanted into beds in the open. Before disturbing them, each plant should have a small stick placed alongside, to which it should be secured in an upright position. Soil that is not rich should have some soil similar to that in which they have grown mixed with the staple, and surrounding each plant with some of it. The plants may stand 15 inches by 8 inches apart. Ply the syringe frequently in hot weather; keep the soil moist, and stir it occasionally to prevent caking of the surface.

CELERY.—Those plants intended for showing should now be ready for transplanting. The trench should be made wider than for the ordinary crop, and filled in with fresh loam and well-rotted dung, to which a small quantity of common salt may be added. Carefully turn them out of the pots into the soil which covers the manure, and make the former firm round about them; syringe daily, and shade them for a few days.

LEEKS.—Show Leeks may be similarly treated, but the proportion of loam should be greater than for Celery. One line of plants is sufficient for a trench. The roots of Leeks being very brittle, the planting must be carefully done. Protection against cold at night and bright sun by day must be afforded for a week or thereabout, syringing and damping as for Celery.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

WINTER-FLOWERING CARNATIONS.—The early struck plants will now require moving into their flowering-pots. Use one-half good fibrous loam and equal parts of peat and leaf-soil, with plenty of charcoal broken to about the size of Hazel-nuts, a small quantity of crushed bones, and plenty of sand will complete the compost. The pots should be perfectly clean, and need not be larger than 7 or 8 inches in diameter; if new pots are used they will require the usual soaking in water. The pots must be well-drained, or failure is certain. Pot the plants firmly, leaving about ¾ inch for watering. A neat stake should at once be given to each plant, and at the same time the leaves must be carefully examined for green-fly, which may be dislodged by means of a small brush, after which the plants should be given a slight dusting with tobacco-powder. Place the plants in cold frames and keep rather close for a few days. If the plants are well syringed every night and morning this will help materially to keep down fly, a pest which I believe is the cause of half the failure in Carnation culture. Cuttings of scarce varieties may still be taken, and they will readily strike if placed under hand-lights on a gentle hot-bed, or even in cold frames if kept shaded during bright weather. These will not flower during the winter, but if kept growing they will make excellent plants for spring flowering. A few old plants of such varieties as President Carnot, Baronne de Rothschild, Madame E. Bergman, Alfred de Rothschild, &c., that throw but few cuttings, should be denuded of the old flower-spikes, and after shaking a quantity of the old soil from them, should be potted into a size larger pot; these will make good plants for flowering next winter.

YOUNG PLANTS OF SOUVENIR DE LA MALMAISON.—Plants now coming into flower should be closely shaded on bright, sunny days, or they will soon lose their delicate tints. Feeding should be discontinued directly the flowers begin to expand. Syringe well between the pots two or three times a day to keep down red spider. When the blooms are fully open, they should be neatly tied up, or they present a ragged appearance. As the plants have lost their flowers, take them into a cold frame, where they remain ready for putting into large pots for early flowering next year, or for layering purposes. Keep them lightly shaded for a time, and syringe well twice a day.

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EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, May 25—Royal Botanic Society.
FRIDAY, May 31—Royal Botanic Society: Lecture.

SHOWS.

THURSDAY, May 30 { Bath, West and Southern Counties Society at Taunton (4 days). Show of Pansies at the Birmingham Botanic Gardens (2 days).

FRIDAY, May 31 { Opening Day of the Manchester Botanical Society's Whitsuntide Exhibition.

SALES.

TUESDAY, May 28 { Imported Orchids at Protheroe & Morris' Rooms.

FRIDAY, May 31 { Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—57°.5.

The Temple Show.

Critics will this year have had an excellent opportunity of comparing the continental method of organising large flower-shows with that adopted by ourselves. It has been quite possible, for instance, to have seen the Temple Show on Tuesday, and to have been present at the great show in the gardens of the Tuileries in Paris on the following day. Reports of both will appear in our columns, indeed a large portion of our space this week is occupied with the details, with as many illustrations as time would permit, of the Temple Show, and next week we shall hope to be in a position to record some of the leading features of the Paris Exhibition. Speaking now of our own display, we may say in general terms that it was larger than ever, that there was a commendable absence of market-stuff, and of plants that may be seen in Covent Garden in bulk, or at any florist's shop in smaller quantities. In this way the general average quality was raised, albeit there was this year nothing special to attract the attention of the connoisseur, and much more vigorous pruning is still required in the case of herbaceous plants. As to the grouping, there was little or no improvement on former years. Individual groups were good, but as to broad general effects, such as our continental friends delight in, there were few; neither were there the materials—the Palms, the Dracænas, the Cycads, Tree Ferns, the Crotons, the Aroids, were not at all conspicuous, with one or two exceptions, unless by their absence. We know that big tents, ordinary staging, and flat surfaces do not lend themselves readily to this style of exhibition, yet when we remember what our friends at Ghent and Paris manage to do in their annexes and supplementary tents, we feel disappointed that we cannot, or do not, do likewise. We may be told that we have not such a building as the Casino at Ghent, nor such time and facilities as our foreign friends possess. This may be admitted, but still there remain the annexes and the tents which offer a fair comparison with our own from this point of view, and—well—the less we say the better.

When we come to cultural details, we have no reason to shirk comparison. The Orchids, the Roses, the Clematis, the fruit, the vegetables, and a dozen other things that might be enumerated, show that our cultivators need fear no competition. The Orchids which always form the principal feature of the Temple show were more numerous than before, but scarcely so remarkable individually as we have seen them. Sir Trevor Lawrence's Epidendrum Stamfordianum, a species difficult to grow, was perhaps the most remarkable plant exhibited, and secured the award of a Silver Flora Medal. A like award was given to the beautiful specimen of Cypripedium Stonei platytænium. Baron Schroder showed a finely-flowered specimen of Masdevallia Houtteana with no fewer than 300 flowers.

From Orchids to Peas may seem to some a long jump, yet the exhibit of Messrs. Sutton certainly deserves special mention, and their endeavour to secure an early race with the flavour of the later sorts is deserving of all encouragement. Mr. Ward's exhibit of vegetables, especially his method of showing Cucumbers trained as standards with a spreading head from which the fruits depend as in a pot Vine, was a welcome break from the monotony of vegetable exhibits. Messrs. Paul & Son and Mr. Mount of Canterbury, by-the-way, showed a similar laudable attempt to vary the monotony of Rose exhibits. Messrs. Backhouse's rockery was, as usual charming—backed up by elegant hardy Bamboos, it formed one of the most delightful features of the exhibition. Messrs. Veitch's hybrid Cereus and Phyllocactus, and Messrs. Birkenhead's Ferns were also worthy of special note.

We must refer to our special report for the full details of this excellent exhibition. Its beauty was somewhat marred on the first day by the dull somewhat foggy atmosphere, but this fortunately did not interfere with a large attendance of the public.

Epping Forest.

The controversy over the management of this forest still waxes warm, especially such of it as touches upon the debateable matter of cutting trees and underwood. There are those who, skilled in woodcraft, would gradually remove superfluous trees, more especially those of little worth, with the knowledge that such thinning of the timber must result in benefit to the trees and the wild plants which remain. These advocates of judicious thinning would not remove even an ugly pollard if it did not spoil a near or distant view, or injure a neighbouring tree or large bush of better quality, or hinder the development of healthy seedling trees and other vegetation beneath or around it. They would open out vistas and grassy roads in the denser parts, so that the ordinary pedestrian, clad in every-day garments, might be enabled to penetrate to parts of the forest now only accessible by circuitous tracks, scarcely wide enough for two persons to walk abreast. These roads and alleys, if not kept to rigidly straight lines—which, by the way, the innovators have no desire to make—would bring out at once many finely-shaped, unpollarded trees—Hornbean, Oak, Beech, or Birch—which cannot now be properly seen owing to the surrounding trees and brushwood. The maintenance of a canopy of tree foliage, and of considerable quantities of under-growth, in a perfectly natural condition, such as Thorns, Dog-roses, Viburnum Opulus, Heather, Furze, Honeysuckle, &c., in parts of the forest where the healthy trees are, for the most part, of no great age, is very desirable. Of course, there are parts of the forest, as for example, that which comes close up to Chingford, where aged Oaks and other trees of fair proportions, standing at wide distances apart, on a smooth carpet of turf, and affording a playground for 5000 persons, would be utterly ruined by under-growth being allowed to exist.

These seem the main intentions of the innovators. The opposing party would do scarcely any thinning of the trees, would reserve the undergrowth, cut few if any vistas or roads, preserve the old pollarded trees, the outcome of the bad old custom of providing those having common rights with firewood, &c., and generally maintain the forest in its original wildness. The results of this mode of treatment would be that seedling trees and wild plants, would be smothered out of existence, symmetrical trees would be ruined in shape by encroaching neighbours. Some of these are of small value as timber, yet capable of doing much harm by crowding the others, robbing them of light, air, and nutriment derived from the soil.

We have no hesitation in saying that our sympathies are entirely with those who would not only preserve, but enhance the beauty of the forest and increase its charms to the naturalist.

In view of the conflicting views alluded to, members of the Essex Field Club and their friends, to the number of more than one hundred, met at Chingford Station on Saturday, May 18, for a ramble through certain parts of the Forest. Bury Wood (sometimes called Hawk Wood) was the first that was visited. The Oaks here are small, and from 80 to 150 years old; and in that part of the wood that was thinned, which is about 20 acres in extent, there were approximately 2000 standing, besides Hornbeam pollards. The number varies from 50 to 100 per acre, the majority of which have a diameter of 10 to 14 inches. Those removed were, as a rule, smaller. About 600 Oaks were marked for removal, but on the recommendation of two of the Commissioners, nominated by their chairman, 300 only were removed last season. From our own observation, the wood has entered on a state of decadence, as proved by the dead and dying branches, the stagheadedness of the tops of a great many of the trees, and the small size of the foliage. The trees could not prosper, neither could the undergrowth, owing to over-crowding and the dense shade. We think that the whole of the 600 originally marked for cutting should come down, as the canopy would even in that case be sufficient, and would annually increase. The timber which had been removed from the wood to a neighbouring clearing was of a very poor description, and fit only for firewood, fencing-posts, and gate-posts.

Claywood was next traversed, the party following the path which skirts the Loughton valley. The northern side of this valley was almost cleared many years ago, and much natural growth has supervened, which is a marked contrast to the pollard grove on the opposite side. The growth of young Birch was very obvious wherever clearings had been made by fire or otherwise. In this part of the forest Birch is likely to be the future tree, and there is none prettier. Monk Wood, further on, was thinned about a year ago. Here there were open glades, the trees mostly Beech, many self-sown young trees springing up all over the place. Of under-growth there is not much, owing to the fact that no plant will grow beneath the Beech. Many of the pollards have been cleared away to allow the young stuff to make headway. Much angry discussion has taken place in the columns of the newspapers in regard to the clearings that have been recently made along this road. One of the weightiest charges brought

against the forest management was that they had cut down a free-standing Oak, and judging by the storm of indignation raised by the felling of this particular tree, the visitors expected to see some gigantic monarch of the forest lying prone on the sod, but their surprise was great when it was remarked that it was an ordinary pollard whose trunk was not more than 9 feet in length, with an average diameter of 1½ feet. It was removed because it carried on in a straight line an ugly artificial clearing, the monotony of which required to be broken up.

Honey Lane Quarters is a wood consisting mainly of pollards of Hornbeam in close ranks, and, as we think, very ugly. In parts of the forest, pollards sometimes form an interesting feature, but pollarding having been discontinued, the trees are now so dense that neither light nor air can penetrate. The suggestion is rightly made, we think, to clear them away, but to preserve the finer pollarded Oaks wherever found in the forest, provided better trees are not spoiled by them.

In Epping Thicks, the last part of the woodland visited, one finds the most beauty, the finest glades and most distant peeps into the interior of the woods on either hand, and the best timber. A little thinning of Hornbeam pollards has been done, but it might very well be followed up with benefit to the undergrowth.

The Forest is extensive enough to admit of varied treatment according to soil, aspect, and the exigencies of those who frequent it. Part might be left wild, part might be carefully tended and judiciously thinned, part even might be converted into an arboretum. The Forest is not intended for faddists, nor for any one class in particular, but for the public, and the public includes folk of many tastes, all united, however, in their desire to preserve Epping Forest.

Fig 95.—Spidendrum stamfordianum: flowers fragrant, yellow, with red spots and green edges; lip white.
As exhibited at the Temple Show by Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society. Number of spikes, 13; number of flowers, about 700. (See p. 662.)

British Association.—The next meeting will be held at Ipswich, on Sept. 11 and following days. Sir Douglas Galton is the president elect, in the room of the Marquis of Salisbury. Section K., Botany, will have for its president Mr. W. T. Thiselton Dyer, C.M.G., Director, Royal Gardens, Kew.

Viola Conference at Birmingham.—The second annual Conference of growers and others interested in Violas will be held on the first day (29th inst.) of the Pansy and Viola Show in the Edgbaston Botanical Gardens at 4 o'clock in the afternoon. Mr. William Cuthbertson will be chairman, and the following papers will be contributed:—"The Genus Viola," by Professor Hillhouse "Older Varieties of Violas," by Mr. Richard Dean; "Viola Sports," by Mr. J. D. Stuart; "Violas that do well in Surrey," by Mr. E. Burrell; "Newer Varieties of the Violetta Type," by Dr. Stuart; "Winter Treatment of Violas," by Mr. A. J. Rowberry.

The Garden Cineraria.—The following extract from Dr. Focke's *Die Pflanzen Mischlinge* will be read with interest just now: "The crossing of Senecio cruentus with S. populifolius (non L.) gave as issue the so-called Cineraria of gardens. According to A. Otto, the first hybrid varieties were bicolor, cœlestis, formosa, Hendersoni, pulchella, and Waterhouseiana. The Canary Islands are the home of the parent species. Afterwards several Canarian and Madeiran species were crossed with these mongrel varieties, viz., S. tussilaginis, Lees; S. Heritieri, D.C.; S. Maderensis, D.C. (=S. auritus Lowe), and S. Webbii, Schltz. Bip. All of these crosses have now united in gardens in one mongrel race of plants rich in variety of form and colour, A. S. Webbii, Schltz. × S. cruentus, D.C. was, according to Bouché (*Wittm. Monatsschr.* 22, p. 298), spontaneously produced in the Berlin botanical garden from two cultivated plants of these species standing in proximity to each other.

National Rose Society.—At the committee meeting of the National Rose Society, held on Tues-

day, May 14, a letter was read from the Town Clerk of Portsmouth, conveying the invitation of the town council of that borough to hold their Southern Show in that town in 1897, and the invitation was accepted with the thanks of the committee.

THE PEOPLE'S PALACE HORTICULTURAL SOCIETY.—At a meeting of the committee on the 13th inst., the chairman, Mr. ERNEST FLOWER, reported that he had received a communication from the president, the Duke of FIFE, to the effect that he hoped H.R.H. the Duchess of YORK would attend and open the Flower Show to take place on July 11; but should anything interfere to prevent H.R.H. being present, H.R.H. Princess CHRISTIAN would attend in her stead.

BIRMINGHAM AND DISTRICT AMATEUR GARDENERS' ASSOCIATION.—At the meeting of the above Association, which was held at Colmore Row on Wednesday evening, May 15, the papers sent in for a special prize offered by Mr. HERBERT STONE, F.L.S., for "Notes on Observations in the Garden" during January, February, March, and April, were read. Mr. A. ROE was awarded the prize. His paper was excellently written, and showed how keen had been his observation of the various changes which took place during the period named. He also reviewed his experiments with several insects during the very severe frost; the conclusion he had come to was that most insects survived even the intensest frost. During the evening Mr. STONE was unanimously elected a vice-president of the association.

THE ORIGIN OF VARIETIES—SAINTPAULIA.—Now that the question of variation and its origin is prominently before our readers in reference to the Cineraria, it is interesting to note the variations in the quite recently-introduced East African Saintpaulia ionantha. This, as originally shown at the last quinquennial at Ghent, had bluish-lilac flowers, but already a colour variation is observable in some flowers sent us by Mr. ERNST BENARY, of Erfurt, and on which we commented in a recent issue. Mr. BENARY has now added to our obligations to him by sending us specimens of two forms of capsule as borne on different plants. In one case the capsule is 15 mill. long, 6 mill. wide, flattened from back to front, oblong acute, and covered with appressed hairs (setae), pointing upwards. The other capsule similarly flattened, and with a like vestiture, is broadly oval, acute, 11 mill. long, 8 mill. wide. Messrs. Sutton tell us that they have observed similar variation.

AZALEA MOLLIS.—Mr. L. J. ENDTZ, of Boskoop, sends us flowers of two varieties of Azalea mollis raised by him. So far as can be judged by isolated specimens, the flowers show a decided advance in colour and substance. In one instance the yellow-buff ground is marked with darker spots on the upper petals. The size of the flowers is also noteworthy.

THE FEBRUARY FROST.—According to a statement cited in *Nature*, the recent cold weather was experienced even in the Gulf of Mexico! In several of the States the Sugar-canes and Coffee bushes were killed by the frost. Snow fell in the Vanilla districts and elsewhere, and remained on the ground for three days. Many animals and birds died from the cold.

HORTICULTURAL CLUB.—The usual monthly dinner and *conversazione* of the Horticultural Club took place at the Hotel Windsor on Tuesday evening last week. There was a good attendance of members, the chair being occupied by the Rev. W. WILKS. The discussion after dinner was opened by Dr. MORRIS with a very interesting address on the "Cultivation of Fruit and Early Vegetables in the Canary Islands for the English Market." Of these the principal were Tomatos, Potatos, and Bananas. Oranges also were cultivated, but at present not to any large extent. Those produced are of a very superior quality, allied to the St. Michael, if not identical with it. He described in detail the methods of cultivating the Tomato, the manner of packing, and the arrangements made with the growers for the sale and exportation of the fruit. He also described the methods of irrigation, the most essential point in the cultivation of the plant in the Canary Islands; the care which was taken, the laws that regulate it, and the way it is supplied. The Tomato has, however, there, as in other places, been subject to disease, which seriously threatens to interfere with it, and therefore he regarded it as simply of temporary culture. The Canaries have been subject to these changes. Their palmiest days were when the cochineal insect was the great industry. The discovery of the aniline dyes completely extinguished it—as effectually, indeed, as did the Coffee-fungus the chief industry of Ceylon. Dr. MORRIS stated that there can be no doubt that the fungus which attacks the Tomato is identical with that which plays such havoc with our Potato, both being allied plants. He also spoke of the cultivation of Potatos, and stated the chief variety planted was Magnum Bonum. In many places the culture of the Banana had been introduced very successfully. He does not know how it may be in the future, but at present the smaller subjects for garden cultivation, such as Lettuces, have not been attempted. A very brisk and animated discussion took place afterwards, in which most of the members present joined, especially Messrs. WEBBER and MONRO, who gave some interesting information as to the prices obtained for Canary Island produce at Covent Garden Market. A friend of the latter, who had been a resident in the Canaries, gave some very valuable information with regard to the laws relating to tenure, as bearing upon the production of various vegetables. A cordial vote of thanks was awarded to Dr. MORRIS for his interesting paper, as also for his kindness in sending samples of the Tomatos and Potatos for the dinner; and to Mr. WEBBER for some Tasmanian Apples for the dessert.

A CUCUMBER AND MELON DISEASE.—Peronospora cubensis, B. & C., a fungus allied to the one causing the Potato disease, has been known for some time as the cause of trouble amongst Melons and Cucumbers in the United States, has been reported from three localities in this country during the present year, and in one instance it was stated that the entire contents of one large Melon-house had been completely destroyed for the last three years in succession. The fungus attacks the leaves, growing for some time concealed in the tissues, and finally appearing on the under-surface as a very delicate white bloom or mildew, which is composed of the fruiting branches of the fungus, bearing myriads of spores, which readily find their way on to healthy leaves during the process of watering or syringing. If plants are but slightly attacked, the fungus may be kept in check by spraying with a dilute solution of permanganate of potash, or of Bordeaux Mixture, care being taken to wet the under-surface of the leaves. Even if the disease has not shown itself, it would be wise to spray with either of the above fungicides as a preventive, now that the fungus is with us. We have seen the same fungus on leaves of Cucurbitaceous plants from Australia and Japan. *G. Massee.*

SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—A meeting was held at the Parish Room, Shirley, Southampton, on the 20th inst., and there was an excellent attendance of the members, the President, W. F. G. SPRENGER, Esq., in the chair. A paper on the "Cultivation of the Melon," was read by Mr. J. JONES, The Gardens, Terrace House, Polygon, Southampton. There was a fine display of cut blooms of Rhododendrons, Azaleas, and other hardy shrubs, sent by Mr. W. H. ROGERS, Red Lodge Nursery, hardy perennials by Mr. B. LADHAMS, hardy cut flowers by Colonel W. S. SIMKINS (gr., Mr. J. E. WILCOX). A vote of thanks to the exhibitors closed the proceedings.

FRUIT FROM THE ANTIPODES.—The *Oceana* arrived here on the 18th instant, bringing the following fruits:—4 boxes from Sydney, 9,247 from Hobart, 894 from Melbourne, and 130 from Adelaide—or a total of 10,275 boxes of Apples.

DANIEL HOOIBRENK.—We have to record the death, in his 84th year, of D. HOOIBRENK, a well-known horticulturist, which took place recently at Hietzing, near Vienna. HOOIBRENK came of an eminent family of gardeners residing at Haarlem; and after pursuing his occupation in the home garden, he went to Paris in search of further experience. Here he was discovered by Baron CARL HÜGEL, at that time Austrian ambassador at the Belgian Court. In 1838, HÜGEL brought HOOIBRENK to his place at Heitzing. After six years of adventurous travel Baron HÜGEL returned to Europe, in 1837, with a large collection of seeds and plants, which had never flowered in a European garden before. All of these things succeeded admirably under HOOIBRENK's intelligent treatment. Some of the Asiatic Rhododendrons, at the present every-day plants, were collected by HÜGEL on the summits of the Himalayas, and flowered for the first time in Heitzing. HOOIBRENK undertook journeys through Europe, Asia, and Africa, and he was an experienced man of the world when Baron HÜGEL left him a part of his Heitzing property. He did not cease to be an experimentalist when he began to be a nurseryman and florist, and many of his researches and experiments have been of great value to agriculturists, vineyard owners, gardeners, and others. In certain branches of the nursery business he was pre-eminent, viz., in Tea Roses, Gladiolus, of which he had at one time 6000 varieties of the latter; and dwarf Conifers, trained according to Japanese fashion, which were sought after by the Vienna ladies for their *boudoirs*. HOOIBRENK was the last of those Dutch emigrants whose arrival in Austria began in 1745, and which was to have such important consequences to that country.

PUBLICATIONS RECEIVED.—From the New York Agricultural Experiment Station: PETER COLLIER, Director, Geneva, N.Y.—*Bulletin*, No. 83: I. *Insects Affecting Late Cabbage;* II. *Notes on the Stalk-borer;* III. *Insecticides.*—*Bulletin*, No. 84: *Spraying Pear and Apple Orchards in* 1894.—*Bulletin*, No. 85: *Analyses of Commercial Fertilisers Collected during the Fall of* 1894.—*Bulletin*, No. 86: *Treatment of Common Diseases and Insects Injurious to Fruits and Vegetables.*—*Bulletin*, No. 87: *The San José, or Pernicious Scale.*—From the Cornell University Agricultural Experiment Horticultural Division (Ithaca, N.Y.).—*Bulletin*, No. 74: *Impressions of the Peach Industry in Western New York*, by L. H. BAILEY.—*Bulletin*, No. 75: *Peach Yellows*, by L. H. BAILEY.—*Bulletin*, No. 76: *Some Grape Troubles of Western New York*, by E. G. LODEMAN.—*Bulletin*, No. 77: *The Grafting of Grapes*, by E. G. LODEMAN.—*Bulletin*, No. 78 (Entomological Division): *The Cabbage-root Maggot, with Notes on the Onion-maggot and Allied Insects*, by M. V. SLINGERLAND.—*Bulletin*, No. 79 (Horticultural Division): *Varieties and Leaf-blight of the Strawberry*, by L. H. BAILEY.—*Bulletin*, No. 80: *The Quince in Western New York*, by L. H. BAILEY.—*Bulletin*, No. 81: *Black-knot of Plums and Cherries, and Methods of Treatment*, by E. G. LODEMAN.—*Bulletin*, No. 82 (Veterinary Division): *Bulletin*, No. 83 (Entomological Division): *A Plum-scale in Western New York*, by M. V. SLINGERLAND.—*Proceedings of the Agri-Horticultural Society of Madras*, October to December, 1894, including, Plants sent to Port Blair, Trees Planted Out, Budget Estimate, Celestina Chilly, Growth of Rain-trees, Plants from Port Blair, Financial Statement, &c.—*Bulletin of Miscellaneous Information*, Botanic Garden, Grenada, October, November, and December, 1894, includes Notes on Fibre and Fruit, Methods of Physical and Chemical Soil Analysis, also Notices relating to the Business of the Garden, Exchanges, Sales, &c.—*Bulletin of the Botanical Department, Jamaica*, vol. ii.,

Part 3, edited by William Fawcett, and containing: Rum Analysis, Notes on Plants yielding Rubber, Grubs at Roots of Cocoa Trees, Oranges, Eucalyptus as Fuel, &c.

Home Correspondence.

BATH COS LETTUCE.—The head of Lettuce I send you has been grown out-of-doors all the winter under a frame protection without covering; they were exposed to the weather about the third week in March. I have been cutting or pulling Lettuce since May 4, also Cabbage during the same period, and am still doing so. Our garden is protected from the north and north-west, also the east side by a wood. *Richard C. Harris, Oaken Holt, near Oxford.* [The Lettuce has stood the winter very well, but it is a very hardy variety, and seldom succumbs to frost, except it be as severe as that of the past winter. Ed.]

THE EFFECTS OF THE WINTER IN EAST DEVON.—The damage done in this part of Devon will take years ere it is obliterated, and the plants and shrubs recover their usual flourishing state. There is no doubt that we are a little more exposed than "W. T. T." appears to be at Teignmouth, still it is a most favoured spot. I give a few names of Coniferous plants, &c., that have suffered most, some killed outright, while others, I am afraid, are so much injured as to be past recovery. Cupressus Lambertiana has suffered severely, the foliage being brown as the Gorse on Woodbury Common, and almost as destitute of foliage; Wellingtonias dreadfully cut, especially on the north-east side; Pinus Hartwegi has the appearance of fire having passed over it, while a tree of P. insignis close by, and probably one of the finest specimens in the kingdom, is almost unscathed; several of the Junipers are cut up as bad as the Cupressus above-mentioned; and I cannot remember seeing the Irish Yews having such a burnt-up appearance as this season. Picea Morinda (Smithiana) is severely punished, as well as P. Albertiana. Choice specimens of Rhododendrons of huge size show the same burnt-up front where they were in the least degree struck by the wind; also Berberis dulcis. The Tea plant (Thea viridis), is quite destitute of foliage. Colletia bictonensis, a very singular-looking plant, with linear spiny foliage, and one that has stood out many a severe winter, is killed to the ground; whilst against south and east walls Magnolia grandiflora, Ceanothus azureus, Macartney and Banksian Roses, Solanum jasminoides and Berberidopsis corallina suffered badly. A plant of Coronilla glauca growing against an east wall, and considered to be hardy in this county, was killed. I could enumerate many more, but I have said enough to show that we cannot all pen such favourable returns as your Teignmouth correspondent. *James Mayne, Bicton Gardens.*

THE DRILL HALL LECTURES.—Will you permit me to make a suggestion in relation to these usually admirable lectures, that the Council or representatives should arrange prior to the commencement of each lecture to have a couple of Fellows present ready to move the customary votes of thanks, and thus prevent the somewhat unfortunate *contretemps* which sometimes happens; as, for instance, at Mr. Morris' lecture last week—and relieve the chairman of a difficulty. I venture to think that on all occasions the vote of thanks should begin the discussion, should any follow, as such a proposal at once furnishes encouragement to Fellows to express their opinions. It is so commonly a case of waiting for some one to begin. A cordial, if formal, vote of thanks has rarely been more thoroughly deserved than was the case on the 13th, for Dr. Morris not only gave a singularly interesting lecture, but his illustrations enabled the audience to follow him most effectively and pleasantly. Some present, perhaps, expected to learn more respecting the nature of the trade in market products which seems to be so largely growing there, in spite of the extremely difficult surroundings the volcanic nature of the soil furnishes. Still, the Canary Islands thrive on their great warmth and light—climatic conditions Great Britain can never hope to enjoy until these islands are enclosed under a glass roof, the interior of which is heated and lighted artificially. For that millenium we may well sigh in vain. In the meantime we may well be thankful for the enterprise of the Canary Islanders. A very warm compliment should be paid to the Council for the remarkably successful effort made to enclose and darken the lecture end of the Drill Hall for the purpose of the lecture. It was one of the things that merited a vote of thanks also on the occasion. Let us hope it may not be by many the last of such illustrated lectures. Since writing the above I have read in one of your contemporaries an opinion that the lantern pictures were a comparative failure. That deprecatory criticism is happily counterbalanced by that of another contemporary, who regarded them as a success. This latter adds a suggestion that some similar means of isolation should be adopted in the case of the meetings of the committees. That may be more difficult, but the present sprawl-footed curtain standards are nuisances, and the curtains ineffective. Perhaps it would not be difficult to have a heavy red or green baize curtain suspended by an iron rod, which could be made to unscrew into short lengths from the first gallery, and could be easily lowered or raised at will with the aid of pulleys. Such an enclosure would also during the lectures shut out the noise of feet and voices in the hall. *D.*

THE EXTERMINATION OF ANTS IN HOT-HOUSES.—No doubt there are many readers of the *Gardeners' Chronicle* who will be glad to learn that there is a sure remedy for eradicating this troublesome pest from their glasshouses, &c. Those who are troubled with ants to the extent that I and my predecessors here have been, will know how to appreciate this remedy. It is only those who have had to battle with them as we have done, who know what a troublesome and expensive pest it is, far more so than all the other insect pests put together. They had been established in the houses here for more than thirty years, and proved a constant worry and trouble to every gardener who has been here during that time, as well as a great expense to the employer. During this long period, every imaginable (I say imaginable, as nothing is effective which does not allow the working ant to carry the poison to the queens, &c.) remedy has been tried. I have destroyed millions by various methods; for curiosity sake, I preserved those we killed in the space of six weeks, these filled a box 12 inches long, 9 inches wide, and 2 inches deep, and even this enormous death rate did not seem to diminish the pest, for the very reason that it was the working ant only that we destroyed—and how to get at the queens and males was the difficulty, as they never leave their haunts in search of food, but have it brought to them by the neuters. Neither does the soldier (which is a much larger ant than either of the other three classes) leave his post of duty to fetch food, but stays to guard the colony, and is also fed by the neuters. When I say that bands of birdlime had to be put on the pillars, rafters, trellises, Vine-rods, Peach trees, and every other thing the ants could run up, to check them from eating our forced Strawberries, Peaches, Grapes, &c., and that they carried the mealy-bug, scale, and aphis from plant to plant, tree to tree, and house to house, and burrowed in the soil in the inside borders and pots, and put the mealy-bug on the roots of our Vines and nearly every plant in our houses, some idea will be formed of the trouble this pest was. I am most thankful to say that we are now entirely free from them, there is not an ant to be seen in any of our houses; and this has been accomplished with the Ballikinrain Ant Destroyer, discovered and compounded by the gardener at Ballikinrain Castle, Stirlingshire. I commenced using this compound the last week in November, 1894, and by the middle of April following we were quite clear of them. An interesting fact connected with this work of destruction is that in some of the houses I used cyanide of potassium in conjunction with the Ballikinrain, thinking by so doing, we should eradicate the pest more quickly, but the very opposite was the result, as they were exterminated from the houses where no cyanide of potassium was used, although they were far more numerous in these, several weeks before they were from those where cyanide was employed. This proves that if the means of supplying the queen with food is taken away, she very quickly produces others. The neuter may be destroyed by the thousand, but unless the queen too is killed, the supply is constantly kept up and the pest remains. The Ballikinrain Ant Destroyer is compounded with a slow poison, which allows the working ant to carry it to the queen, young, &c. The large ant or soldier, as he is termed by naturalists, was never seen here until the other classes were nearly extinct, and even after they were extinct, the soldiers were formed in companies under flower-pots, &c. I might say that this particular ant is not a native of Britain. *J. Hughes, Wentworth Woodhouse Gardens, Rotherham.*

THE EFFECTS OF THE LATE FROST IN NORTH-EAST IRELAND.—It has been suggested that it would be of interest to lovers of plants if some record were made of the effects of the unusually severe frost of last winter, and as we grow about 1100 species and varieties of more or less rare plants in the gardens here, I have ventured to send you a list showing the casualties, the slightly injured, and the uninjured. Among the first are several which were moved just before the frost set in, and it is, perhaps, hardly fair to count them among the dead. When we read of the common Laurel having been killed in several parts of England, some people may be surprised at the number of rare and half-hardy things which have survived here; but the reason is that the gardens lay on the slope of a hill, are well sheltered by old trees, and the prevailing wind passes over them. In the list of survivals I have not mentioned the common plants. Tea Roses have not suffered in the least; out of about 700 Pampas-grass only two dozen have been killed; out of 160 species and varieties of Conifers, the following were injured more or less:—Cupressus Lawsoniana alba spica, C. erecta viridis, C. pyramidalis argentea, C. macrocarpa, Juniperus virginiana albo-spica, Glyptostrobus heterophyllus. This is a bad season for Rhododendrons blooming, but of the Himalayans, Rhododendron barbatum, R. ciliatum, R. campanulatum, R. fulgens, R. Thomsoni, R. Aucklandi, R. calophyllum, and R. niveum have flowered freely. *T. Ryan, The Gardens, Castlewellan, co Down.* [We hope to publish the full list next week. Ed.]

NECTARY IN THE BLOOM OF CALTHA PALUSTRIS.—In Herman Muller's *Fertilisation of Flowers*, there is at p. 80 a drawing of a carpel of Caltha palustris showing, near the base, a nectary bearing a drop of honey. I cannot, after most careful study, find a nectary or anything resembling the depressions on the sides, bounded by slight folds, referred to by Müller. What is the experience of others? *Wm. Cuthbertson, Springfield, Rothesay.*

VICTORIA SPINACH.—I have seen the notice of your correspondent "A." in the issue of the *Gardeners' Chronicle* for May 4, and would like to corroborate all that he there says about this new and valuable variety. I have cultivated it with older varieties of Spinach during the last two years, for both summer and winter use. At present, after one of the most severe winters ever known, I have a great abundance of it in fine condition, and the plants will doubtless continue to afford pickings for, at the least, three weeks longer; whereas, the old varieties have run to seed. I am so satisfied with the Victoria, that in future I shall grow it only. Market-gardeners will find it to their advantage to cultivate the variety. *W. G. Pragnell, Castle Gardens, Sherborne.*

JADOO FIBRE.—I have been asked by several persons whether washing plants prior to transplanting them into Jadoo fibre is a necessity, and I should be glad if you would give me an opportunity of saying it is not; in fact, I have decided in future not to recommend amateurs to attempt washing the plants at all, but to use Jadoo just as they would ordinary soil. I have myself usually washed plants when I transplanted them into Jadoo, and prefer doing so, as it enables the roots to run more freely in the fibre, but I find there is a certain amount of risk in amateurs doing this, as the plants are susceptible to cold for a few days afterwards, and it certainly should not be attempted either in very cold weather, or when a plant is just beginning to throw out its young roots. *C. Halford Thompson, Eastcliff, Teignmouth, Devon.*

FROST IN MAY.—On Sunday night, May 19, we had a repetition of the severe weather of May 20 of last year, 6° of frost being registered at Crosswood. Fortunately, the weather was cold over-night, indicating the occurrence of frost; we, therefore, covered everything up that we could do, thus greatly lessening the damage done by the frost. The shoots of Potatos in the open are blackened, and the young shoots of trees much damaged. *R. T. Williams, Crosswood, Aberystwith.*

SOCIETIES.

ROYAL HORTICULTURAL.

The Temple Show.

May 21, 22, 23.—The great London show of the year, that of the Royal Horticultural, was held in the Inner Temple Gardens, on these dates. Threateningly overcast skies and a cool air prevailed throughout the first day, a glimpse of sunshine only once and for a short time lighting up the gloomy interior of the marquees in which the exhibits were arranged. Even a sunless day has its counter-balancing advantages in the greater degree of coolness in the crowded tents, and the lessened tendency of plants removed from warm moist glasshouses to droop in leaf and flower. The beholder instinctively turns to his reminiscences of previous years' shows to deduce his comparisons as to the number and choiceness of particular sections, and to the particularly fine plants new or old which are shown. On this occasion the Rose was in much force as a pot plant, and very well grown and flowered were the most of them. These were in excess of 1894. The Orchids were rather more numerous, if the plants on the whole were smaller. Some remarkable examples were to be noted in the collection sent by Sir Trevor Lawrence, Bart., the President of the Society. These included splendidly bloomed, large examples of Epidendrum Stamfordianum, Cattleya Skinneri, the true old form and one of the brightest things there, and Masdevallias. His Odontoglossums, Alexandræ in variety, O. luteo-purpureum, and O. citrosmum varieties were bewildering in their loveliness. Many good novelties were remarked in Messrs. F. Sander & Co.'s group, notably Miltonia Phalænopsis Princess of Wales. Baron Schroder and Mr. Jas. Cypher contributed numerous good plants, as did Messrs. B. S. Williams of Holloway, and Mr. Ellis of Hazelbourne, Dorking, and many other contributors.

The Sonerilas and Bertolonias seen last year and in 1893, were again shown, as also some dwarf, handsome-leaved Rex Begonias, Dracænas, Heliconia, Streptosolen Jamesoni, appeared again in finer form than they have hitherto been seen at shows.

Hardy flowers and Tulips were numerous and of good quality, and fruit and vegetables were noted for the fineness of the exhibits, if not for quantity.

Floral Committee.

Present: W. Marshall, Esq., chairman; Messrs. G. Nicholson, H. Herbst, J. Walker, J. Jennings, C. Blick, H. Cannell, G. Stevens, C. Jeffries, C. T. Druery, C. J. Salter, H. J. Jones, W. Briscoe-Ironsides, R. B. Lowe, J. H. Fitt, E. Beckett, E. Molyneux, W. Bain, R. Dean, H. B. May, S. A. de Graaf, and J. W. Barr.

NEW PLANTS.

There were many interesting and valuable plants in the collection from Messrs. F. Sander & Co., St Albans, Herts. An award of a First-Class Certificate was made to Dracæna Godseffiana, a new species of the serculosa type, described in the *Gardeners' Chronicle*, p. 212, August 25, 1894, but not previously exhibited in this country. To the popular eye, the habit of this section of the genus is much like that of the smaller-growing Bambuseas, and the variegated foliage of this species, which is generally in whorls of three, resembles the leaves of a variety of Aucuba japonica.

An excellent specimen of Ludovia crenifolia, a plant first exhibited at the last Ghent Quinquennial Exhibition, was remarked. An idea of the decorative value of this plant may be had by referring to fig. 64, *Gardeners' Chronicle*, April 15, 1893. Heliconia illustris var. rubricaulis, described in *Gardeners' Chronicle*, April 8, 1893, is a remarkable plant, with large handsome leaves of pleasing green, having the nerves and mid-rib of a charming rose or red colour. Maranta Sanderiana, from Brazil, is a fine species, with bold dark-green leaves, with numerous white stripes extending from the margins to the mid-rib, but touching neither. Several varieties of Anthurium were included, and plants of Nepenthes Hookeriana, N. Mastersiana, and N. M. purpurea.

A few excellent new varieties of ornamental foliage-leaved Begonias were exhibited, among which was remarked the variety Rajah, figured in *Gardeners' Chronicle*, August 25, 1894. Another variety, named Sander's Masterpiece, received an Award of Merit on this occasion, and, together with Lady Annesley, it is of high decorative appearance. The last-named variety has silver-surfaced foliage, except for a slight and very pretty margin of green, and a little of same colour where the principal nerves converge. An excellent plant of the interesting Darlingtonia californica was exhibited, and specimens of Sarracenia flava and S. f. picta, the latter variety being marked sparsely with red towards the apex and in the throat of the pitcher. Saintpaullia ionantha and a large specimen of Arisæma fimbriatum are also worthy remark. A collection of Sonerila hybrids exhibited various markings upon the leaves, distinct from each other, and beautiful on close observation.

ROSES.

Roses formed one of the principal features of the show. It would be difficult to choose between the three groups of pot plants from Waltham Cross, Cheshunt, and Slough.

Messrs. W. Paul & Son had a large number of cut Roses, in addition fifteen large boxes; and also had well grown plants of Madame Montet, Prince C. de Rohan, Crown Prince, Louis van Houtte, Augustine Guinoisseau, White Lady, Spenser, Caroline Testout, La France, Mrs. John Laing, Albert la Blotais, Crimson Queen, Baron Wolseley, and Duchess of Albany. Among these were several standards of high merit, and we noticed, too, what a good companion Claire Jacquier will make to Crimson Rambler. The habit is much the same in every way, the main difference being in colour of blooms, these are a pale creamy yellow, with orange centre. The best of the cut Roses were Perle des Jardins, Spenser, Duke of Teck, with some excellent examples of Souvenir d'un Ami, Clio and Corinna, a new Tea-scented Rose; Enchantress is pretty, somewhat after the flower of Melaine Willermoz, but a warmer-coloured bud—it is a dwarf grower, and apparently very free blooming.

Mr. Charles Turner, Slough, had a magnificent group of larger plants, in which their Crimson Rambler again figured to great advantage. It was in many forms, from almost flat dwarfs to standards and climbers up the pillars of the tent. It has already been fully described, and needs no more. Among the best of the pot plants were Madame Lacharme, La France (good), Mrs. John Laing, Mrs. Victor Verdier (very bright), Celine Forestier, Edith Gifford, Margaret Dickson, Edouard Morren (always a good pot Rose), and Souvenir de S. A. Prince. The best of the standards were Edith Gifford and Maréchal Niel.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had a grand group of plants in perfect health; both dwarf and standard forms were represented, the best varieties being Heinrich Schultheiss, Catherine Soupert, Souvenir de Gounod, Elise Boelle, Merveille de Lyon, Paul's Carmine Pillar (most distinct and bright), Ulrich Brunner, François Levet, and grand plants of William Warden and La France. A few good cut blooms were exhibited in fancy stands, the best being one of Maréchal Niel.

Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, had a small group in pots, but which were a little past their beauty, but the cut flowers were fresh and good. Three boxes of Maréchal Niel and two of Niphetos, as well as a box in which Souvenir d'un Ami and its white sport The Queen (syn. Souvenir de S. A. Prince) alternated.

Messrs. Jackman & Son, Woking, had a similar group, but no cut flowers, their best plants being Celine Forestier, Madame Lacharme, Duchesse de Morny, and Alfred Colomb.

Mr. Frank Cant, Braiswick, Colchester, exhibited some small pot plants, carrying from one to four blooms of fair quality, also a few standards, the whole being flanked with Polyanthus, Perle d'Or, Golden Fairy, Etoile d'Or, Anna M. de Montravel, Georges Pernet, Little Dot, Ma Paquerette, and others.

The only exhibitor of cut blooms was Mr. George Mount, Rose Grower, Canterbury, who had some very creditable flowers. The best in four large boxes were Catherine Mermet, The Bride, Mrs. John Laing, General Jacqueminot, Etienne Levet, Ulrich Brunner, Niphetos, and Captain Hayward. A box of Catharine Mermet, and one of mixed Roses with stems some 18 inches in length, were very showy and of good quality. This was a new departure, and one which might well be copied to break up the formality and monotony of cut Roses as generally shown. Moss, and a row of small Pteris serrulata Ferns in front, all helped to make this one of the prettiest collections among Roses.

PELARGONIUMS.

Mr. Charles Turner exhibited an attractive group of show and fancy Pelargoniums, dwarf, profusely-flowered plants, and first-class examples of good culture, less formality in training being a commendable feature. Of the show, the finest were Duke of Norfolk, a large bold flower, deep cerise and dark blotch; Statesman, of a lighter shade; Gold Mine, very bright and showy; Spotted Beauty, one of the best of its type, very profuse; and Edward Perkins, a brilliant cherry-red, and a fine decorative variety. Of the fancies, Delicatum, one of the finest light, and The Shah, the best of the dark varieties; with Iona and Ambassadress, two very profusely-flowered plants; also Lady Carrington, a soft shade of pale pink, were the most conspicuous.

Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, staged a large group of show and market varieties, compact, bushy, semi-specimen plants, in the best of health and vigour. The finest of the light kinds were Mr. H. J. Jones, a large and bold flower; Eucharis, a pure white, and a charming variety; Magpie, a fine spotted sort; Pearl, another pure white, with crimped petals and a fine truss; and Mrs. W. Wright, bearing extra large trusses. Of the dark sorts, the best of these were Edward Perkins, very bright; Mrs. H. M. Stanley, darker than the foregoing; and May Queen, a good type of the show Pelargonium.

Mr. Godfrey, Exmouth, Devon, showed Pelargonium Queen of the West, a profuse-flowering, dark-coloured decorative variety of the show section, with large trusses and a dwarf growth. Mr. H. J. Jones staged also a well-flowered group of dwarf-grown plants, very bushy, of Ivy-leaved Pelargoniums, in excellent variety, showing the adaptability of this section to this particular purpose of decorative work, the examples being profusely flowered. The best of these were Galilee, a bright pink, and one of the best; Ryecroft Surprise, a darker shade of pink; La France, a lilac-pink; Liberty, a dark cerise, very dwarf; Jersey Beauty, a dark red, a rich colour; and Isodore Ferol, a light pink.

BEGONIAS.

These were shown in very fine condition by Mr. Thos. S. Ware and Messrs. Cannell & Son. Mr. Ware's plants betokened vigour of growth, and were of a dwarf habit. The double-flowered varieties were particularly noticeable, and of these the best were Princess May, a pure white, of good form; White Camellia, purer even than the preceding, with flat, plain petals, the first-named being of wavy outline; Bexley Gem, a dark cerise; Miss Florrie Dear, white, with Picotee edge; Maid of Kent, a deep rose-pink, very large; and Victory, a bright orange-scarlet. Of the singles, the best were Moravia, a light orange-scarlet, very large; Fairy, white, with rosy-red margin and veins; Bexley White, pure in colour; Pride of Bexley, blush-white, very fine form; and Challenger, an intensely dark red. This group was relieved by a few plants of Palms, light grasses, and Ferns (Award).

Messrs. Cannell & Sons also staged a very large and showy group, dwarfer in growth, and as vigorous as the preceding, showing also great variety of colour. Of the doubles, the finest were Mary Cannell, deep rosy-pink; Mrs. Frieslton, pale primrose-yellow; Lady Whitehead, a deep shade of the same colour; Mrs. Walter Phipps, light rosy-pink, very full. Of the singles, the finest were found in W. Marshall, light orange; Mars, deep scarlet, very fine; Primrose Queen, pale primrose; and Miss E. Clarke, white, with rosy-red margin and shading; other double varieties, of particularly good shape, were included, being very full and compact; these were Lady Mary Wood, a pale apricot-pink; Rosebud, quite a gem, a soft shade of coral-pink; Future King, dark scarlet, with crimped edges; and Mrs. W. B. Wynne, a pale pink; this group was backed by small Palms, and edged with well-grown plants of Echeveria formosa and Isolepis gracilis, a pleasing contrast.

Messrs. Sutton & Sons showed a selection of B. semperflorens hybrids in light and dark shades, showing a marked advance in this section for bedding purposes.

CANNA INDICA.

Messrs. H. Low & Co. had a good group of the dwarf Cannas, finely grown plants, in the best varieties, as Queen Charlotte, E. L. Bailey, pale yellow, spotted crimson; Alphonse Bouvier, brilliant crimson; Florence Vaughan, rich yellow; Chas. Henderson, a fine crimson; Emile Barre, orange and red; Explorateur Campbell, rich crimson; Gloire de Marches, deep crimson; Pierre Dupont, light red; Paul Sigrist, rich crimson, edged yellow; and Sophie Buchner, reddish-orange.

Messrs. H. Cannell & Sons staged a fine selection of the dwarf Cannas, bearing large trusses of blooms; Queen Charlotte was in specially good condition; this is one of the best and most distinct varieties grown; other good kinds comprised Madame Crozy, Aurora, and Duc de Mortimart, a capital yellow. These plants made an excellent display.

CALCEOLARIAS.

Messrs. James & Son, Farnham Royal, staged a very large and fine group, the plants being unusually dwarf in growth, and in one mass of bloom, the strain bearing evidence of careful selection, the colours were well varied, and the blossoms of good form and extra large; the pale primrose and rich golden selfs being very prominent.

Messrs. Sutton & Sons also showed an extra choice selection, amongst which were finely-grown plants of Cloth of Gold, which comes quite true from seed, the colour a deep golden-yellow, the flowers of large size and the growth vigorous; other and most excellent varieties were included, the dark-coloured forms being present in very rich shades, and the habit all that one could desire.

AZALEA INDICA.

Mr. Charles Turner showed half-a-dozen profusely flowered specimens bearing blossoms of extra quality, Grandis, Charmer, Madeleine, and Roi d'Hollande, were the best of these; smaller plants comprised Princess Clothilde, Lively, Madame V. Cuvellier, and Duchesse de Nassau, making in all a fine display.

RHODODENDRONS (HARDY).

Messrs. John Waterer & Sons had a large group of medium-sized, well-flowered examples, affording a wide range of colour, Chionoides, milky-white, very dwarf; Francis B. Hayes, white with dark blotch on the upper petals; Marchioness of Lansdowne, large truss, rose-pink with dark spots; John Walter, fine deep scarlet; and Princess of Wales, rose with white centre, were the best kinds (Award).

CALADIUMS.

A group of Caladiums staged by P. Ralli, Esq., Ashstead Park, Epsom (gr., Mr. Hunt), was one reflecting the highest credit upon an amateur. All the plants showed excellent cultivation, many of the well-known species and varieties being represented by large specimens, which were faced by smaller plants of newer varieties. Two plants of L'Automne, and others of Madame Jno. Box and Madame Mitjana, should be specially mentioned.

The collection staged by Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, was a magnificent one. Upon a groundwork of Ferns the various specimens were dotted with excellent taste, the effect being good. The plants were of considerable size, and in most cases the true character of the variety was fully and capitally displayed. In the back row a fair amount of colour was furnished by the high coloured Gaspard Crayer, by Louis van Houtte, and the excellent variety Mrs. Harry Veitch. Of the green and white forms were Lymington and Marquis F. Dalburton. Charlemagne and Reine de Danemark added variety. In the next row were splendid plants of Cardinale, Madame Jno. Box, Alice Van Geert, and John Laing, Madame Grouet, Candidum, and B. S. Williams. Nearer the front was Madame Imbert Kœchlin, a creamy-yellow, leaf almost oval in shape, marked sparsely with scarlet; Comte de Germiny, George Berger, a highly orna-

mental variety with port wine-coloured leaves; Baron Adolphe de Rothschild (Ibis Rose of last season), F. W. Moore, Madame E. Pynaert, Ibis Rouge, and other delicately-marked varieties of last season and others. Among the novelties of the present season were Sir William Broadbent, with scarlet veining, green ground, and margin marked much with white and flesh blotches; J. Pierpont Morgan, a coral leaf, with narrow green margin, and slight green veining over surface; Henry Irving, a light, bright-looking variety, with silver centre, and green-marbled margin, with veins of bright pink (Award of Merit); and Lord Derby, a pretty-coloured leaf, with green veining (Award of Merit).

Messrs. Jno. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., staged a collection remarkable for the perfect colour of many of the varieties included. La Lorraine was especially noticeable in this respect, and the excellent and rather scarce President de la Devansaye; Ibis Rose, one of the most delicate of all the varieties, had unusual colour, and Madame Léon Say and Ibis Rouge were pretty and good. Assunguy was granted an Award of Merit at the exhibition last year, and is a capital plant, of very ornamental and distinct character; Mrs. Harry Veitch also exhibited uncommon colour. Orifiamme is a distinct variety, with richly self-coloured leaves, excepting a narrow green margin. A large well-grown plant of Rose Laing well deserved the Award of Merit accorded it. The collection, with Ferns interspersed, and the pretty little Caladium Margarita for edging, was extremely praiseworthy.

Mr. W. Ilton, Putney Park Road, Putney, S.W., also had a small group of Caladiums, comprised of good specimens of a number of varieties, grouped together in large baskets. Messrs. Hugh Low & Co., Clapton, included a few varieties in a miscellaneous group exhibited by them.

Fig. 96.—group of clematis.

As exhibited at the Temple Show by Messrs. Smith of Worcester. (See p. 660.)

FERNS.

A group of choice decorative Ferns was put up by Messrs. Jas. Veitch & Sons, King's Road, Chelsea, including the light and graceful Pteris regina cristata, a very fine plant of Davallia Fijiensis elegans, in a large pan; a number of the uncommon Actiniopteris radiata, Lomaria gibba cristata, a large specimen of Davallia tenuifolia Veitchiana, Adiantum cuneatum grandiceps, the dwarf, bold-looking Hymenodium crinitum; and the light-coloured, dwarf-growing Pteris scaberula. Pteris longifolia Mariesii is one of the gems of this genus, and Adiantum Lambertianum is graceful and very effective. A. gracillimum, Adiantum macrophyllum albo-striatum is a dwarf-growing, broad-foliaged variety, highly-coloured with red, and striped with white.

Filmy Ferns were exhibited by Messrs. J. Backhouse & Son, York, who had some exceptionally choice specimens under a glass case; several valuable Trichomanes, such as T. meifolium, a very lovely dark green species prettier than the Todeas, with beautifully-laced pinnæ—a plant with nine fronds, which had taken thirty years to grow to that size; T. Luschnathianum prolongum has longer fronds than the species; and T. L. pulchrum is shorter, denser, and capital for covering a Tree Fern, or such like. A large pan was well filled with T. reniforme, and on another Fern stem was some of the distinct T. membranaceum. Hymenophyllums were also well represented.

Messrs. W. and J. Birkenhead, as is usual with them at the Temple shows, staged a large and first-rate collection of Ferns, very rich in the less common varieties, and including a small collection of filmy species in a case. A large panful of Davallia tenuifolia Veitchiana was remarked. Polystichum

angustifolium longipinnulum is a new variety, with longer pinnules, an exceptionally dense-looking plant, the fronds light green, each pinna overlapping the other. Athyriums are rather late this season, and few of the specimens were fully developed, but the varieties were very numerous and interesting. A. f.-f. velutinum is a rare little plant, which looks almost like a ball of moss, so dwarf and cristated is it. A. f.-f. grandiceps is another worthy of much praise, but the plant was by no means fully developed. A. f.-f. Kalothrix is a graceful, light, and feathery variety of pale green—very fine. Scolopendriums were numerous, and exhibited great variety in the forms and size of the fronds. Adiantums, Davallias, Lomarias, &c., were represented by good plants of various characteristics. Among the filmy plants was an excellent specimen of Todea grandipinnata, an uncommon and handsome species.

PALMS, &c.

Mr. William Iceton, Putney Park Lane, Putney, S.W., staged a group of large ornamental Palms in one corner of the large Orchid tent. Excellent decorative specimens of Kentia australis, K. Forsteriana, Cocos flexuosa, Rhapis flabelliformis, Dracæna australis and D. a. variegata, faced with well-flowered plants of Lilium Harrisii, Tuberoses, Ericas, Ferns, Caladiums, Saxifraga pyramidalis, a few Crotons, some extra well-coloured plants of Eurya Fortunei (latifolia variegata), &c., and diverse plants of decorative value were included in this tastefully arranged group.

At the further end of the same tent was a first-rate lot of plants, staged by Messrs. Wills & Segar, florists, Onslow Crescent, South Kensington. This group of plants was arranged with taste, and contained only excellently-grown specimens. A large clean plant of Seaforthia elegans occupied the centre, and on either side were plants of Cocos Weddeliana, Areca cruenta, Aralia nymphæfolia, Zinziber variegatum, Alocasia intermedia, Leucostegia immersa, a graceful and highly decorative Fern; Asparagus tenuissimus, Dracæna Goldieana, &c., edged and faced very tastefully with smaller specimens of equally choice species of foliaged plants, including Strobilanthes Dyerianus.

Messrs. Sutton & Sons, Reading, also staged some Palms, Liliums, Euryas, &c.

Mrs. Wingfield, Ampthill House, Ampthill (gr., Mr. Empson), showed two excellent Dracænas, one plant of D. Doucetti, and another of D. australis variegata, the latter differing but little from the type, except in the yellow variegation of the leaves, which makes the plant more ornamental.

Hippeastrums.

Messrs. B. S. Williams & Son showed a small collection of some two dozen or more plants, the best of which were *Distinction*, extra large and of good shape, deep scarlet with light centre; Syren, brilliant red edged, white, very distinct but small; and Sultan, a dark red.

Mr. Perkins, gr. to the Hon. W. F. Smith, M.P., staged a larger group of seedlings comprising several distinct forms, the lighter shades predominating, one or two varieties bearing flowers of extra size. The few days of hot weather had evidently hastened them too much, some being past their best in both of these exhibits.

Carnations in Pots.

Mr. Jennings, gr. to Leopold de Rothschild, Esq., Ascott, Leighton Buzzard, showed a grand bank of Souvenir de la Malmaison Carnations, the plants in the finest possible health and vigour, very dwarf in growth, and bearing numbers of blooms to each plant, these being of extra size and very fresh; the rose-coloured Princess of Wales (very deep in colour), and the blush varieties were included, the former being in the greater numbers (Award, Silver-gilt Flora Medal).

Mr. Geo. May, The Nurseries, King's Road, Teddington, showed a number of plants of Uriah Pike bearing fine blooms, the fragrance of which was as notable a feature as ever, the plants having also a number of advancing buds; these were in quite small pots.

Mr. James Pike, Park Road, South Acton, also showed Uriah Pike, the plants in this instance being more advanced, each bearing from three to half-a dozen and more flowers of the best quality.

Clematis.

Messrs. R. Smith & Co., of Worcester, showed a large group of specimen grown plants, of extra size, in fine health and well flowered; of the doubles the best were Excelsior, white, shaded light purple, very full and compact; Lucy Lemoine, pure white, very profuse; and Belle of Woking, pale lavender. And of the singles the finest were, Pride of Worcester, extra large, a soft satiny lilac; Madame van Houtte, large French white; and Princess of Wales, pale lilac, these were all fine varieties. (See fig. 96, p. 659.)

Messrs. G. Jackman & Sons, Woking, staged a small group of hybrids, between C. coccinea and C. Star of India, showing a free habit and good blooming qualities; the best of these were Duchess of York, blush white; Sir Trevor Lawrence, dark carmine-red; and Countess of Onslow, a lighter shade of the same colour. (See fig. 92, p. 647.)

JAPANESE MAPLES.

A group of Japanese Maples in great variety was shown by Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick. This oval group consisted of capital plants, and well illustrated the exceptional gracefulness and ornamental character of the plant.

Of the dark-coloured forms such as Acer palmatum atropurpureum, A. p. sanguineum (broad foliage), and A. p. linearifolium atropurpureum, are the most distinct; then of green forms, A. p. palmatifidum, A. japonicum, A. p. reticulatum, A. j. laciniatum, A. p. septemlobum, embrace considerable variety in the form of foliage; while of a miscellaneous character, all more or less of a bizarre appearance, are A. p. roseum marginatum, A. p. variegatum, A. p. aureum variegatum, A. p. marmoratum, A. p. dissectum variegatum, A. p. d. ornatum, and A. p. tricolor, the last-named a very high-coloured variety. Some tall plants of Lilium longiflorum in flower considerably enhanced the appearance of the collection.

Another collection of these plants was from Messrs. John Waterer & Sons, Bagshot Nurseries, Surrey, and was grouped on the grass outside the entrance to one of the tents. The plants in this instance were larger and broader specimens than those noticed above; indeed, they conveyed a better idea of the appearance of the plants when they have become of a size larger than those usually grown in pots. The varieties in this collection were probably fewer than in the other, and the varietal names to some of the forms had not been added to that of the species.

Gloxinias.

Messrs. Veitch & Son showed their fine strain of Gloxinia in their characteristic condition, the crimsons, scarlets, and spotted varieties being especially fine; Flambeau, Monarch Improved, and Radiance, being the best of the former; and of the latter, Ismenes and Circe.

Messrs. Sutton & Sons also staged a well-grown selection of Gloxinias, the plants very vigorous, bearing blooms of unusual size and substance, the range of colour being all that one could desire.

Messrs. H. Cannell & Sons also staged Gloxinias, dwarf-grown plants, bearing a profusion of flowers, the strain an excellent one, the darker shades and the spotted varieties being well represented. Princess of Wales and Beacon were two of the best of the former.

GROUPS.

Miscellaneous groups arranged for effect formed a less conspicuous feature of the exhibition than usual, probably from the necessity that exists for economising space in every shape and form, and to the encouragement given by the Society to exhibitors to stage all important plants, whether of flowering or ornamental foliage character under separate classes. The largest of these we have to notice on the present occasion was a group of hardy plants staged by Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, which contained a good lot of flowering specimens, and a proportion of ornamental foliage plants of a shrubby nature. Magnolia Watsoni, shown first at the last exhibition at the Temple, and figured in the *Gardeners' Chronicle* as recently as p. 517, was exhibited in bud only. M. parviflora, on the other hand, had one bloom expanded. Cytisus purpureus, C. elongatus, and C. scoparius grandiflorus, one of the showiest species, were presented in large pans, and Genista tinctoria, fl.-pl., a double variety of this yellow species also. A well-flowered plant of Azalea × Anthony Koster (figured in the *Gardeners' Chronicle*, April 29, 1893, was very effective in its bright yellow flowers; and there were some finely-grown plants in flower of Lilium longiflorum Harrisii, Clethra alnifolia, and Spiræa astilboides in masses; also Hydrangea paniculata grandiflora, Viburnum plicatum; varieties of Azalea pontica, and a plant of Indigofera decora alba, were all effective and good.

Messrs. Wm. Cutbush & Son, Highgate Nurseries, London, N., staged a group of plants on the floor of one of the tents. In this were Palms, a number of tall plants of Azalea mollis, Hydrangeas, &c.; also some very well-flowered plants of Carnation Souvenir de la Malmaison in variety, and a group of a new white variety of border Carnation named Countess. The tree-flowering variety, Uriah Pike, was represented, and the strikingly coloured Leschenaultia biloba major, the whole edged with Ericas in flower and Ferns.

A pretty group of Ferns and other plants was that from Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, in which we noticed a good plant of Pteris cretica Wimsetti, a plant which has become largely popular; Adiantum macrophyllum, Lastrea cristata variegata, and an excellent specimen in a large pan of Doryopteris ludens. Asplenium caudatum was noticeable, with its long pendent fronds hanging from a suspended pot; and some clean well-coloured plants of Phrynium variegatum. Two useful decorative Coleus were named respectively Decorator and Surprise. The group also contained some Gloxinias and a few Crotons.

Messrs. Hugh Low & Co., Clapton, had a group in which were a number of Caladiums, Crotons, Dracænas, a pan of Begonia Arthur Malet, a pan of Piper ornatum, and Strobilanthes Dyerianus. A good display of the new white Mignonette, Bush Hill White, was made, and some plants of a new variety of Ivy-leaf Pelargonium named The Blush, the blush, if any, being of the faintest character.

Messrs. Balchin & Sons, Nurserymen, Hassocks, Hove, and Brighton, exhibited an excellent group of Leschenaultia biloba major, consisting of large plants, extremely well-flowered. Also a good lot of Boronia serrulata full of bloom, the growth magnificent in every respect. Erica perspicua nana freely bloomed, and E. ventricosa coccinea minor being also included with small foliage plants.

Hardy Herbaceous Plants.

Mr. Thos. S. Ware had a large collection, which comprised the best things now in season, including Pæonies, Heuchera sanguinea, Spiræa astilboides and S. japonica multiflora compacta, Trollius asiaticus, Iberis Garrexiana, Spiræa palmata (extra fine), Lilium davuricum erectum, and Phlox canadensis, these and other plants making a brave show.

Messrs. Backhouse & Sons also staged a collection of hardy herbaceous and alpine plants, the latter being on rockwork, were a most attractive feature; this exhibit consisted of Gentiana verna, Dodecatheon integrifolium, Linum alpinum, Gentiana acaulis var. cœlestinus, Onosma taurica, Myosotis alpestris var. arvernensis, Lithospermum graminifolium, Meconopsis cambrica var. plena (new), Polystichum angulare var. proliferum Backhouseianum (new), Ranunculus glacialis, Armeria setacea, Dianthus callizonus, Anthyllis montana var. rubra, G. var. cœlestina, Dianthus alpinus, Viola pedata, Lithospermum hirtum, Onosma taurica, Ranunculus cortusæfolius, Bamboos, extra specimens; and Phloxes, Saxifrages, &c., in great variety; Myosotidium nobile was also shown (a plant rarely seen in any show).

Cut Flowers.—There was as usual an enormous number of cut flowers shown in bunches, hardy plants predominating. Messrs. Veitch & Sons, in addition to many strongly-marked features of interest, had a large collection of cut flowers, including Tulips, self, rectified, and parrot types; Iris, Anemones, Ranunculus, the double white and poet's Narcissus; single Jonquil Helene gracilis, primrose, with yellow cup; the old double Jonquil, Pæonies, Scillas, and others, illustrating the wealth of spring-blooming bulbous plants in cultivation. Tulips were in great force, among them T. Billietiana, delicate primrose, feathered with bright scarlet half-way up the petals from the base. Mr. T. S. Ware had thirty bunches of the pink Malmaison Carnation, six blooms in a bunch, backed with Spiræas, &c., in pots—a very attractive display. Next came Messrs. W. Cutbush & Sons, The Nurseries, Highgate, N., with a bold and nicely-arranged collection of cut flowers, having little bays at intervals filled with small plants of various forms of Primulaceæ set in moss. At the back were fine plants of Saxifraga pyramidalis, and Pæonies in pots, represented by bunches. Hemerocallis, Trollius in variety; Iris, Pæonies, Narcissus, Potentillas, the large white Rubus nutkanus, Doronicums, Pyrethrums, &c. Following this came Mr. J. R. Box, nurseryman, Croydon, with a collection of similar character; he had bunches of Pyrethrums, Trollius, Primula Sieboldii, Iceland Poppies, Dracænas, Heuchera sanguinea, very bright in colour; Aquilegias in fine bunches, Gladioli of the early-flowering sections, with Palms, &c., at back, and panels of flowers of the following Carnations:—Uriah Pike, Mrs. Leopold de Rothschild, Germania, and Gloire de Nancy.

Next in order of place came Mr. B. Ladhams, The Shirley Nurseries, Southampton, with one of those collections of cut flowers he frequently brings to London; he had fine bunches of various Aquilegias, Pæonies in variety, Heuchera sanguinea in very fine patches, a grand bunch of Aponogeton distachyon, in fine form; varieties of Centaurea montana, Hemerocallis, pink Ernest Ladhams, Trollius in variety, T. Ledebourii being very fine, &c.

Then came one of those contributions from the Langport Nurseries, by Messrs. Kelway & Son, which appear to be inseparable from a Temple show; they following the usual method of showing masses of bloom in boxes of Iris. Pæonies were very numerous, both double and single, among them Duchess of Teck (Award of Merit), bright rose, deepening to rosy-crimson, single, very fine; Royal Robe, single white; Sir E. S. Hill, single, dull crimson, deep in colour; Sarah Bernhardt, white. Pyrethrums, single varieties, the following very good—Decoy, Mr. John Kelway, Standard, Feversham, white; Carmen Sylva, blush; Ovid, brilliant crimson; with Cannas, Aquilegias, spikes of the yellow Thermopsis fabacea, &c.

Next came Messrs. Carter & Co., who had Pæonies, Tulips, the fine golden-yellow self Boutin d'Or, being prominent; and the pale yellow retroflexa, with the Parrot varieties in strong force; double Jonquils, Narcissus, Gladiolus of the Colvilei and Ramosus sections, Lupinus polyphyllus, Anemones, Lilium Harrisi, the collection being less crowded, and therefore better displayed than some others.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, made, as usual, a fine display, having bold and striking bunches of Tulips, the pretty rose-edged Picotee being very attractive; Pyrethrums, Polemonium, Potentillas, Pæonies, Trollius, some grand bunches of Lilacs, including Souvenir de Louis Spath, the darkest; Alphonse Lavallée, Madame Lemoine, double white, very fine; President Carnot, pale bluish-lilac; Marie le Graye, single white, very fine; La Tour d'Auvergne, President Grèvy, semi-double, blue-lilac; Léon Simon, pale lilac, very fine; large bunches of Trillium grandiflorum, Camassia esculenta, &c.

Tulips, &c.—Then came Messrs. Barr & Son, seedsmen, King Street, Covent Garden, with a collection in which Tulips were largely predominant, the florists' types being represented by Sir J. Paxton, Dr. Hardy, George Hayward, Sulphur, and Lord Stanley, bizarres; Lord Denman and Queen of May, byblœmens; Mabel and Annie McGregor, roses; and by many of these f-coloured Darwin varieties; Flambeau, The Shah, Queen of Lilacs, very dark; Glow, bright crimson; Flava, sulphur; and an abundance of Parrot types; also Pyrethrums, Trollius, Gladiolus, Hemerocallis Middendorfi, deep gold; Lychnis, Primula Sieboldi, a variety named Phil, being very deep and bright in colour. Mr. M. Prichard, nurseryman, Christchurch, Hants, followed next with a select collection, including Pyrethrums, various perennial dwarf rock Phloxes, Genista Scoparia var. Andreana, Aquilegias, Tulipa persica, Papaver orientalis, Pæony tenuifolia pleno, a fine bunch; Dielytra eximia, Anthericum liliastrum major, &c. From Mr. Coombes, gr. to J. H. Johnson, Esq., M.P., Bignor, Park, Pulborough, came trusses of very fine hardy Rhododendrons, well coloured.

Messrs. Sutton & Sons also had a large collection of cut flowers, including the double white and other Narcissi Anemones and Giant French Ranunculus, in variety; such late Tulips as Blushing Bride and Picotee; together with representatives of the florists and Parrot types, among the latter being Crimson Dragon, which is richly coloured. Iris, Double Jonquils, tastefully set up with Palms and other plants. From Messrs. R. Wallace, the bulb importers, Colchester, came some fine German Iris in variety: Princess of Wales, white, and Germania major, deep reddish purple, being very fine; and a collection of Calochorti, such as Benthami, aureus, coeruleus, and uniflorus.

From Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, came sprays of Violas, bunches of various ornamental and flowering shrubs, Rhododendrons, Lilacs, branches of Spiræa confusa, American Azaleas, &c., in many ways an instructive collection. From Messrs. W. Paul & Son, Nurseries, Waltham Cross, came Lilacs, such as Souvenir de Louis Spath, Marie Legrange, and Aline Maqueris; Rhododendrons, Pæonies, Iceland Poppies, Trollius, Pyrethrums, Heuchera sanguinea, Doronicums, &c. From Mr. George Mount, Nurseryman, Canterbury, came several boxes of beautiful hybrid perpetual and Tea-scented Roses, including boxes of blooms of Mrs. J. Laing, Catherine Mermet, and Baroness Rothschild; and individual blooms of The Bride, La France, Alfred Colomb, &c.

Violas.—From Mr. S. Pye, Catterall, Garstang, came a remarkable collection of 120 sprays of Violas, twelve and

Fig. 97.—Odontogloissum pescatorei leucoxanthum. (see p. 662; shown at the temple.)

White, with some orange colour on the crest, lip, and base of the column.

fifteen blooms in a bunch, representative of the leading varieties in cultivation, all very fresh and highly effective. In addition, Mr. Pye had a large number of tin flower-pots painted green, each containing six or seven small vigorous flowering plants of one variety of Viola. Messrs. Dobbie & Co., Nurserymen, Rothesay, also staged 120 sprays of Violas, nine blooms in a bunch on an average. Among them a new variety named Springfield Gem, white ground with a picotee edge of blue; and some sprays of very fine and bright fancy Pansies, Ceres (new), bright gold with large dark blotch was very fine; also Pilrig, Princess Beatrice, Niel McKay, George Anderton, &c. A selection of a few fine and distinct Violas from this collection will be found in Minnie, white and lavender; Norah May, silvery white; Bridesmaid, primrose; Columbine, white and rosy-lilac; Craigie, purplish-crimson and lavender; Duchess of Sutherland, blush-mauve; Favourite, light blue; H. W. Stuart, dark striped; Iona, lavender and blue-black; Lemon Queen, pale lemon; Mrs. F. C. Gordon, purple and lavender; Mrs. Scott, pure white; Mary Stuart, Hamilton, pink and white; Quaker Maid, pale rosy lavender-and-yellow; Sweet Lavender, soft lilac; Sweetheart, rose and-white; and William Niel, pale rose.

MISCELLANEOUS EXHIBITS.

Sir Trevor Lawrence, Burford, Dorking (gr., Mr. W. Bain), exhibited a comparatively new species of Incarvillea (I. Delavayi), said to be quite hardy in this country. The flowers are rose-coloured, and very ornamental (First-Class Certificate).

A magnificent group of hybrid Phyllocactuses in flower, shown by Messrs. Jas. Veitch & Sons, was the subject of much admiration. The delicate colours obtained in these plants, and their showy character also, entitle them to the notice of the gardener. An Award of Merit was given to the hybrid Excellent, having a large open gorgeous flower, the petals of which are bright orange, gradually changing to rose in the margins.

An Award of Merit was granted to Sibthorpia europæa aurea, exhibited by Messrs. J. Backhouse & Son, York. In all respects save colour, which in the case of the variety is golden-yellow, the habit of the plant is identical with that of the species, which was figured, *Gardeners' Chronicle*, February 9, 1895.

Mr. D. Campbell, gr. to the Executors of the late Dr. Wood, The Priory, Roehampton, exhibited some plants of a Clerodendron in flower, presumably a variety of C. Thomsonæ. The petals were the same colour as those of C. T. Balfourianum, and the sepals white, interveined with red stripes.

J. B. Karslake, Esq., White Knights, Reading, exhibited a plant of Adiantum variety, under name Karslakei. The pinnæ are large and bold, and would apparently stand well when cut.

Messrs. Collins Bros., Waterloo Road, showed Carnation Jane Collins, chiefly noteworthy by reason of its profuse flowering character and vigorous growth.

Messrs. Backhouse & Sons showed hardy Azaleas, A. roseflora, well-bloomed plants in pots, which they can have in flower in succession for six months, finding it an excellent variety for that purpose. At York it is perfectly hardy.

J. T. Bennett-Poë, Esq. (gr., Mr. Downes), Holmewood, Cheshunt, showed well-flowered plants of Streptosolen Jamesoni, quite specimens, and in one mass of bloom, being a fine feature.

Messrs. Sutton & Sons showed Saintpaulia ionantha, well-grown plants, most profusely flowered, the colour in some instances being deeper (several shades) than it is usually seen; this was an extra fine exhibit.

Messrs. J. Veitch & Sons showed a fine assortment of their now well-known hybrid Streptocarpus, small in size of plant, but profusely bloomed, several amongst which were only raised from seed sown as recently as last September. These afford a wider range of colour every year. A more noteworthy exhibit, if possible, was that of Streptocarpus gratus hybrids, in which the growth is more robust, the foliage in some instances being as much as 18 inches long, proportionately wide, and of extra stout substance; the finest of these had as many as twenty stems in flower, with more than fifty flowers and buds to each stem, this section bids fair to be extremely valuable, the colours being shades of rose, purplish-rose, and pink.

Classes one to nine brought but little in the way of competitive collections, some not being filled at all.

Anthuriums.—No collections of these were staged, though they were in evidence in all parts of the exhibition, the types of A. Andreanum predominating.

On the grass outside there were two beds, which Messrs. Jas. Veitch & Sons, Chelsea, filled with neat, healthy plants, about 3 feet high, of Abies Veitchii, and of Sciadopitys verticillata respectively.

Messrs. W. Walters & Co., Leytonstone, London, E., exhibited some lath roller blinds, intended for use in shading greenhouses and conservatories, &c. They are fastened together with flat galvanised wire, and are easily rolled up or down.

FLORAL DECORATIONS, BOUQUETS, &c.

These always attractive flower-show elements were in strong force, and presented by some of our most famous professional decorators. They had the special advantage of being placed in the first tent reached from the entrance, hence visitors were enabled to enjoy them whilst still fresh, as the immense wealth of beauty in the tents beyond could hardly prove other than exhaustive.

A very brilliant effect was obtained from the beautiful combinations presented by Messrs. Perkins & Sons, Coventry. Their table was covered and backed with black velvet, and on it were placed, in most artistic grouping, superb bouquets, baskets, stands, crosses, anchors, sprays, &c., in abundant profusion, but who could play upon a harp whose strings were wreathed with flowers? Orchids in great variety and of the choicest description formed the chief material of most of their combinations, all being arranged with that elegance which characterises the floral work of this firm. A bouquet of crimson and pink Carnations was as charming in combination as it was of delicious perfume.

Just behind were placed examples of floral decorative art, as taught the lady students at the Swanley Horticultural College: that for dinner-table was simple, consisting of a few pink and yellow Roses in glasses, and lying around were long sprays of the Climbing Fern, Lygodium scandens; also came four charming bouquets, not over-large, as is a too common fault, made up with flowers of Gladioli, Carnations, Roses, Lilies, Irises, &c., very prettily dressed with Asparagus plumosus.

Mr. J. H. Chard, of Stoke Newington, was, as usual, in great force, covering a large area of table, with wire-supported stands, arches, baskets, wreaths, vases, sprays, &c., in remarkable variety. A special feature in the centre, though rather tall upon so high a table, was a wire arch, dressed with flowers and drooping foliage. This suffered somewhat in the eye-line because the framework was too apparent, and should have been hidden with a few foliage plants. Generally the combinations were of a very beautiful description, though comparatively light in arrangement. It was altogether a fine decorative group, well worthy of Mr. Chard's high reputation.

Close by, a portion of tabling covered with black velvet was occupied by Messrs. B. S. Williams & Son., Upper Holloway, who very effectively displayed their decorative capacities in this direction. The firm staged some exceedingly beautiful bouquets, and baskets of Orchids in great variety, and also of Roses, Irises, &c.; and some elegant sprays for ladies' wear were laid on the table. Everything in this collection was charmingly prepared, and elicited warm admiration.

Backing this latter collection were a couple of very handsome bouquets, exhibited by Messrs. Phelps & Co., Cardiff, one of Catherine Mermet Roses, and sprays of white Alexandræ Odontoglossums; the other of white Carnations, Eucharis, Orchids, &c., and both pleasingly dressed with long trails of Asparagus. A very attractive table was occupied by Mr. L. H. Calcutt, Fairholt Road, Stoke Newington, whose stands, vases, baskets, bouquets, &c., was of a very light graceful character. He also had several epergnes charmingly dressed, but in all cases with a light hand. A prominent central object, though perhaps too tall in this case, was a high vase for drawing-room filled with White Lilies and Purple Irises. The entire arrangement showed great taste.

The exhibits by Mrs. Hodgkins, Didsbury, Manchester, comprised foliage in great variety, seed vessels such as large Poppy heads, Sea Holly, Physalis Alkekengi, &c., also numerous flowers such as the Hydrangea, all beautifully dissected, then grouped and set in cases or frames under glass, thus forming interesting objects. Some fronds of the Lady Fern set up loosely in vases were most graceful. Leaves of Magnolia, Rhododendron, &c., were presented with fine effect. Special interest attached to a series of illustrations prepared on glass slides for magic lanterns in great variety, and it is not difficult to understand how attractively these would serve to illustrate a lecture on the art of foliage dissecting as practised with such great success by Mrs. Hodgkins. Some tiny specimens of dissected leafage have been prepared for microscopical examination.

A little exhibit of cut flowers on glass and Bamboo stands, from Mr. Drewett of Hammersmith, was the remaining collection under this heading.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), Major Mason, W. H. Protheroe, H. M. Pollett, H. Ballantine, H. J. Chapman, J. Jaques, E. Hill, H. Williams, W. Thompson, H. A. Burberry, N. C. Cookson, F. Sander, W. B. Latham, C. Pilcher, De B. Crawshay, R. Brooman-White, E. Ashworth, T. Statter.

THE ORCHIDS.

As in former years, by far the most important exhibits on this occasion were those from Baron Sir H. Schroder, The Dell, Egham; and from Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society, Burford, Dorking; and those gentlemen well sustained their reputation as the leading amateurs of Orchids of our times.

At the entrance of the Great Marquee, Baron Schroder (gr., Mr. H. Ballantine) occupied one side

of the central stage, and formed a magnificent group, having a frontage of 30 feet, the plants being tastefully arranged among a sufficient number of graceful Palms and Maidenhair Ferns. A survey of the group revealed in the centre a noble plant of Cattleya Skinneri, with ten fine trusses of flowers, and immediately in front of it a splendid example of C. Skinneri alba, with five spikes. On either side were clumps of Vanda teres, each presenting some two dozen heads of large rich rose-purple blooms, and at the back and in the body of the group grand varieties of Lælia purpurata, Cattleya Mossiæ, C. Mendelii, &c. The forms of C. Mendelii were very fine, and the noble and richly coloured C. M. Dellensis was one of the few plants selected by the Orchid Committee for a First-Class Certificate. Selecting a few of the more prominent plants, we note at one end of the group a grand basketful of Masdevallia Houtteana, with about three hundred flowers; the noble spotted Odontoglossum crispum apiatum, seeming larger and more beautiful than ever; the fine white O. c. xanthotis, with a few light yellow spots on its flowers; O. c. punctatissimum, with pretty rose-dotted flowers; and many other fine O. crispums; the clear white O. Pescatorei leucoxantha (see fig. 97, p. 661), the true O. marginellum, with singular pale yellow flowers spotted with brown, and with extraordinarily-developed crest on its narrow labellum; O. Wilckeanum giganteum, the largest of its class; the original or type plant of Odontoglossum × excellens, and still, perhaps, the best form; many forms of O. Andersonianum, O. nævium, and other species; Epidendrum xanthinum, and the orange-coloured variety with it; E. × Dellense; the rich dark purple Lælia purpurata Dayana, Cypripedium Lawrenceanum Hyeanum, Lælio-Cattleya × Hippolyta, with fine Indian-yellow and red flowers; the handsome Cœlogyne asperata, Cymbidium Devonianum, &c. With these were fine specimens of Miltonia vexillaria, Masdevallias, Dendrobiums, &c.; and among Cypripediums, C. Mastersianum, with beautiful wax-like flowers, over which a yellowish hue gave an additional charm to the pale red and greenish flowers, and showed the plant in its full beauty.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), occupied the adjoining stretch of staging to an equal distance to that filled by Baron Schroder, and arranged one of the best and most artistically grouped collections of Orchids, of the highest interest to the lover of showy flowers as well as to the botanist, which has yet been staged even at this now noted exhibition. The centre plant was a fine specimen of Cypripedium Stonei platytænium, with two spikes of two flowers each, and around which visitors, amateurs, and specialists alike lingered. As a mark of its rarity and excellent culture, a Silver Flora Medal was awarded, and also a First-class Certificate (see fig. 91, p. 645). The background of the group was made up of the slender Epidendrums, such as E. radicans, E. O'Brienianum, a charming plant of the rose-purple E. Frederici Guilelmi, large yellow heads of Oncidium Marshallianum, O. varicosum, and plants of similar habit, arranged with tall, slender Cocos. In the middle of the group appeared some splendid varieties of Lælia purpurata, of which the varieties nobilior, Brysiana, and Russeliana represented distinct types. Brilliant Masdevallias of the M. Harryana class were also in profusion, the handsomest being the large scarlet M. H. luteo-oculata, M. H. miniata, and M. H. atrosanguinea. It is generally remarked that from Burford old species which have never been general favourites often appear in such splendour as to excite general admiration. Some such instances may be remarked in the fine group under notice, the most remarkable being a superb specimen of Epidendrum Stamfordianum, bearing thirteen branched panicles of closely-arranged pretty yellow and white flowers, with reddish spots. The plant was greatly admired, and a Silver Flora Medal was awarded for its excellent culture, which must have extended over many years (see fig. 95, p. 655). Where all the exhibits are so good it is difficult to select the best, but salient features in the group were the white Cattleya Mossiæ Wagneri with six fine flowers; Masdevallia Veitchii grandiflora with ten flowers; the pretty dark rose-coloured Aërides Kimballianum with four spikes; Cattleya Mossiæ Reineckiana, Cymbidium Lowianum concolor, the ivory-white Vanda Denisoniana with three fine heads of bloom; Miltonia Phalænopsis with over twen y flowers; Cypripedium Rothschildianum, with three stout spikes of many flowers; Cypripedium × Laurebel, C. × Conco-Lawre, Dendrobium taurinum, D. Jamesianum, Cypripedium Volonteanum giganteum, Calanthe veratrifolia, &c. Among plants of neat growth and attractive flowers we noted Maxillaria præstans, Masdevallia × Shuttrayana, M. × Gelengiana, M. × Courtauldiana, Wendlandii, M. rosea, M. Chelsoni, Sarcochilus Berkleyii, Dendrobium cruentum, a fine pan of Ansectochilus petola, Lælio-Cattleya × Phœbe, and a host of other charming things.

Following the same side, Welborne S. Ellis, Esq., Hazelbourn, Dorking (gr., Mr. Masterton), had a fresh group, composed principally of pretty varieties of Odontoglossum crispum, with occasional plants of Miltonia vexillaria, Odontoglossum ramosissimum, O. polyxanthum, a fine O. Coradinei, with four spikes; Cattleya Mossiæ, a fine C. Warscewiczii, &c. And continuing on the same side, Earl Percy, Sion House, Brentford (gr., Mr. Wythes), staged an effective arrangement, made up of Cattleya Mossiæ, Cymbidium Lowianum, Vanda suavis, varieties of Cypripedium barbatum, Cattleya citrina, Epidendrum vitellinum, &c.

M. Jules Hye-Leysen, Coupure, Ghent, in the fine plants which he exhibited, gave an excellent example of the capital manner in which his plants are cultivated. They were Cattleya Lawrenceana atrorubens, a very brilliantly-coloured variety with intensely bright dark purplish-crimson lip (Award of Merit); Miltonia × Bleuana virginalis, a grand white flower (First-Class Certificate); Lælio-Cattleya × Hippolyta (L. cinnabarina × C. Mossiæ), with a grand spike bearing eight flowers and buds (Cultural Commendation); Miltonia vexillaria gigantea and Cypripedium Lawrenceanum Hyeanum superbum.

On other side of the central stage Messrs. F. Sander & Co., St. Albans, had a fine group extending some fifty feet, and in which were some superb varieties of Cattleya Mendelii, C. Mossiæ, Lælia purpurata, and other showy Orchids of the season, as well as a good selection of their fine strain of Odontoglossum crispum. At the back were the tall spikes of Phaius Sanderiana, and other tall Orchids, and in the front some pretty new rare and curious species, among which we noted a very interesting group of different species of Microstylis, the new and pretty dwarf yellow Dendrobium velutinum, and Oncidium pulchellum. Among the best of the showy species we noted Cattleya Mossiæ Prince of Wales, a grand flower with a superbly coloured lip; Miltonia Phalænopsis Princess of Wales, a charming plant, with white flowers with beautiful markings of light rose-purple on the lip; Odontoglossum crispum "Duchess of York," a pure white of the O. c. virginale section; O. prionopetalon album, a handsome kind of hybrid origin; Sobralia × Veitchii, St. Albans var., with large blush-white flowers and lilac and yellow lip; Cattleya Mendelii Sanderæ one of the most glowing coloured form of the favourite species; a very handsome white Lælia purpurata with purple marking on each side of the lip, the apex being white—a very distinct form; some very handsome Odontoglossum polyxanthum, Lælia Digbyana, &c.

At the other end of the tent Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, staged one of the best and most extensive groups of Orchids in the show, and which was replete with good and showy things as well as with many of great botanical interest. The forms of Lælia purpurata, Cattleya Mossiæ, C. Mendeli and other of the showy and popular Orchids in Messrs. Williams' group were of remarkable excellence, and an absence of what are called poor varieties marked the group throughout. The masses of Vanda teres, Oncidium Marshallianum and other elegant species had a charming effect. Among the Lælia purpurata, L. p. Russelliana was a very distinct novelty with pretty pale pink or blush-white flowers with pure rose-pink lip having fine darker lines at the base. Among the showy Orchids, Maxillaria Sanderiana atro-purpurea was the noblest form of the species which we have seen, the flowers being large, the lower halves of the petals rich dark crimson, and the lip dark purple. Of species of great botanical interest were the singular light-brown Vanda concolor and Brassia Keiliana tristis.

In the middle of the stage Sir Frederick Wigan, Clare Lawn, East Sheen (grower, Mr. W. H. Young), staged a pretty group of very fine Orchids, in which the Cattleyas were good throughout. The centre of attraction, however, was Cattleya Mossiæ "Lady Wigan," a very beautiful white form with a delicate pure rose-marbling on the lip, and a pale yellow tint in the tube. The variety received an Award of Merit. Also in Sir F. Wigan's group were Cypripedium Rothschildianum, with six fine flowers; some good Masdevallia Ephippium, Cattleya Schilleriana, Disa × Langleyensis, Cypripedium Chamberlainianum, Phalænopsis grandiflora, &c.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), had a group of good plants effectively arranged around perhaps the largest and best-flowered Epidendrum Wallisii ever exhibited, and which secured a Cultural Commendation. Among many fine Lælias and Cattleyas were Cattleya Mossiæ, Fowler's var., a very fine white of the C. M. Reineckiana class; the dark Lælia purpurata Lowii, some grand Cypripedium bellatulum, C. Lawrenceanum Hyeanum, &c.

M. Wells, Esq., Broomfield House, Sale, Manchester (gr., Mr. Hinds), showed a supposed hybrid between Lælio-Cattleya × exoniensis and Cattleya Mendeli, also a white C. Mossiæ with pink tinge on the lip, Lælia purpurata, Cattleya Mossiæ.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), sent the pure white Sobralia macrantha alba.

In the adjoining tent Messrs. Hugh Low & Co., Clapton, staged a very fine group, in which their fine strain of Cattleya Mossiæ was represented by some scores of fine specimens, and a fine variety of C. M. Reineckiana was among them. Of the forms of Lælia purpurata, L. p. enfieldensis was one of the largest and richest in colour, the size of the labellum was also remarkable. Good specimens of Cypripedium hirsutissimum, Cattleya Schilleriana, Cypripedium caudatum, and many fine Odontoglossums were in the group, the most extraordinary of the last-named genus being O. Wilckeanum Lowii, with the spotted sepals of a good ordinary form, but with unspotted petals of primrose-yellow (Award of Merit). Of the Cattleya Mossiæ and C. Mendelii, C. Mendelii grandis was a noble white flower, with clear rose and light yellow marking on the lip (Award of Merit). C. M. curiosa, a pretty little variety, with rose-mottled flowers, and C. Mossiæ Enfieldiensis, Princess of Wales, and Delicacy were all good and distinct.

The adjoining group was from Mr. Jas. Cypher, of Cheltenham, and it was composed principally of the fine forms of Lælia purpurata, for which his nurseries are noted, three of the best, and which well exhibited the extremes in colour, were L. p. Duchess, a fine white, with richly-coloured lip; L. p. Othello, a large flower, with maroon-purple lip; and L. p. Princess, clear white, with rose-pink lip. Also prominent in Mr. Cypher's group were some fine Sophronitis grandiflora, Ada aurantiaca, Phalænopsis speciosa, Dendrobium × rhodostoma, D. Bensonæ, D. moschatum, D. Falconeri, D. suavissimum, D. Dearei, D. Phalænopsis Schroderi, Trichopilia crispa, Saccolabium ampullaceum, Epidendrum radicans, E. × O'Brienianum, Cattleya Lawrenceana, with twelve fine flowers on a spike; Cypripedium × grande atratum, &c.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, had an important group, among which the Cattleyas and Lælias were conspicuous; Lælia purpurata bella, to which an Award of Merit was given, was a remarkably beautiful form; Cattleya Mendelii Mabel White was a pretty light form, with broad margin to the lip; C. Mossiæ Ashtonii, a distinct form, in which the golden-yellow of the lip is prominent; Odontoglossum dicranophorum, a supposed hybrid, with some resemblance to O. Lindleyanum and O. triumphans; O. Pescatorei Lewisii, a pretty form, in which the purple blotch on the lip is constant; and Miltonia vexillaria, Southgate var., a fine white. Also in Messrs. Lewis' group were Oncidium ampliatum majus, good Epidendrum vitellinum, Zygopetalum citrinum, Dendrobium crepidatum superbum, Oncidium cornigerum, &c.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a good group of Orchids, the back row having several very fine specimens of Oncidium macranthum, which varied much in colour. In this group, Dendrobium Hildebrandti appeared in good form, its profusion of pink-tinted primrose flowers showing it to be a worthy introduction. Oncidium concolor, O. Marshallianum, Miltonia vexillaria, Lælia Wyattiana, Odontoglossum ramosissimum, O. cirhosum, O. Hallii, Cypripedium × Harrisianum superbum, Ornithocephalus grandiflorus, &c., were also worthily represented. M. Chas. Vuylsteke, Loochristi, Ghent, showed the very pretty purple-spotted Odontoglossum Pescatorei la Perfecta, which received an Award of Merit; also two fine forms of O. luteo-purpureum sceptrum, and a light-coloured O. triumphans. Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. W. Murray), showed a Lælio-Cattleya (C. Warnerii × L. purpurata), which resembled a brightly coloured L.-c. exima. Messrs. Jas. Backhouse & Son, York, had a pretty arrangement of Odontoglossum crispum with Gleichenia. H. Shaw, Esq., Stamford House, Ashton-under-Lyne (gr., Mr. Cliff), sent a fine form of Lælio-Cattleya × elegans, Odontoglossum Andersonianum, and Cypripedium Victoria Maria. W. P. Berkenshaw, Esq., West Hill, Hesle, Hull (gr., Mr. T. Barker), showed Cypripedium Rothschildianum superbum, a grand form with a four-flowered inflorescence. Mr. Alex Wright, Falkland Park Gardens, South Norwood, showed a very large form of Dendrobium Dalhousieanum. J. Charlton Parr, Esq., Grappenhall Heyes, Warrington (gr., Mr. R. Elphinston), sent Cypripedium glanduliferum; and Malcolm S. Cooke, Esq., Kingston Hill, staged a neat group of Orchids.

Fruit Committee.

Present: G. Bunyard, Esq., in the chair; and Messrs. W. Bates, G. Norman, T. F. Rivers, R. Hogg, H. Balderson, G. Reynolds, R. Fife, F. Q. Lane, J. A. Laing, W. Crump, H. J. Pearson, C. Goldsmith, G. Woodward, P. C. M. Veitch, W. Farr, S. T. Wright, W. Pope, W. Iggulden, C. Herrin, G. H. Sage, G. Wythes, and W. H. Divers.

FRUIT.

In the Grape classes there was, as might have been anticipated at this time, nothing shown that was of superlative merit, nor were the exhibits very abundant.

Mr. G. Featherley, The Vineries, Gillingham, Kent, had a flat basket filled with Black Hamburghs, or three bunches on a show-board, the bunches in all cases of moderate size, berries small, with colour very satisfactory. He had also six fruits of Hale's Early Peach of good appearance.

Three bunches of Black Hamburgh, rather too severely thinned, came from Mr. Osman, gr. to S. J. Barker, Esq., Ottershaw Park, Chertsey. Mr. W. Messenger, gr. to C. H. Berners, Esq., Woolverstone Park, Ipswich, showed the three best bunches of Black Hamburgh in the show—large solid bunches, and berries of very good size, well coloured, and without blemish. Brown Turkey Figs, and some Melons, viz., Scarlet Premier, and three fruits of a white-fleshed seedling, of nice appearance, came likewise from this exhibitor.

T. Statter, Esq., Stand Hall, Manchester (gr., Mr. R. Johnson), was an exhibitor of Grapes, showing in the Hamburgh class and in that for Foster's Seedling. Over-thinning had rendered the bunches too loose, and the white Grapes were small in bunch. The Hamburghs were very well coloured.

Three dishes of Strawberries, viz., Royal Sovereign, a light crimson fruit; Sir J. Paxton, and Laxton's Noble came from Mrs. Wingfield's garden, Ampthill, Beds (gr., Mr. W. J. Empson). These were very creditable productions. Court Pendu-plat Apple, in good condition, came from the same garden. Three bunches of Foster's Seedling, and the same number of Black Hamburgh were shown by Mr. J. Friend, gr., Rooksnest, Godstone.

Messrs. G. Bunyard & Co., Old Nurseries, Maidstone, exhibited about sixty dishes of Apples, from trees growing in the open ground. There was none which had not a fairly good appearance for so late a part of the year, although, of course, there were differences. Some of the better preserved varieties were Betty Geeson, Annie Elizabeth, Dutch Mignon, Beauty of Kent, Allen's Everlasting, Calville Rouge, the small green-fruited Devon Late-keeping, Wellington, Ontario, Gloria

Mundi, Wadhurst Pippin, Waggoner (the freshest-looking of them all), Royal Russet, King of Tomkins County (a favourite American variety), Bismarck, Tibbett's Pearmain, &c. Some trees of the St. John's Fig, well furnished with unripe fruits, were shown by this firm.

A Melon was shown by A. F. Pears, Esq., Spring Grove, Isleworth (gr., Mr. Farr); and another by Mr. Gillman, gr. at Ingestre Hall, Stafford.

Sir J. Pease, Bart., Hutton Hall, Guisborough (gr., Mr. McIndoe), exhibited three dishes of excellent Nectarines, Dryden, Lord Napier, and Early Rivers; the last-named is a nice-looking, high-coloured variety, as large as Lord Napier. A dish of large fruits of the Bellegarde Peach, a fruit of Best-of-All and one of Scarlet Premier Melons, a dish of fine large Lemons with shoots and leaves, and one of Sutton's A 1 Tomato came from the same exhibitor.

Lord Foley, Ruxley Lodge, Esher (gr., Mr. J. Miller), showed six Melons of a middle-sized, smooth-skinned, green-fleshed variety, the name of which we did not learn.

Some excellent Tomatos came from Mr. G. Mount, Nurseries, Canterbury. These consisted of the varieties Conference and Perfection, well grown and coloured.

Messrs. T. Rivers & Son, Sawbridgeworth, showed six fruits, very large, of the Cardinal Nectarine, a fruit with a green skin, much speckled with red-purple. To show its extreme earliness, a plant of Lord Napier Nectarine with fruit upon it, and grown under identically the same conditions as Cardinal, was placed alongside. The fruits on this tree would require three or four weeks good weather to ripen.

Earl Percy, Syon House, Brentford (gr., Mr. G. Wythes), showed a small collection of kinds of forced fruits. These consisted of a dish each of Foster's Seedling, Black Hamburgh, and Muscat of Alexandria Grapes, quite ripe as regards the first two; Beauty of Syon Melon, small orange-coloured variety; a seedling Melon, with a netted yellow rind; a dish of Lord Napier Nectarines; one each of Brown Turkey and Bourjasotte Figs; a dish of Amsden June Peach, and two of Sir Joseph Paxton Strawberry.

Mr. W. Iceton, Nurseries, Putney Park Lane, showed a dwarf habited very floriferous variety of Orange in fruit, bearing resemblance to Tangierine, but with foliage differing from that variety.

Foreign Fruit, although solicited, was not forthcoming.

VEGETABLES.

If there were no imported products of this section presented, home products were not badly represented; but the chief interest in vegetables undoubtedly centred in the remarkable as well as novel collection of growing crops shown in pots by Messrs. Sutton & Sons, of Reading, to whose enterprise was due the fact that, amidst a world of beauty and loveliness all around, they furnished the most novel exhibit in the show. Tomatos in several varieties, capitally grown and fruited as single stems, in pots; Peas, in variety, and in several heights, also fruiting freely; and not least, pots carrying tall plants, having heavy crops of pods of their excellent climbing French Bean Tender-and-True.

Taking Tomatos first, there were several plants, about 3 feet in height, of Sutton's Golden Nugget, fruits roundish-oval, smallish, but borne on long racemes in great abundance. These were first-rate. Another of this colour, represented by one plant only, is a distinct new variety, Sunbeam, a good cropper, fruits in compact clusters, egg-shaped, of medium size, and of a beautiful bright hue. Then of red forms, Sutton's Dessert, a counterpart of the Nuggets but a little taller, and fruits just a trifle larger, very freely produced; Maincrop, good indoors or outside, fruiting heavily. Abundance, rather smaller, but more handsome form; Tender-and-True, medium-sized round fruits, of the colour of Acme. Best-of-All, dwarf, very prolific, fruiting low down, and all up the stem, samples rich colour, large, and handsome. Perfection, that well-known type, so universally grown; A 1, also a free fruiter; and finally, Princess of Wales, plants 4 feet in height, carrying heavy crops in numerous clusters, fruits of good size, handsome, and showing a really first-class variety.

Peas were also in great force, Bountiful being the tallest and one of the most fruitful. This ran about 3 feet in height, carrying capital crops of large handsome well-filled pods. Evidently a first-class early wrinkled variety. Sutton's Seedling reached to a height of only 15 inches, and had large pods of fine marrow Peas, and a capital crop. May Queen ran 2½ feet in height, carrying a good crop of excellent pods. Empress of India was a little taller, having long green pods well filled, and freely produced. Sutton's Favourite 18 inches in height, carried quite large marrow fat pods.

These are all first early sorts, and show what in the direction of securing variety and greatly superior quality this enterprising firm has already accomplished. Finally came eight broad pots, each containing four plants of the Tender-and-True climbing French Bean, certificated several years since. It is a runner form of Canadian Wonder, and has become thoroughly fixed. A good row of this fine Bean saves many sowings of the dwarf form. The plants were some 6 feet in height, capitally foliaged and fruited, and proved to be to the visitors singularly attractive.

The Earl of Radnor, Longford Castle, Salisbury (gr., Mr. H. W. Ward), had novelties in the young two umbrella-trained and two pyramidal-trained Cucumber plants. Those of the umbrella form were very well-fruited, but the others only sparingly. The variety was named Earliest of All, fruits about 13 inches long, green, slightly spiny, having heels of 3 inches in length. Also a great quantity of plants of Carter's Harbinger Cabbage-Lettuce, one of the curled or Neapolitan type, very robust, but in this case none had hearted-in. Very much more useful from a sowing made February 19 was a quantity of Giant White Cos Lettuce, having firm well-blanched hearts. The Brown Bath Cos form was also shown, but not hearted. Radishes in variety, Wood's early-trained American Knickerbocker, long; and French Breakfast, and Extra Early, scarlet round. Also Early Munich Turnip, good bulbs. Mammoth Asparagus, a capital sample; and a dish of Carter's First Crop Peas, though small pods, made up a good collection.

Mr. W. J. Empson, gr. to Mrs. Winfield, Ampthill, staged a most meritorious collection of vegetables, of unusual excellence for the season, and effectively arranged. This comprised good model Broccoli, large and firm; a big dish of of Tomato Morden Park Favourite, fine Leeks, good Ashleaf, and Sharpe's Victor Potatos, Holborn Forcing and Early Horn Carrots, Connover's Colossal Asparagus, not over large, but in perfect condition; Cucumbers, Dwarf French Beans, Spinach, Cabbages, Lettuces, Turnips, and Rhubarb in all of the best.

Mr. C. J. Waite, The Gardens, Glenhurst, Esher, showed three fine bundles of good Asparagus, and several fruits of Carter's Model Cucumber.

Mr. R. J. Steel, market gardener, Brentford, had fine Rhubarb in two varieties, Intermediate Carrots, French and Breakfast Radishes, Winter Onions, Cos and Cabbage Lettuces, Cucumbers, Beet, small salads, &c., all excellent. Mr. G. Wythes, gr. to Earl Percy, Syon House, showed a very neat collection of vegetables, including Model Broccoli, rather small, Milan Turnips, Victoria Spinach, Syon House Dwarf Beans, Early May, Ashleaf and Sharpe's Victor Potatos, Conference and Perfection Tomatos, Telegraph Cucumbers, Asparagus, small salad, &c.

Awards of the Orchid Committee.

Silver Flora Medals.

To Sir Trevor Lawrence, Bart., for Cypripedium Stonei platytænium (see fig. 91).

To Sir Trevor Lawrence, Bart., for Epidendrum Stamfordianum, for continued good culture (see fig. 95).

First-class Certificates.

To Cypripedium Stonei platytænium, from Sir Trevor Lawrence, Bart.

To Cattleya Mendelii Dellensis, from Baron Sir H. Schroder.

To Miltonia Bleuana virginalis, from Mons. Jules Hye-Leysen.

Awards of Merit.

To Masdevallia × Shuttrayana, from Sir Trevor Lawrence, Bart.

To Masdevallia Harryana miniata, from Sir Trevor Lawrence, Bart.

To Cattleya Mossiæ "Lady Wigan," from Sir Frederick Wigan.

To Cattleya Mossiæ Prince of Wales, from Messrs. F. Sander & Co.

To Cattleya Mendelii grandis, from Messrs. Hugh Low & Co.

To Odontoglossum Wilckeanum grande, from Messrs. Hugh Low & Co.

To Lælia purpurata bella, from W. L. Lewis & Co.

To Odontoglossum Pescatorei "La Perfection," from Mons. Vuylsteke, Ghent.

To Cattleya Lawrenceana atro-rubens, rom Mons. Jules Hye-Leysen.

Botanical Certificates.

To Brassia Keiliana tristis, from Messrs. B. S. Williams & Sons.

To Vanda concolor, from Messrs. B. S. Williams & Sons.

Cultural Commendations.

To Mons. Jules Hye-Leysen, for Lælio-Cattleya × Hippolyta.

To J. Gurney Fowler, Esq., for Epidendrum Wallisii.

General Awards.

Gold Medal.

Rivers & Son, T., Sawbridgeworth, for Nectarines in pots.

Silver Cup, in order of merit.

Veitch & Sons, J., King's Road, Chelsea, for Streptocarpus; Phyllocacti, Gloxinias; Trees and Shrubs; Caladiums; new and rare Ferns; cut flowers, &c. Sander & Co., St. Albans, for Orchids and new plants; Schroder, Baron, The Dell, Egham, for Orchids; Lawrence, Sir Trevor, Burford Lodge, Dorking, for Orchids; Paul & Son, Cheshunt, for pot Roses, Cannas, alpine plants, &c.; Turner, C., Royal Nurseries, Slough, for Roses, Pelargoniums, Azaleas; Wigan, Sir Frederick, Clare Lawn, East Sheen (gr., W. H. Young), for Orchids; Sutton & Sons, Reading, for Saintpaulia ionantha, Gloxinias, Lilies, Tomatos, Cucumbers, &c.; Backhouse & Son, J., York, for Filmy Ferns, alpine and herbaceous plants; Smith & Co., Richard, St. John's Nurseries, Worcester, for specimen Clematis; Iceton, Wm., Putney Park Lane, Roehampton, S.W., for Palms, Caladiums; Wills & Segar, Onslow Crescent, South Kensington, for decorative Palms; Bunyard & Co., The Old Nurseries, Maidstone, for Kentish Apples; Ralli, Pantia, Ashtead Park, Epsom (gr., G. Hunt), for Caladiums; James & Son, J., Woodside, Farnham Royal, Slough, for Calceolarias; Low & Co., H., Clapton Nursery, London, E., and Bush Hill Park, Enfield, for Orchids, Caladiums, and choice stove plants, Ericas and greenhouse plants; Perkins & Sons, Coventry, for bouquets, wreaths, floral designs.

Silver-Gilt Flora Medal.

Balchin & Sons, W., Hassocks Nurseries, Sussex, for Leschenaultias, Ericas, Palms, Boronias, Coprosmas; Barr & Son, P., Covent Garden, London, for cut flowers; Bennett Poë, J. T., Holmewood, Cheshunt, for Streptosolen Jamesoni; Birkenhead, W. & J., Sale, Manchester, for stove, greenhouse, hardy, Exotic and British Ferns; Cannell & Sons, H., Swanley, Kent, for Begonias, Gloxinias; Carter & Co., James, 237, High Holborn, for cut flowers; Charlesworth & Co., Heaton, Bradford, for Orchids; Cypher, James, Queen's Road, Cheltenham, for Orchids; Fowler, J., Gurney, Glebelands, S. Woodford, for Orchids; Frogmow & Sons, W., Chiswick, for Japanese Maples; Jackman & Son, G., Woking, for pot Roses; Kelway & Son, J., Langport, Somerset, for Pæonies, Irises, hardy flowers, &c.; Lewis & Co., W. L., Chase Side, Southgate, N., for Orchids; Paul & Son, William, Waltham Cross, for Roses cut Rhododendrons, Lilacs; Peed & Sons, John, Roupell Park Nurseries, Norwood Road, S.E., for Caladiums; Rothschild, Leopold de, Ascott, Leighton Buzzard (gr., J. Jennings), for Carnations; Ware, T., S., Hale Farm Nurseries, Tottenham, for Begonias, hardy herbaceous plants and cut flowers; Williams & Son, B. S., Upper Holloway, for Orchids; Waterer & Son, John, Bagshot, Surrey, for Acers and Rhododendrons.

Silver-Gilt Knightian Medal.

Ellis, Wallace S., Hazelbourne, Dorking, for Orchids; Percy, the Right Hon. Earl, Syon House, Brentford (gr., Geo. Wythes), for Figs, Peaches, Grapes, Melons, Vegetables; Wingfield, Mrs., Ampthill House, Beds (gr., W. J. Empson), for vegetables; Berners, C. H., Woolverstone Park, Ipswich (gr., W. Messenger), for Black Grapes.

Silver Flora Medal.

Calcutt, L. H., Fairholt Road, Stoke Newington, N., for table decorations; Chard & Co., for cut flowers; Cooke, Malcom S., Kingston Hill (gr., Mr. Buckell), for Orchids; Cuthbush & Son, W., Highgate Nurseries, London, N., for Azaleas and cut flowers; Dobbie & Co., Rothesay, N.B., for Violas; Jones, H. J., Bycroft, Lewisham, for Pelargoniums; Ladhams, R., Shirley, Southampton, for cut flowers; May, H. B., Dyson's Lane Nurseries, Upper Edmonton, for Ferns; Mount, G., Canterbury, for cut Roses; Pease, Bart., M.P., Sir J. W., Hutton Hall, Guisborough (gr., J. McIndoe), for Melons, Nectarines, Peaches, Tomatos; Percy, the Right Hon. Earl, Syon House, Brentford (gr., Geo. Wythes), for Orchids; Ramsey, W., Joyning's Nurseries, Waltham Cross, for pot-Roses; Smith, M.P., The Hon. W. F. D., Greenlands, Henley-on-Thames (gr., H. Perkins), for Hippeastrums (Amaryllis).

Silver Knightian Medal.

Baker, L. J., for Grapes, Radnor, Rt. Hon., Earl of, Longford Castle, Salisbury (gr., Mr. H. W. Ward), for Cucumbers.

Silver Banksian Medal.

Box, John K., Derby Road, Croydon, for cut flowers; Cheal & Sons, Crawley, Sussex, for cut flowers; Horticultural College, Swanley (Principal, F. C. Powell), for table decorations; Prichard, M., Riversdale Nursery, Christchurch, Hants, for cut flowers; Phelps & Co., Queen Street, Cardiff, for bridal bouquets; Pye, S., Catterall, Garstang, Lancs., for Pansies and Violas; Wallace & Co., Colchester, for Calochorti, Irises, &c.

Awards of Floral Committee.

First-class Certificate.

To Dracæna Gaiseffiana, from Messrs. F. Sander & Co., St. Albans; Incarvillea Delavayii, from Sir Trevor Lawrence, Bart., Dorking.

Award of Merit.

To Pelargonium Duchess of York, from Mr. J. Prewett, Hammersmith; Clematis, Duchess of York, from Messrs. G. Jackman & Son, Woking; Caladium, Henry Irving from Messrs. J. Veitch & Son, Chelsea; Caladium, Lord Derby, from Messrs. J. Veitch & Son, Chelsea; Phyllocactus, Excellent, from Messrs. J. Veitch & Son, Chelsea; Begonia, Lady Annesley, from Messrs. F. Sander & Co., St. Albans; Begonia, Sanders' Masterpiece, from Messrs. F. Sander & Co., St. Albans; Begonia, White Camellia, from Mr. T. S. Ware, Tottenham; Begonia, Samuel Pope, from Mr. T. S. Ware, Tottenham; Caladium Rose Laing, from Messrs. J. Peed & Sons, Roupell Nursery, West Norwood; Sibthorpia europæa aurea, from Messrs. J. Backhouse & Son, York; Gloxinia, Prince of Wales, from Messrs. H. Cannell & Sons, Swanley; Tree Pæony, Lord Iveagh, from Messrs. Kelway & Son, Langport.

Scientific Committee.

May 14.—**Present:** Dr. M. T. Masters, F.R.S. (in the chair); Dr. D. Morris, C.M.G., Rev. W. Wilks, Mr. A. Michael, Dr. Russell, F.R.S., Rev. G. Henslow, Hon. Sec.

Wellingtonia with Tuberous Growth.—Mr. Bunyard sent a specimen of a young plant which had produced a large globular woody growth at the base. It was perforated by some beetle, but this was apparently of subsequent occurrence, and had nothing to do with the cause. A very similar structure had formerly been sent in a Taxodium. It was forwarded to Mr. Blandford for further examination.

Fungi in Soil.—A sample of soil was received from Mr. Hooper, Cambridge, Waikato, New Zealand, with a communication, stating that the roots of fruit trees which penetrated the places where the fungus appeared to reside became infected, the fungus penetrating the tree from base to summit, and ultimately killing it. It was referred to Kew for investigation.

Nemophila Seedlings.—Dr. Masters called attention to a peculiarity in the cotyledons and some of the leaves of this plant—in that the epidermis appears to become detached in places from the underlying tissue, and gives the appearance of white spots, as the chlorophyll becomes invisible.

Cattleya Malformed.—Dr. Masters exhibited a flower reduced to its lowest terms in having two sepals only, no petals, an anther with two (instead of eight) pollen masses, and no pistil, the "inferior ovary" being represented by a stalk only.

Rhododendron hirsutum.—Sir Ed. Loder sent a specimen apparently dying, with the observation that others appear to be in the same condition. Mr. Michael remarked that he had observed how this species is confined to limestone districts, while R. ferrugineum is indifferent, and grows both on limestone and granite in the Alps of Switzerland. It is possible, therefore, that the plants require lime, if it be deficient in the garden in question.

Black Currant "Jaundiced."—Mr. D. T. Fish sent specimens having a very yellow-green foliage, with a communication of which the following is an abstract:—After referring to several assumed causes—e.g., "sudden changes from heat to cold, drought to drowning, &c.," he continued—this case differs from most in the following particulars:—The jaundice is limited to Black Currants of two or three years of age. The cuttings

last year were free from the disease. The field is well drained, and of excellent quality for fruit trees and bushes. I hear at Meldreth that this new disease is more or less prevalent over very wide areas in Cambridgeshire." The best remedy to be tried was thought to be a solution of sulphate of iron, and if this failed, only to grow those kinds which appear to resist the complaint—e.g., Black Champion, Lee's Prolific, and the Cut-leaved Black Currant.

Colours of Flowers.—Some discussion arose as to the question of the influence of mineral salts in the soil upon the colours of flowers, Dr. Russell observing that many interesting and profitable results would undoubtedly follow from experiments in this direction. The change from blue to red in Hydrangeas was spoken of when they are removed from maritime to inland places, the general experience being that blue specimens grew mostly by the seaside, and were not altogether attributable to iron in the soil. Dr. Russell suggested the use of a dilute solution of ferro-chloride to test the conversion of the red to a blue colour.

Influence of Salt.—A further discussion arose on the well-known effect of salt on maritime plants being a cause of succulency in many of them, but the injury due to its presence in the case of south-west winds has been felt at great distances inland, as at Bagshot, upwards of 50 miles away. Dr. Masters described the remarkable result on a Japanese Maple in Mr. Waterer's grounds, in that, while one-half of the tree on the leeward side grew vigorously and never flowered, the other half exposed to the wind was greatly checked, and, as a consequence, blossomed every year subsequently, and so enabled seed to be procured from it.

Tulip, Abnormal.—Mr. M. Mills, of The Gardens, Combe House, Croydon, sent a Tulip of abnormal size and growth, consisting of three peduncles fused together, with leaves 15 inches by 5 inches, the whole being nearly 3 feet in height.

Primroses, Blue-tinted.—Mr. Wilson exhibited (at the meeting held on April 23, but accidentally omitted from the minutes) a fine bowlful of the best of the blue-tinted Primroses, showing a great improvement upon the original forms when first raised.

Photograph of Fig.—Dr. Masters showed a photograph of a Fig, possibly F. Tsiela, Roxb., with its roots forming a perfect network over the stem of a Mango. It was taken in a grove near Lanowlee, Western Ghauts, by Mr. G. Marshall Woodrow, College of Science, Poona.

Rosa mu tiflora, Photograph.—Dr. Masters showed a photograph of a dwarf variety of this Rose sent by Mr. de Vilmorin, the seed of which was sown on January 15, and was in blossom on April 11.

Tendrils on Vines.—Dr. Masters showed the results of his observations on the occurrence of tendrils on branches of Vines containing seven leaves in succession; only certain of the leaves had tendrils opposite to them, but there is no rule as to which should have none. Of seventeen examples, three leaves and one leaf had tendrils five times, or about 30 per cent. Tendrils occurred with four leaves, two leaves, or not at all, twice, or about 12 per cent. In no case did every leaf have a tendril, nor did six out of the seven ever have one at all.

Royal National Tulip Society (Southern Section).

The second exhibition of this Society took place in connection with the Temple Show, and if it was small in extent, the quality of some of the blooms staged amply compensated for the deficiency in numbers. As last year, the exhibition was practically made by the northern growers, and there does not at present appear to be any indications that the culture of the florist's Tulip is spreading in the South. But it is well to keep the flower represented in London in some way, and it can probably be best done by means of this Society.

There were three stands of twelve dissimilar rectified Tulips, Mr. J. W. Bentley, Stakehill, Manchester, being placed 1st, with some good blooms, having as bizarres, feathered, Masterpiece and General Grant; flamed, Dr. McHutcheon and Hepworth Seedling; byblœmens, feathered, Friar Tuck and Elizabeth Pegg; flamed, Talisman and Chancellor; rose, feathered, Comte de Vergennes; and flamed, Rose Celestial, Mabel, and Julia Farnese. 2nd, Mr. T. Haynes, Warwick, a veteran northern grower. 3rd, Mr. C. W. Needham, Royton, Manchester.

There were four stands of six blooms, one feathered and one flamed of each class; here Mr. C. W. Needham came 1st with bizarre feathered, Ashmole's Seedling; flamed, Sir J. Paxton; byblœmen feathered, King of the Universe; and the same variety flamed: roses, feathered, Annie McGregor; flamed, Lady Catherine Gordon; 2nd, Mr. T. Haynes; 3rd, Mr. J. W. Bentley.

With three feathered Tulips, one of each class, Mr. J. W. Bentley came 1st, having bizarre General Grant, byblœmen Guido, and rose Comte de Vergennes.

With three-flamed varieties, Mr. Haynes came 1st with very fine blooms of bizarre, Sir Joseph Paxton; byblœmen, King of the Universe; and rose, Mrs. Lomax; the Rev. F. D. Horner, Lowfells, Burton-in-Lonsdale, was 2nd; and Mr. J. W. Bentley 3rd.

The Silver-gilt Flora Medal, given to perpetuate the memory of the late Mr. Samuel Barlow, for one feathered and one flamed flower of any class, was won by Mr. C. W. Needham, with flamed bizarre Masterpiece, and feathered byblœmen Elizabeth Pegg; the Rev. F. D. Horner was awarded a 2nd prize for byblœmen feathered seedling and rose-flamed Mabel.

The premier feathered Tulip was byblœmen King of the Universe, shown by Mr. C. W. Needham; the premier flamed bizarre, Sir J. Paxton, from Mr. T. Haynes.

The best collection of Tulips came from J. T. Bennett-Poë, Esq., Cheshunt, who had all the types, represented by large and well-developed blooms; Mr. J. W. Bentley, came 2nd; and Mr. G. Edom, Hoveham Road, Sussex, was 3rd. In all cases the flowers were in bunches in bottles of water, from three to six blooms in a bunch, but all unnamed.

Breeder Tulips.—Some exquisite blooms of these were staged. The Rev. F. D. Horner being to the fore with some highly promising seedlings of his own raising. With six dissimilar flowers, Mr. Horner was 1st, with bizarres, Storer's 3a and Dragon Fly Seedling; byblœmens, Desdemona and Fairy Seedlings; roses, Rosy Morn Seedling and Lady Burdett-Coutts; 2nd, Mr. J. W. Bentley; 3rd, Mr. C. W. Needham.

Edinburgh Botanical.

May 9.—This society met in the Lecture Hall of the Royal Botanic Garden on the above evening, at 6 30 P.M., the Vice-president, Mr. Symington Grieve, occupying the chair, and a good number of members attending. A motion to consider the desirability of holding some of the meetings of the society in the afternoon was discussed, and postponed until the opinions of the Fellows of the society could be ascertained.

A number of hardy flowers from Mr. Campbell, of Laidaig, were exhibited by Mr. R. Lindsay, showing the earliness of the season as compared with the vegetation in and about Edinburgh. In the report upon the vegetation of the garden during the month of April, Mr. Lindsay stated that the season is a remarkably late one! 133 species of Alpine and herbaceous plants had flowered during the month upon the rock garden, as against 153 in the corresponding month of last year. The meteorological observations taken at the garden were submitted by Mr. A. D. Richardson. The mean of the readings of the barometer was 29·787, being 0·161-inch below the average of April for the four previous years. The maximum of self-registering thermometers in screen was 62·0° on the 23rd, minimum 28·8° on the 7th; the mean of the month being 45·8°, being 0·9° above the average for April of four preceding years. Frost occurred on five days. Hygrometer in screen at 9 A.M., mean of dry bulb, 46·3°; wet bulb, 43·4°. Dew point, 40·1°; humidity, 78·7 per cent. Radiation thermometer: maximum in sun, 113·2° on the 23rd; minimum on grass, 19·9° on the 7th. Frost occurred on the grass on nine days. Total amount of sunshine, 115½ hours, the sunniest day 10½ hours on the 14th. Rain fell on 14 days, the total fall being 1·085 inches; the greatest amount falling in twenty-four hours on the 25th was 0·380 inch fell. Mr. R. L. Harrow, in his notes on Plants in the plant-houses, alluded to the progress made by plants in the newly-constructed portions, and to the additions of importance lately been made to the collections of Orchids, Cacti, and stove plants. The exhibits from the garden comprised hardy flowering shrubs, herbaceous and Alpine plants from outside, as well as tender plants from the houses. Specimens of the voracious Pine-weevil, Hylobius abietis, at work were shown by Mr. Tagg, these having been received from Mr. Gunn, of Strathfeffer, who stated that the damage done by them to a young plantation was enormous.

Law Notes.

A CASE FROM COVENT GARDEN.

A case of some interest and importance to buyers in Covent Garden Market, in which Mr. Councillor Edward J. George, of Brighton, and his partner, Mr. Thomas White, were the plaintiffs, and Mrs. Jacobs & Son, of Covent Garden, the defendants, came before His Honour, Judge Lumley Smith, at the Westminster County Court recently. The claim was for damages for breach of warranty. Plaintiffs' case was that they purchased from defendant six bags of Spanish Nuts, which were not equal to sample, and which were, in fact, condemned by the chief sanitary inspector of Brighton (Mr. Skinner) as unfit for food, and destroyed. Mr. Harvey Clifton, who (instructed by Messrs. Prince & Plumbridge) appeared for the plaintiffs, submitted that the sale was by sample, and was governed by the Sale of Goods' Act, 1893, which in the case of a contract for sale by sample, raises an implied condition that the bulk shall correspond with sample, and that the goods shall be free from any defect rendering them unmerchantable, which would not be apparent on reasonable examination. There was practically no dispute as to the quality of the Nuts, but defendants sheltered themselves behind a special condition of sale, which they alleged had been exhibited, whereby goods were to be delivered to purchasers subject to all faults and defects, without any allowance for inaccurate description of marks, quality, or condition. The learned Judge unwillingly came to the conclusion that the conditions of sale were brought to the notice of plaintiffs, and formed part of the contract, and that the sale was not by sample. He, therefore, gave judgment for defendants, but, on Mr. Clifton's objecting, declined to allow defendants costs. It seems that buyers at Covent Garden are frequently subject to a stipulation such as was held to have applied in this case. Conditions of sale are exhibited which no doubt sometimes escape the notice of purchasers, who should consider how they can best protect themselves, especially when purchasing goods such as Nuts, which from their very nature cannot be thoroughly tested without being cracked and made unmarketable. *Brighton Herald, May* 11, 1895.

Obituary.

Dr. Hugh Cleghorn.—We greatly regret to hear of the death, on the 16th inst., of one of our oldest correspondents, and of one who was most intimately connected with the formation and development of the Forest Service in India. Beneath a quiet unassuming manner, Dr. Cleghorn concealed much firmness and extraordinary powers of organisation; so that while he was universally liked, he was equally admired by his official superiors and colleagues. Dr. Cleghorn, who was in his seventy-fifth year, died at his residence Stravithie, near St. Andrews, after having served a long term of office in India. He took much interest in the work of the Botanical Society of Edinburgh, and similar institutions.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending May 18.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	42	0	+ 21	+ 272	1 +	87	14·7	30	28
1	2 +	54	0	— 40	+ 417	2 —	68	8·3	23	34
2	1 +	55	0	— 1	+ 231	2 —	75	9·4	21	32
3	2 +	74	0	+ 2	+ 288	1 +	68	7·3	26	36
4	3 +	76	0	— 15	+ 375	4 —	58	7·8	32	31
5	3 +	87	0	— 66	+ 333	4 —	56	6·8	36	34
6	2 +	67	0	— 18	+ 366	5 —	73	9·9	34	31
7	1 +	66	0	— 28	+ 303	4 —	64	9·3	22	33
8	3 +	83	0	— 65	+ 337	5 —	63	10·7	40	39
9	2 +	71	0	— 63	+ 276	2 —	80	10·3	36	34
10	3 +	87	0	— 96	+ 195	5 —	69	11·9	28	33
*	2 +	83	0	— 89	+ 248	4 —	74	9·4	47	47

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending May 18, is furnished from the Meteorological Office:—

"The *weather* continued very warm and generally fine during the earlier part of the week, but on Thursday a sudden change took place, and the conditions during the remainder of the week were very cold and dull, with showers of cold rain, hail in many places, and snow at some of our northern, eastern and south-eastern stations.

"The *temperature* was very high at first, but subsequently fell rapidly, and became much below the normal. The highest of the maxima (recorded either on the 12th or 13th) ranged from 79° in 'England, S.', and 78° in 'England, E.', to 68° in 'Scotland, W.', and 66° in 'England, N.W.' The lowest of the minima were registered on the 17th, when the thermometer fell to 32° in 'Scotland, E. and W.', to 33° in Scotland, N.' and 'Ireland, N.', to 37° in 'England, S. and N.W.', and to 42° in the 'Channel Islands.' The temperature for the week, taken as a whole, ranged from 1° to 3° above the mean for the time of year. At many of the inland stations the maximum readings during the earlier days of the period were as much as 30° higher than those registered towards its close.

"The *rainfall* slightly exceeded the mean in 'Scotland, N.' and 'England, E.', but was less elsewhere, the deficit in most districts being very considerable.

"The *bright sunshine* was much less prevalent than during he preceding week, and in all districts, excepting the Channel Islands,' was less than the mean. The percentage of the possible duration ranged from 47 in the 'Channel Islands,' and 40 in 'England, S.W.', to 23 in 'Scotland, E.', 22 in 'England, N.W.', and 21 in 'England, N.E.'"

MARKETS.

COVENT GARDEN, *May* 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ficus elastica, each	1 0	7 6
Aspidistra, per doz.	12 0	30 0	Foliage plants, doz.	9 0	24 0
— specimen, each	5 0	15 0	Fuchsias, per doz. ..	6 0	10 0
Azaleas, per doz. ...	18 0	24 0	Genistas, per doz.	8 0	10 0
Calceolaria, per doz.	6 0	9 0	Heliotrope, per doz.	4 0	6 0
Coleus, per dozen ...	6 0	9 0	Hydrangeas, p. doz.	12 0	18 0
Cyperus, per dozen	4 0	10 0	Ivy Geraniums, doz.	4 0	8 0
Dracæna, each ...	1 0	7 6	Lobelia, per doz ...	4 0	6 0
Erica Cavendishii, per dozen ...	36 0	42 0	Marguerites, p. doz.	6 0	12 0
— various, doz.	12 0	24 0	Mignonette, p. doz.	4 0	6 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0	Palms, various, ea.	2 0	10 0
Ferns, small, doz....	4 0	12 0	— specimens, ea.	10 6	84 0
Ferns, various, doz.	5 0	12 0	Pelargoniums, doz.	9 0	15 0
			Rhodanthe, per doz.	5 0	7 0
			Spiræas, per doz. ...	6 0	10 0
			Stocks, per doz. ...	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per dozen blooms	2 6	3 0	Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
Azaleas, per dozen sprays	0 6	1 0	— Paper-white, p. 12 bun. ...	8 0	10 0
Bouvardias, p. bun.	0 6	1 0			
Carnations, 12 blms.	1 6	2 6	Orchids:—		
Eucharis, per dozen	4 0	6 0	Cattleya, 12 blms.	6 0	12 0
Gardenias, per doz.	2 0	3 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Lapageria, 12 blms.	1 0	2 0	Pyrethrums, 12 bun.	2 0	4 0
Lilac (French), per bunch	3 0	4 0	Roses, Tea, per doz.	1 0	2 0
Lilies of the Valley, doz. sprays ...	0 9	1 6	— coloured, p. dz.	2 0	4 0
Lilium Harrisii, per dozen	2 6	3 6	— yellow (Maréchals), per dozen	2 0	6 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0	— red, per dozen	2 0	6 0
Marguerites, 12 bun.	1 0	3 0	— (French), red, per dozen... ...	2 0	3 0
Mignonette, 12 bun.	2 0	4 0	Iris, per doz. buns.	6 0	12 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0	Stephanotis, dozen sprays	3 0	6 0
— 12 sprays ...	0 3	1 0	Tuberoses, 12 blms.	0 4	0 6

ORCHID-BLOOM in variety

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cobs, per 100 lb. ...	18 0	20 0	Peaches, per dozen.	10 0	18 0
Figs, per dozen ...	6 0	8 0	Pine-apples, St. Michael, each ...	2 0	6 0
Grapes, 1st quality, black, English, per lb.	2 6	3 0	Strawberries, morning gathered, lb.	2 0	4 0
— Guernsey ...	1 0	2 0	,, ,, 2nds., lb.	1 6	2 0
Melons, each	2 0	3 0			

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0	Peas, ordinary, lb.	0 6	0 10
Beans, per lb. ...	0 6	0 8	— Telephone, lb.	0 10	1 0
Cauliflowers, p. doz.	2 0	3 0	Potatos, Channel Islands, per lb. ...	0 4	0 5
Cucumbers, per doz.	3 0	4 0	Seakale, p. punnet	0 6	0 9
Mint, per doz. bun.	2 0	3 0	Tomatos, Home-grown, per lb. ...	0 9	1 0
Mushrooms, per lb.	1 0	1 3			

OLD POTATOS.

Heavy arrivals of new kidneys have caused lower prices.

NEW POTATOS.

Malta kidneys easier, 16s. to 18s. per cwt.; do., rounds, 12s. to 13s. do.; Lisbon rounds, supplies short; prices have advanced 9s. to 10s.; Canar kidneys, 14s. to 16s. do.; do., small, 9s. to 10s.; Channel Islands, supplies heavier, 20s. to 28s. *J. B. Thomas.*

SEEDS.

LONDON: *May* 22.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market was poorly attended. Some warm rains are now badly wanted, with a genial and sufficient downpour, there would be a fair number of sowing orders dropping in. Scarlet Runner Beans seem about used up; prices consequently favour sellers. Canary seed excites increasing attention, the newly-formed Canary-seed Trust, which is now lifting parcels off the market, has started under most favourable auspices; stocks everywhere being remarkably small, whilst the chance of next season's crop appear gloomy in the extreme; prices moreover, notwithstanding this week's advance are still on a moderate range. Mustard and Rapeseed are firm. Haricot Beans continue scarce. Peas are quiet.

FRUITS AND VEGETABLES.

BOROUGH: *May* 21.—Quotations:—Carrots, 1s. 9d. to 2s.; Turnips, 2s. to 2s. 6d.; Broccoli, 1s. 6d. to 2s. per bag; Parsley, 2s. to 2s. 6d. per half-sieve; Onions, 2s. 6d. to 3s. 6d. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, Canadian, 12s. to 18s. per barrel; do., Tasmanian, 4s. to 8s. per case.

FARRINGDON: *May* 23.—Quotations: Cabbages, 3s. 6d. per tally; Greens, 2s. per bushel; Leeks, 1s. per dozen bunches; Spring Onions, 3s. do.; Carrots, new, 7s. do.; Beets, 2s. per bushel; Turnips, 8s. per dozen bunches; Cucumbers, 3s. 6d. per dozen; Horseradish, 9d. per bundle; Apples, Canadians, 12s. to 14s. per barrel; Tasmanians, 8s. 6d. to 9s. per bushel; Pine-apples, 1s. 6d. to 2s. 6d. each.

STRATFORD: *May* 21.—There has been an excellent supply of all kinds of produce at this market during the past week, and with plenty of buyers a brisk trade was done at the undermentioned quotations:—Cabbages, 4s. to 5s. per tally; Greens, 2s. 6d. to 3s. per dozen; Cauliflowers, 2s. to 2s. 6d. do.; ditto, 7s. 6d. to 10s. per tally; Lettuce, 4d. to 6d. per dozen; ditto, 9d. to 1s. per score; Turnips, 24s. to 28s. per ton; Carrots, cattle-feeding 18s. to 24s. do.; Mangels, 9s. to 13s. do.; Swedes, 10s. to 12s. do.; Onions, English, 100s. do.; do., Egyptian, 5s. to 5s. 6d. per cwt.; Apples, Australian, 8s. to 10s. per box.

POTATOS.

BOROUGH: *May* 21.—Quotations ranged from 80s. to 115s. per ton (old); and Teneriffe Kidneys (new), from 12s. to 16s. per cwt.

STRATFORD: *May* 21.—Quotations:—Lincoln, dark-land, 65s. to 75s.; do., light-land, 70s. to 90s.; do., Scotch, 90s. to 100s.; German, 60s. to 100s. per ton. New: Lisbon, 10s. to 11s.; Canary, 9s. to 12s. per cwt.

FARRINGDON: *May* 23.—Quotations:—Dunbars, 90s. to 120s.; Hebrons, 90s. to 100s.; Magnums, 70s. to 85s. per ton. New: Jersey, 28s. to 30s; Maltese, 16s. to 18s.; Lisbon, 9s. to 11s.; Canary Island, 10s. per cwt.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 110s.; do., inferior, 60s. to 80s.; hay, best, 60s. to 90s.; do., inferior, 36s. to 60s.; mixture, 70s. to 90s.; and straw, 15s. to 34s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending May 18, and for the corresponding period last year:—1895: Wheat, 22s. 10d.; Barley, 20s. 6d.; Oats, 15s. 3d.; 1894: Wheat, 24s. 5d.; Barley, 25s.; Oats, 18s. 9d.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.*

APPLE LEAVES: *Clio.* The work of an aphis—A. mali, probably. Try syringing with tobacco-water (a handful of coarse tobacco to a gallon of water). We see the "lady-birds" are also present; encourage them as the foes of the aphis. If the tree is small, dust it over with insect powder, but that would be much too costly on a large scale.

ADVERTISING IN THE EDITORIAL COLUMNS: *P.* We must respectfully decline your offer, which, on reflection, you will see is little better than an insult to our readers and ourselves.

BOUVARDIA, UNHEALTHY: *P. H.* A minute mould, called Trichothecium roseum, is causing the mischief. Syringe with a pale rose-coloured solution of permanganate of potash at intervals of a week, and give plenty of air. *E. M.*

DISEASED CHRYSANTHEMUM LEAVES: *W. S.* The disease is caused by a fungus called Cylindrosporium Chrysanthemi. Pick off, and burn all infected leaves, and spray the foliage of healthy plants with a pale rose-coloured solution of permanganate of potash as a preventive.

FERN-LIST: *X.* The price of the useful hand-list mentioned last week is 6*d*. It is sold at the Royal Gardens, Kew.

NAMES OF PLANTS: *J. W. H.* 1, Polygonum species, send when in flower; 2, Forsythia viridissima; 3, Amelanchier canadensis, var. ovalis; 4, Cratægus coccinea, var. pubescens; 5, Magnolia conspicua. —*Emerald.* 1, Solanum sp.; 2, Ribes fuchsioides; 3, Thuya dolabrata; 4, Gingko biloba, the Maidenhair tree; 5, Elæagnus angustifolia; 7, Buddleia globosa; 8, Elæagnus pungens; 9, Shrivelled beyond recognition.—*In Box, no Name.* Dendrobium albo-sanguineum.—*Tit.* 1, Styrax officinalis; 2, Cercis siliquastrum.—*C. L. Carlisle.* Flower is Gongora maculata, Adiantum decorum, Athyrium filix-fœmina, crested var.—*H. J.* Styrax officinalis—*Mrs. W., Cranleigh.* Thunberg's Spiræa, Spiræa Thunbergiana.—*W. P.* Saxifraga granulata, double-flowered variety.—*G. S.* 4, Pyrus Aria, White Beam; 3, Ribes aureum; 2, Berberis vulgaris; 1, Staphylea pinnata; 5, Fern-leaved Beech; 6, A garden variety of Tydea.—*J. R. R.* Primula japonica.—*R. H. P.* Mespilus germanica.—*G. F. W.* Lychnis alpina.—*J. R. R.* Epimedium pinnatum.—*J. R. R.* Primula japonica. —*J. Voss.* Carolina Allspice, Calycanthus floridus.—*H. C.* Asphodelus racemosus.—*T. M.* 1, Iberis corifolia; 2, Arabis albida; 3, Saxifraga; 4, Saxifraga hypnoides; 5, Sedum Rhodiola; 6, Euphorbia Cyparissias.—*T. S.* Amelanchier canadensis.—*W. J. P.* 1, Ledum palustre; 2, Cephalotaxus pedunculata var. fastigiata; 3, Ribes rubrum, double fl.; 4, Lonicera tatarica, white var.; 5, Staphylea pinnata; 6, Mespilus germanica; 7, Justicia carnea.—*L. H. F.* 1, Staphylea pinnata; 2, Spiræa chamædrifolia; 3, Lonicera tatarica.—*X. T.* Dendrobium chrysotoxum.—*Lymington.* Ribes flavum.—*E. W. C.* Hippuris vulgaris, Mare's-tail. Perhaps ducks or swans would help you. Empty the pond, remove the soil, and let it remain dry. We fear mere raking the plant out will only increase the plant by facilitating its propagation.—*W. L. W., Norwood.* The Persian Lilac (Syringa persica).—*W. T.* Mespilus germanica; Aristolochia, next week.

PEAS: *W. C. & Sons.* The Peas are attacked by the fungus called Pythium De Baryanum, which has produced an abnormal development of the root-tubercles. Plants that are attacked cannot be saved, and should be burnt, and the soil dressed with lime. Dampness and absence of light favour the growth of the fungus. *G. W.*

TOMATO DISEASE: *C. M., Ryde.* Next week.

TOMATO FLOWERS FALLING: *G. S.* We should suppose that from some cause the blooms set imperfectly, or not at all. Try fertilisation by means of a camel-hair pencil, and preserve a somewhat dry atmosphere.

TOMATOS AND THE BORDEAUX MIXTURE: *A. S. and T. P. R.* Very tender plants suffer from the Mixture sometimes, when it is given at the strength indicated on p. 597. The formula given in column B, p. 629, in our last issue is quite safe, if made properly in wooden vessels. The lime need not be immediately washed off. To do this would render the action of the Mixture on the fungus spores uncertain, and perhaps ineffective.

VINES: *R. H. S.* Your Vine leaves are covered with warts on the under surface. These are usually the result of a too hot, steamy atmosphere and deficient ventilation.

COMMUNICATIONS RECEIVED.—W. T. T. D.—A Producer.—Max Deegen, Köstritz.—E. W. C.—Intere ted (next week).—G. N. (next week).—F. C.—Marriott Cycle Co.—W. Cuthberteon.—A. J. R.—Sutton and Sons.—J. W.—R. C. T.—J. C.—E. C.—A. P.—R. D.—A. D.—A. E. S.—Vine Grower (next week).—T. T.—T. Wald.—J. W. P.—C. de B.—D. T. F.—Zermatt.—J. Cunnison.—Viator.—T. G.—J. O'B.

PHOTOGRAPHS RECEIVED WITH THANKS.—W. T. T. D.

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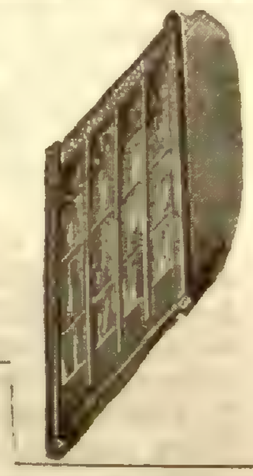

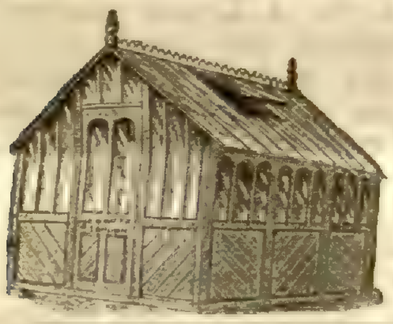

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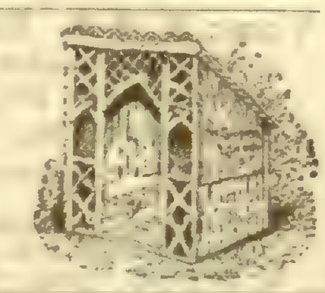

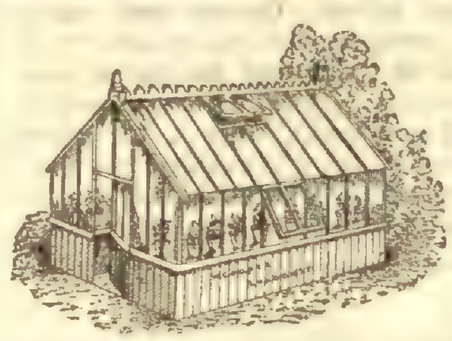

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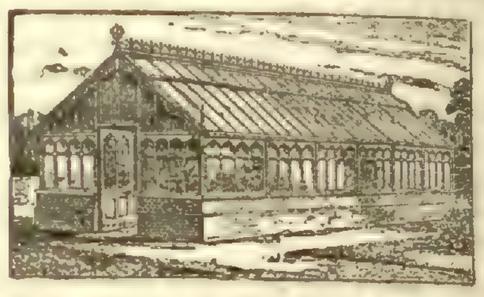

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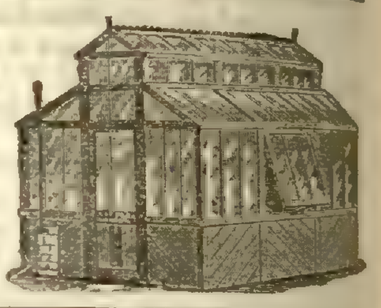

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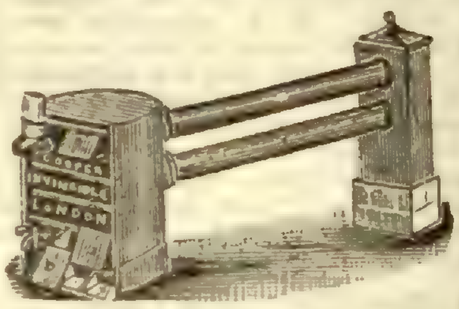

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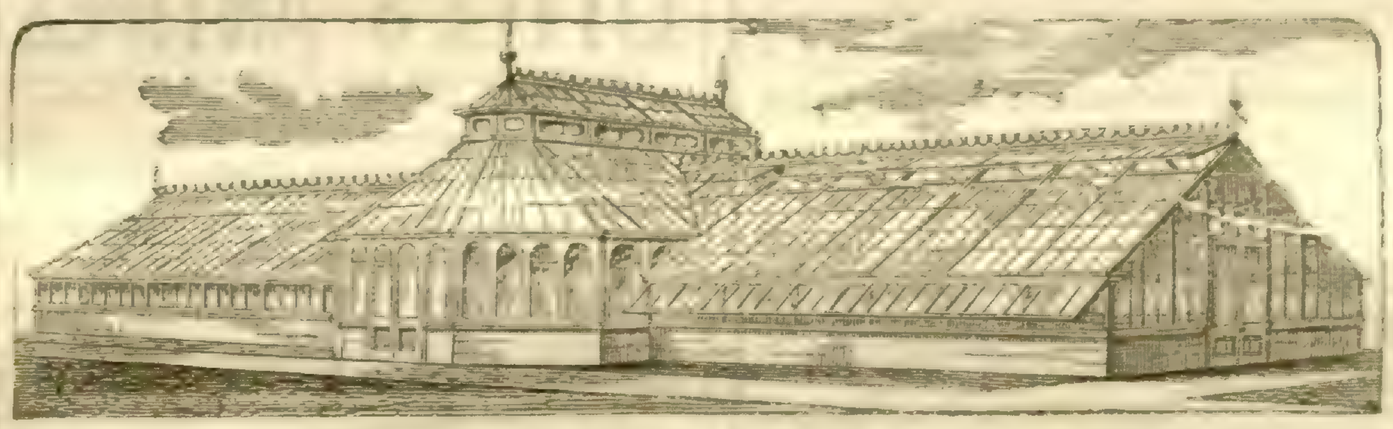

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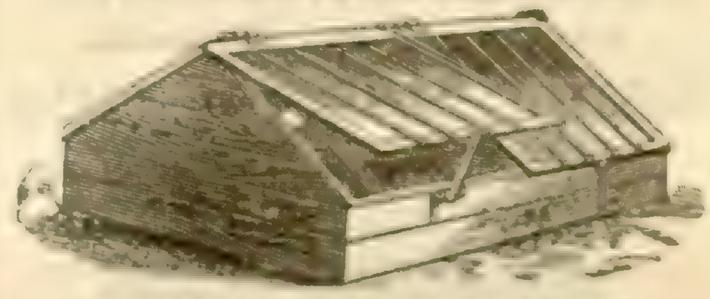

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These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH PRICES, CARRIAGE PAID.	2	0	0
6 feet " 4 feet "		2	5	0
12 feet " 4 feet "		4	0	0
6 feet " 5 feet "		2	15	0
12 feet " 5 feet "		4	15	0
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Larger sizes at proportionate prices.

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Largest and best Stock of HOT-WATER BOILERS, PIPES, VALVES, and HORTICULTURAL SUNDRIES in the United Kingdom. HEATING APPARATUS erected by specially-trained staff of skilled Engineers. Estimates free. New Illustrated CATALOGUE sent on receipt of post-card. Contractors to H.M. Government, &c., &c.

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THE GARDENERS' HAND SEED DRILL has an established reputation. Six Silver Medals awarded. Sows in rows, Onions, Turnips, Carrots, Mangolds, Vetches, Parsnips, Barley, and Wheat. Price, No. 1, 10s. 6d; No. 2, large hopper (for field or garden), 12s. 6d. Send P.O.O. and name of station to J. LE BUTT AND CO., South Works, Bury St. Edmunds, Suffolk. Drill leaves same day. Invaluable for filling up blank places left by Horse Drill.

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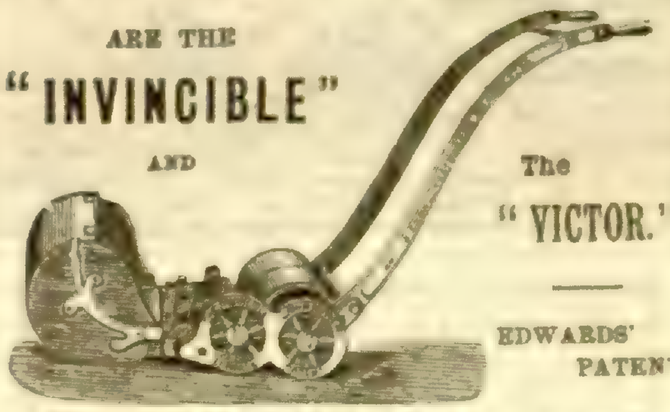

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Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

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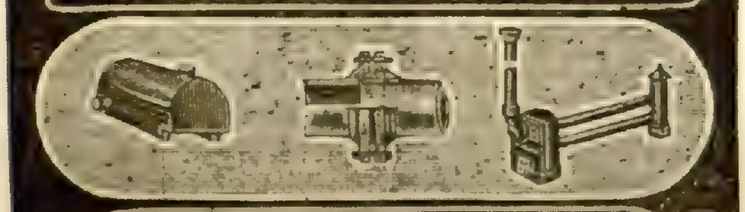

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STAND WIDE!

Don't allow yourself to be led into the notion that any amount of beer you may swallow will restore your jaded energy so quickly and completely as the invigorating beverage made from

MASONS EXTRACT OF HERBS FOR MAKING NON-INTOXICATING BEER

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For every RAILWAY MAN and all workers everywhere.

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SAMPLE BOT. FREE 9 STAMPS.

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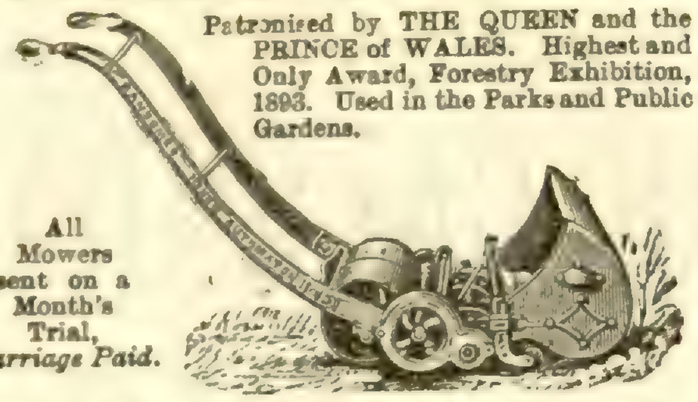
Patronised by THE QUEEN and the PRINCE of WALES. Highest and Only Award, Forestry Exhibition, 1893. Used in the Parks and Public Gardens.

All Mowers sent on a Month's Trial, *Carriage Paid.*



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The Best in the World.

In all sizes to suit every requirement.

A Valuable Testimonial from a High Authority.

Royal Horticultural Society, Chiswick Garden, W., March 16, 1894.—Dear Sirs, I may say that we are charmed with the way in which the work was done by your Chain Automaton Mower, from the beginning of the season to the end. Nothing could have been more satisfactory.—Yours very truly, A. F. Barron.

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UNEQUALLED AS A **FERTILIZER FOR LAWNS,** AND FOR THE **CERTAIN DESTRUCTION OF DAISIES, PLANTAINS, AND OTHER WEEDS.**

A trial tin will prove its efficacy.

PRICES: In Tins, 1s., 2s 6d., 5s.; and in Casks, 28 lb., 8s. 6d.; 56 lb., 16s.; 112 lb., 30s. each.

To be had of the Seed and Nursery Trade generally.

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The Best Material for Packing every description of Goods.

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The Largest Manufacturers in the Kingdom.

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An Excellent Substitute for Oil Paint, at one-third the cost.

This *unrivalled varnish* has for forty years given *unbounded satisfaction*, obtained *a large consumption*, and earned *a high reputation* throughout the kingdom. It requires no mixing, can be applied cold by any ordinary labourer, and *dries in ten minutes with a perfect gloss. Fences* periodically coated with it *are effectually preserved from deterioration for an indefinite period.*

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"I have tried this fertiliser on various garden crops, and am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.

"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

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Fir Tree Oil INSECTICIDE

Well known as the cheapest, safest, and best of all Insecticides for Killing Vermin on Plants, Animals, and Birds.

Used by every Orchid Grower of any note all over the World.

A Pamphlet on its use, with full directions for Cleaning Plants, &c., sent free on application.

Half-pints, 1s. 6d.; Pints, 2s. 6d.; Quarts, 4s. 6d.; Half-gallons, 7s. 6d.; Gallons, 12s. 6d.; Five Gallon Drums, 10d. per gallon, carriage paid. Manufacturer:—E. G. HUGHES, Victoria Street, Manchester. Sold by all Seedsmen.

GISHURST COMPOUND, used since 1889 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lieu from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

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READILY SOLUBLE in COLD WATER.

Most valuable in keeping down filth, and destroying all kinds of Parasites infesting Plant-life.

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OF ALL SEEDSMEN AND FLORISTS.

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Over SIX THOUSAND CASKS sold annually

PRICE 2/- PER GALLON ONLY

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Established over 30 Years.

Exceeds all others in General Fertilising Properties and Staying Powers.

It promotes a rapid, healthy, and robust growth to plants generally.

It is a clean and dry powder with very little smell.

The highly fertilising properties of this Manure render its money value, in comparison with other Manures, of least durable; and users will find that very small quantities will produce favourable and lasting results.

The Analysis shows—

Insoluble Phosphate	19·74 per cent.
Soluble	4·11 ,,
Nitrogen	2·63 ,,
(Equal to Ammonia)	10·66 ,,

Sold in Tins, 1s., 2s. 6d., 5s. 6d., and 9s. each; and in Bags, well secured, to prevent loss through exposure, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s.

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THOMSON'S VINE AND PLANT MANURE.

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Price Lists and Testimonials on application.

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SPECIAL LAWN MANURE.

Specially & most carefully prepared for Lawns, Croquet and Tennis Grounds, Cricket Grounds, Bowling Greens, Putting Greens, Golf Grounds &c.

"*The Dicksons Lawn Manure* which I ordered from you has fully realised my expectations of it, and upon the Lawns where it has been used here the result has been very satisfactory. I consider your Lawn Manure to be a most desirable one for application to Lawns, either for renovating weakly grasses or for maintaining Lawns in a healthy and perfect appearance. Being so easily and quickly applied, and leaving no unsightly appearance or objectionable smell, it seems to be just the thing wherever Lawn Manure may be required."—Mr. Alfred Barker, Carrygran.

PRICES, Carriage Paid, for quantities of not less than 1 cwt.

One Ton (in 1 cwt. bags), £12 10s. 0d.; Half Ton (in 1 cwt. bags), £6 17s. 6d.; Quarter Ton (in 1 cwt. bags), £3 10s. 0d.; One cwt. (in bag), 14s. 6d.; Half cwt. (in bag), 7s. 6d.; Quarter cwt. (in bag), 4s.; 14 lb. (in bag), 2s. 6d.; 7 lb. (in bag), 1s. 6d.; 3 lb. (in tin), 6d.

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"EUREKA" WEED KILLER.

Safe, Effective, and Cheap.

There is no risk of poisoning Birds or Animals if directions are followed when applying this preparation. Guaranteed to clear all weeds; mixes at once; no sediment; leaves the paths bright and clean, without stains.

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Double Strength, Mixes 1 to 30.

Sample Half Gallon Tin post free for stamps, 2s 6d.

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THE COTTAGER'S CALENDAR

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Will be useful to Lecturers and Students in the above subject.

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8	,, ..	0	5	0	19	,, ..	0	10	6
9	,, ..	0	5	6	20	,, ..	0	11	0
10	,, ..	0	6	0	21	,, ..	0	11	6
11	,, ..	0	6	6	22	,, ..	0	12	0
12	,, ..	0	7	0	23	,, ..	0	12	6
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H. S. Thompson & Sons, The Nurseries, Wimbledon—Bedding Plants, Hardy Perennials, &c.

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Charles Dixon & Co., 61, Scotch Street, Carlisle—Summer Flowering Plants.

Hurst & Wood, Colchester, N.B.—Turnip Seeds.

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Mr. James Grant, late Foreman at Montacute Gardens, as Head Gardener to the Earl of Listowel, Convamore, Mallow, Ireland.

Mr. C. Duthworth, late Head Gardener at Hawkey Towers, Leatherhead, Surrey, as Head Gardener to the Count de Moltke, Bear Manor, Enfield, Surrey.

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HORTICULTURAL SHEET GLASS

STOCK SIZES in inches.

18 × 10	16 × 12	18 × 12	20 × 14	24 × 16	24 × 18 to 36 × 18
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21-oz. Foreign, of above sizes, 100 and 200 feet boxes. Rolls and other qualities, always in stock. 15-oz. Foreign similar current sizes in 200 feet boxes.

English Glass cut to home sizes at lowest prices, *delivered free and packed* to the country in quantity.

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PIT LIGHTS, strong line of 21-oz. 200 feet, 9 inches by 7 inches, and 10 inches by 8 inches.

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MADE UP TO ANY SIZE.

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SHAW'S TIFFANY SHADING, the Cheapest and Best, in various qualities. No. 1, 20 yards long, 3s per piece; No. 2, 2s 6d per piece. Trade supplied. Samples and 20, Oxford Street, Manchester.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Sizes and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—WALKER AND CO., Farnborough, Hants.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free.

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WANTED, an experienced HEAD WORKING GARDENER, experienced in all branches, but specially in Flower Garden, and Plants and Flowers for House and Table Decoration. Three men kept. Married; no family living at home. Age not over 45. Scotch preferred. Excellent character. State all particulars.—C. A. HALL-HALL, Esq., Culverwood Cross-in-Hand, Sussex.

WANTED, a HEAD WORKING GARDENER, for a place near Windsor, comprising about an acre of Kitchen Garden and several acres of Pleasure Grounds. He must be a thoroughly practical man, and understand the rearing of Stove and Hothouse Plants, and with good taste in arranging Flowers in the House and on the Dining-Table. A married man, without children, age between 30 and 40, preferred.—Apply, stating wages and all particulars, by letter, to M. S., Bolton's Library, Knightsbridge, S.W.

WANTED, a GARDENER, Outside, and to assist with Milking, and Farm Work when required. —Constant work for a good man; and a family could have work in Mill.—State age, experience, and wages.—THOMAS GILL AND SONS, Summerbridge, *viâ* Leeds.

WANTED, a GARDENER, with good experience of Hardy and Alpine Plants. Age not less than 35; Church of England. Small garden: no glass. Second man attends to cows, &c. House not provided. Applications not answered in three days to be considered refused. — Address, stating wages, CANON BERNARD, The Close, Salisbury.

WANTED, smart GARDENER, with a little capital, to sell produce of a large Garden near London, on commission. Tomatos, Grapes, Cucumbers, Orchard Fruit, and Vegetables. —Box 149, 41, Wellington Street, Strand, W.C.

WANTED, as UNDER GARDENER, a young married MAN without family. Must be used to Kitchen Gardens and Pleasure-Grounds, and ready to make himself generally useful.—Apply, Uplands, East Sheen.

Florist's Business.

WANTED, a MANAGER, for a First-class West End Florist's Business. Must be thoroughly competent, of unexceptionable character, and able to give security. May ultimately lead to Partnership. — Apply, "Principals only." with qualifications, testimonials, and salary required, to ALSTON, HUGHES AND ALSTON, Solicitors, 71, Edgware Road, W.

WANTED at once for small Nursery in the Country, a thoroughly competent WORKING MANAGER, must be well up inside and out, good correspondent. Good house on the Nursery. State experience and terms to M. PAYNE, Weston in Gordano, Clevedon, Som.

WANTED, an experienced WORKING FOREMAN, in Hardy Alpine and Herbaceous Plants. —Must be a smart and skilled Propagator, with knowledge; 25*s.* per week.—Apply, BARR'S Nurseries, Long Ditton, Surrey.

WANTED, a WORKING FOREMAN, for the Houses.—One from a Provincial Nursery preferred. Thoroughly used to Growing a General Collection of Plants for Market, and Cut Flowers all the year round, where a good trade is done.—State full particulars, with age, and wages expected, to R. P. K., Messrs. Hurst & Son, Seed Merchants, Houndsditch, London, E.

WANTED, a FOREMAN, age not under 24, for Fruit and Plant-houses. Wages, 18*s.* per week, bothy, milk, and vegetables. — Apply to W. WENMAN, Hickleton Gardens, Doncaster.

FOREMAN.—WANTED an energetic Man as FOREMAN in a Market Nursery. Experienced in growing Tomatos, Cucumbers, and Plants in large quantities for Covent Garden. State wages and particulars to W. H. S., 41, Wellington Street, Strand, W.C.

WANTED, a smart PLANT SALESMAN, with a good knowledge of Hardy Herbaceous Plants, Bulbs, and Seeds; must be a good writer. 21*s.* per week, and commission.—Apply, BARR'S Nurseries, Long Ditton, Surrey.

WANTED, an experienced MAN, with knowledge of Buying, to take charge of Garden and Root and Seed Department for wholesale house.—Reply, stating salary, to B. B., 41, Wellington Street, Strand, W.C.

WANTED, SEVERAL MEN, for Grape-thinning.—Apply, between 9 and 10 A.M., Claigmar Vineyards, Church End, Finchley, N.

WANTED, a young MAN, well-up in Tomatos and Cucumbers, and general routine of a Market Nursery.—State age and wages required to W. BARTLETT, Aylestone Park, Leicester.

WANTED, a young MAN, to take charge of Houses, under Head Gardener. Must be thoroughly experienced, and have excellent character. Single; age about 23. Wages 18*s.* per week. No bothy.—Apply to GARDENER, Camilla Lacey, Dorking, Surrey.

WANTED, a Strong, Active Young MAN, must be well up in the culture of Tomatos, Cucumbers, and Chrysanthemums, and be a quick potter. Wages, £1. —Apply, PROPRIETOR, Park View Nursery, near Eltham, Kent.

WANTED a young MAN, quick at Potting and Tying.—State wages, and where employed, to FAY, Florist, Cosham, Hants.

WANTED, in a General Retail Seed, Nursery, and Floral Business, a SHOPMAN, with a knowledge of Floral-work.—Full particulars and wages to X., *Gardeners' Chronicle* Office, 41, Wellington Street, W.C.

WANTED, an INVOICE and LEDGER CLERK. — Permanent situation in the Midlands; unexceptional references required. Salary about 22*s.* per week.—SEEDSMAN, 41, Wellington Street, Strand, W.C.

WANTED, TWO young MEN, used to Growing for Market. Wages 18*s.* per week.—T. DUCK, Florist, Shiplogs Nursery, Abbey Wood, Kent.

FLORIST.—WANTED an energetic young MAN, of good address, thoroughly experienced in making up wreaths, bouquets, and other floral designs; must be good salesman, and perfectly steady and trustworthy. Comfortable appointment to suitable man.—Apply, with full particulars as to experience, age, references, and wages expected, to J. D. E., 41, Wellington Street, Strand, London, W.C.

WANTED, a young WOMAN, competent to make up Wreaths, Bouquets, &c., where a high class business is done. Apply in first instance to R. F., 41, Wellington Street, Strand, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENERS, &c.—JOHN LAING AND SONS, having filled many important places, can recommend with every confidence energetic and practical men of tested ability and first-rate character. Ladies and Gentlemen in want of HEAD GARDENERS for first-rate establishments, or SINGLE-HANDED Situations, can be suited, and have full particulars by applying to us; no fees charged. — JOHN LAING AND SONS, The Nurseries, Forest Hill, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (HEAD).—G. JESSOP, age 33, married, one child, offers his services to any Nobleman or Gentleman requiring a thoroughly practical man; well up in Landscape or All-round Gardening. Reference permitted to the Dowager Lady Howard de Walden, and Mr. Coleman, Estate Agent, Eastnor. — Sansome Lodge, Sansome Walk, Worcester.

GARDENER (HEAD).—Age 39, married; thoroughly practically all-round Gardener, conversant in every department, with life thoroughly practical experience in Fruits, Flowers, Vegetables, &c. Thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, W.

GARDENER (HEAD).—Age 35. A. GOODEN, Gardener and Bailiff five years to H. S. Rennard, Esq., would be pleased to meet with another appointment. Excellent characters. Land and Stock if required. — Shopwyke House, Chichester.

GARDENER (HEAD), where three or more are kept.—Age 30; thoroughly experienced in Vines, Peaches, Melons, Tomatos, Stove and Greenhouse Plants, Kitchen and Flower Garden, &c.; highly recommended.—E. WEST, Shavington Gardens, Market Drayton.

GARDENER (HEAD).—Age 34, married, no family. Has good practical experience in all branches; for the past eight years with the late T. Twining, Esq., Perryn House, Twickenham. High-class recommendations, and personal references.—C. B., 1, Albert Road, Staten Gardens, Twickenham.

GARDENER (HEAD).—Where two or more are kept; age 25. Good character; eleven years' experience in good Gardens.—F. R., The Cottages, near The Hazels, Sandy, Beds.

GARDENER (HEAD); Age 36; married; no family.—H. NAYLOR, late Gardener at Dysalt House, Fife, is seeking a situation; is able to produce first-class fruit, and is highly recommended by the Earl of Rosslyn to any lady or gentleman wanting a capable man.—Address, 8, Ashly Road, Richmond, Surrey.

GARDENER (HEAD).—Age 40; thoroughly practical and experienced in all branches. Fourteen years' excellent recommendation from owner of a large private place.—N., Messrs. B. S. Williams & Sons, Holloway, N.

GARDENER (HEAD).—A GENTLEMAN wishes to Recommend his GARDENER as thoroughly trustworthy, practical man in all branches; eleven years' excellent character; married, age 36; leaving through giving up.—J. THORNE, The Bush, Walton-on-Thames.

GARDENER (HEAD); age 35, married.—JAMES CYPHER can with every confidence recommend an exceptionally good man as above. Thoroughly experienced in the Culture of Orchids, Fruit, Plant, and Flower Culture, all kinds of Early and Late Forcing, Pleasure and Kitchen Gardening. Ten years as Head in last place. Highly recommended.—JAMES CYPHER, Exotic Nurseries, Cheltenham.

GARDENER (HEAD WORKING).—Age 42, married; thoroughly competent in all branches. Twenty-five years' experience in large establishments; fourteen years in present situation. Excellent references.—GEO. PARKER, The Gardens, Yew Park, Enstone.

GARDENER (HEAD WORKING).—Age 36, married (one girl, age 7); thoroughly experienced. Good character; abstainer.—B., 2, Limes Villa, Avenue Road, Bexley Heath.

GARDENER (HEAD WORKING), where two or more are kept.—Age 29. Excellent character from previous employers. — T. ATTWOOD, 17, Helvetia Street, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING).—Age 37, married when suited.—JOSH VESSEY, Gardener to T. C. Garfit, Esq., Kenwick Hall, Louth, Lincs., wishes to recommend J. F. Cullen, as above. Well up in all branches, steady and trustworthy.—J. F. CULLEN, 2, Smith Street, New Balderton, Newark.

GARDENER (HEAD WORKING); age 32.—Sir THOMAS BAYLEY wishes to recommend W. Burley, who has been with him five years; thoroughly experienced in all branches.—BURLEY, Hatherop, Fairford.

GARDENER (HEAD WORKING).—Age 37, married, no family. Good practical experience. Vines, Melons, Peach-house, Stove, Flower and Kitchen Gardens. Excellent characters. Cause of leaving, place sold.—CROCKFORD, The Grange, Elstree, Herts.

GARDENER (HEAD WORKING).—Age 35, married, no family; life experience in the routine of work. Connected with well-kept establishments. Highest references. Leaving through place being sold.—GARDENER, 77, High Street, High Barnet, Herts.

GARDENER (HEAD WORKING).—Age 38, no family; understands Flower and Kitchen Gardening, also Early and Late Forcing, Land and Stock, if required. Good references. Wife Dairy and Poultry.—W. T., Eaton, 203, Gray's Inn Road.

GARDENER (HEAD, or good SINGLE-HANDED).—Married, one child at home, age 10. Life experience; eight years in present situation. Disengaged when suited. Cottage or Lodge preferred.—J. R., 14, Woodstock Road, Shepherd's Bush, London.

GARDENER (HEAD or SINGLE-HANDED).—Age 26, married; 10 years experience; good knowledge of Stove and Greenhouse Plants, Vines, Cucumbers, Tomatos; good references. Please state wages.—F. M., 2 High Street, Swanley Junction, Kent.

GARDENER (SINGLE-HANDED or otherwise). —Age 28. Married; experience in growing fruit, flowers, and vegetables. Two years in last place, and can be well recommended.—W. KEEN, 4, Kingsbury Road, Neasden, Middlesex.

GARDENER (good SINGLE-HANDED), or where help is given.—Age 27, single, life experience, good character.—A. CHUTER, West Clandon, Guildford, Surrey.

GARDENER (SINGLE-HANDED).—Good knowledge of Gardening; three years last situation. For particulars, please address Mrs. Floyde, Hartsbourne Manor, Bushey Heath.—T. G., Lignum Cottage, Bushey Heath.

GARDENER (SINGLE-HANDED).—Situation wanted by a young Man, age 22, as above; seven years' experience. Good references.—A. RAYMENT, The Moor, Melbourn, Cambs.

GARDENER.—Age 32, one child 3½; Life experience. Highest references. Wife good Cook, if required. Wages, £1 and cottage.—LAWRENCE, Fern Bloomfield Place, Ealing Dean.

GARDENER.—Age 30; Life experience in Vines, Melons, Peach-houses, Cucumbers, Tomatos, Flower and Kitchen Garden. Excellent personal character. Cause of leaving, place sold.—A. WHITE, Elstead, Godalming, Surrey.

GARDENER.—Mr. A. DE WETTE, Hampton Court House, Hampton Court, can thoroughly recommend John Parson (address, Perryn House, Twickenham) as a thoroughly practical high-class Gardener. He held the position of Head Gardener to T. Twining, Esq., of Twickenham, for twenty years, and is leaving through the demise of his late employer.

GARDENER (KITCHEN).—Age 38; married, one child, 10. Well up in all its branches; four years in present situation; can take charge of stock if required.—C. MOUSLEY, Ashford Road, Feltham, Middlesex.

GARDENER (SECOND), in the Houses.—Wanted, by a strong, active young man, as above. Good experience and excellent character.—W. LAVENDER, 24, River Street, Bedford.

GARDENER (SECOND or SINGLE-HANDED).—Look after pony-trap, or make himself generally useful; age 40; married. Good character.—E. CRACKNELL, Gamekeeper, Hall Lodge, Hertford.

GARDENER (SECOND), or JOURNEYMAN (FIRST). Inside.—Seven years in present situation. Well up in Fruit, Flowers, and Conservatory.—F. WOOD, Two Dales, Matlock, Derbyshire.

GARDENER (SECOND), Inside.—Age 24; eight years' experience. Excellent characters from last and previous employer.—W. HUMPHRIES, Thorpe Mandeville, Banbury.

GARDENER (SECOND) Inside.—Age 25. Experience in all branches. With good references from last and previous situations.—A. S., 7, Nursery Road, Turnford, Broxbourne, Herts.

£2 BONUS to anyone securing for me a situation as UNDER GARDENER.—Four years' experience Inside and Out. Excellent character. Well recommended.—CAPE, Strawberry Bank, Ilminster.

GARDENER (UNDER), Inside, or Inside and Out.—Age 22; good references from last and previous situations.—G. SIMMONS, Burlington Road, New Malden.

GARDENER (UNDER), age 23, seeks situation as above; willing to make himself useful. Inside or Out. Six years' experience.—H. L., 3, Grayson Terrace, Sandycombe Road, Richmond, Surrey.

GARDENER (UNDER), in small place.—Age 23; eight years' experience. Good characters.—F. MANLEY, Hillingdon Heath, Uxbridge.

GARDENER (UNDER), where two or more are kept.—S. ODELL, Mr. Wells, Sheen Lodge, Richmond Park, East Sheen.

GARDENER (UNDER), Inside, or Inside and Out.—Age 20; three years in last situation. Good character.—A. BIGGS, 26, Pitcroft Road, Stamshaw, Portsmouth.

GARDENER (UNDER).—Age 25; used to Pleasure-grounds and Kitchen Garden; help Inside if required. Two years' good character. Well recommended.—C. CHALLON, Victoria Road, Catland Park, Weybridge, Surrey.

GROWER.—Age 28; used to Fern and Palm-houses, and general market stuff; eighteen months' good references.—C. COOPER, 75, Hall Place, Paddington.

GROWER.—Well up in Cut Flowers and all Pot Stuff, &c. Long experience. Married.—G. M., 125, Brettham Road, Upper Edmonton.

GARDENER (UNDER).—Young man, age 19, seeks situation as above; five years' experience, inside and out. Good character.—E. JAMES, Childe Okeford, Blandford, Dorset.

GARDENER (UNDER), inside and out.—Age 19; strong and willing.—J. FAGENCE, West Clandon, Guildford, Surrey.

GARDENER (UNDER): age 22.—A Lady can thoroughly recommend her Under Gardener who has been with her several years. No objection to a pony.—Mrs. GRAHAM POWELL, Elms, Southwold.

GARDENER (UNDER).—Age 19; good reference. Slight experience in Vines, Cucumbers, &c.—G. TUCK, 103, Corfe Castle, Dorset.

MANAGER.—Wanted by a thorough practical man, an appointment as MANAGER, used to a good Trade, and the Management of Men. First-class grower. Good connection in the Trade. Having travelled, could take occasional journeys. Good testimonials.—ASPIDISTRA, 41, Wellington Street, Strand, W.C.

WORKING MANAGER.—Well up in raising Ferns in large quantities; growing choice Chrysanthemums, Bedding-stuff, &c. Ten years in present situation; over twenty years in Market Nurseries.—Letter in first instance, stating particulars, to A. M., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN and FLORISTS.—Situation wanted as FOREMAN or MANAGER of a Nursery and Florist Business; age 32; thoroughly experienced in all branches of the trade; first-class references.—B. Z., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN and FLORISTS.—A young man, age 27, requires a situation as WORKING FOREMAN, Inside. Well up in Growing Stuff for Shop and Market, or Inside and Out. Could Manage Branch Nursery.—J. L., Shamley Green, Guildford.

GROWER.—A young Man seeks situation as Cucumber, Tomato, and Vine Grower. Three years' experience.—E. R., 5, Boswell Cottages, Alma Road, Ponder's End, Middlesex.

To Nurserymen.

GROWER, or ASSISTANT.—Age 26; life experience in Fruit, Plants, and Cut Blooms.—First-class references.—ALLWARD, Lime Heath, Barnet.

FOREMAN, Inside or General, in a good establishment.—Age 26; thoroughly practical in all branches; can be well recommended.—W. DUNKLEY, 21, Chester Street, Cirencester, Glos.

FOREMAN, General.—Age 26; twelve years' practical experience in Fruit and Plants. Excellent references.—ALLWARD, Lime Heath, Barnet.

FOREMAN, in the Houses.—Mr. GALE, Place Gardens, Fowey, Cornwall, will be pleased to recommend F. Westcott as above. Been with him two years as SECOND.

FOREMAN (GENERAL).—Age 25; eleven years' practical experience in Fruit and Plant houses. Excellent references. Three years Foreman in last place.—J. CREESE, Hunstroyde Gardens, Padiham, Lancashire.

FOREMAN.—Age 27; thoroughly experienced in Stove and Greenhouse Plants, Orchids, Orchard-houses, Vines, Figs, Peaches, Melons, Cucumbers, and Chrysanthemums for exhibition; good references; previously Foreman; disengaged.—T. WALLER, 189, Malden Rd., Kentish Town, N.W.

FOREMAN, or JOURNEYMAN (FIRST), in a good establishment.—Age 28; eleven years' experience. Can be well recommended.—W. ROBERTS, 26, Salisbury Road, Upper Holloway, N.

FOREMAN, in a first-class establishment.—Age 28; experienced in all branches. High-class House and Table Decorations; London Furnishing. Well recommended.—W. MILES, Caversham Park, Reading.

FOREMAN, or SECOND.—Age 28; fourteen years' experience. Active, industrious, and willing. Last two years as Foreman. Establishment broken up. Well recommended.—F. NASH, Amport, Andover, Hants.

FOREMAN, age 24; ten years' experience under glass. Well up in Fruits, Chrysanthemums, &c. for exhibition. House and Table Decorations. Two years' previous experience as Foreman. Excellent characters.—E. PARSLOW, 34, Ponton Road, Nine Elms Lane, S.W.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 26; good practical experience in Fruit and Plant Growing. Well recommended.—H. WORMAN, The Gardens, Caversham Park, Reading.

FOREMAN (GENERAL), or Inside, in a large establishment.—Age 29; highest possible references from last two places as Foreman. House and Table Decorations.—G. RAYMENT, Poles Park, Ware, Herts.

FOREMAN or JOURNEYMAN (FIRST), Inside.—Age 26; fourteen years' experience Inside and Out. Good recommendation. Recommended by W. P. ROBERTS, Cuerden Hall, Preston.—W. SNAPE, 21 Haigh Road, near Wigan.

JOURNEYMAN (SECOND).—Age 22; two and a-half years' good character; seven years' experience. Bothy preferred.—A. BARNARD, 1, Sydney Road, Woodford Green, Essex.

JOURNEYMAN, in the Houses, under a Foreman.—Age 26; bothy preferred.—W. JONES, Scot Hall Gardens, Bustingthorpe, Leeds.

JOURNEYMAN, in the Houses.—Age 23; ten and a half years' experience in good places. Bothy.—F. SNELL, Mr. G. Thorogood, High Street, Wormley, Herts.

JOURNEYMAN (Inside, or Inside and Out).—Age 23; nine years' experience—E. GOULD, 2, Kerrara Terrace, Whitley Road, Eastbourne, Sussex.

JOURNEYMAN, Inside, in a good establishment.—Age 26; strong and active. Good certificates. Bothy preferred.—GEORGE GRANDISON, Hillingdon Place, Uxbridge, Middlesex.

JOURNEYMAN, Inside, or Inside and Out; age 22.—W. WOOLFORD, Gardener to the late C. E. Seth Smith, Esq., of Little Missenden Abbey, Great Missenden, Bucks, can with confidence recommend his son as above, good knowledge of Fruit and Plant culture.

JOURNEYMAN, Inside (under a First-Class Foreman).—THOS. DUBBEN can highly recommend one of his young men as above, age 25; has been with me over 4 years; a good working, active man, with a fair knowledge of inside work.—The Gardens, Yotes Court, near Maidstone.

JOURNEYMAN.—Age 22; seeks situation as above. Seven years' experience. Two years' character from last place.—A. B., 13, Garfield Road, Ponder's End, Middlesex.

JOURNEYMAN (FIRST), for the houses, or GARDENER (UNDER); age 24.—Has had good experience in Fruit and Plants.—GEORGE GIBSON, Kirkby Mallory, Hinckley, Leicestershire.

JOURNEYMAN (FIRST); age 22.—ARTHUR CHAPMAN, Westonbirt, Tetbury, Gloucester, would be pleased to recommend a young man as above. A good and careful Plantsman, and attentive to work.

JOURNEYMAN (FIRST), Inside.—Age 24; ten years' experience. Good character.—H. GODDARD, The Ferry, St. Catherine's, Guildford.

JOURNEYMAN GARDENER (FIRST or SECOND), seeks situation Inside and Out.—Age 22; four years' experience.—LEWIS, 2, Bryn Terrace, Ammanford, South Wales.

JOURNEYMAN (FIRST), Inside, or Inside and Out.—Age 24; nine years' experience. Good character. H. PLANCE, Royal Gardens, Hampton Court, Middlesex.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; bothy preferred; five years' good character. Abstainer.—JAMES REYNOLDS, Westwood, near Guildford, Surrey.

JOURNEYMAN, age 20.—Mrs. STRATFORD DUGDALE, Merevale Hall, Atherstone, wishes to highly recommend C. ROBINSON as above.

JOURNEYMAN wants place as Carnation Grower, or otherwise.—Age 24; ten years' reference. Abstainer.—C. S., Halton, near Tring, Bucks.

JOURNEYMAN (FIRST, or SECOND).—Age 22.—GEORGE CHAPMAN, Sipson, Slough, Middlesex, would be pleased to recommend a young man as above. A good and careful Plantsman, and attentive to work.

JOURNEYMAN, in the Houses; age 21.—S. LYON can highly recommend F. HARRIS as above. Five years' experience under Glass, the last eighteen months in Plant houses.—The Gardens, Cricket St. Thomas, Chard, Somerset.

JOURNEYMAN (Inside).—Age 22; six years' experience—four years at Colonel Archer's, Roubles; two years in present situation. Bothy preferred.—L. DRAGE, Hall House Gardens, Saffron Walden.

IMPROVER, Inside, or Inside and Out; age 19.—W. JONES, The Gardens, Park House, Wimborne, can strongly recommend a young man as above. Four years' experience. Bothy preferred.

IMPROVER (Inside, or Inside and Out).—Age 19; five years' experience, both inside and out; good references; bothy preferred.—J. SOUTHERN, Moulton Grange, Pitsford, Northants.

IMPROVER.—Mr. GALE, of Aldbury House, Newbury, would be pleased to recommend C. SMITH, who has had four years' experience. Good with the Chrysanthemum.

ROCKWORKER, FERNERY FITTER, &c.—Knowledge of Ferns, Fish, Aquatics, &c. Good testimonials for work recently carried out.—W. J. C., 126, Portobello Road, Bayswater.

TO GARDENERS.—Advertiser, age 21, seeks a situation in a Private Garden, under Head Gardener. Three years' excellent character.—H. HUBBARD, Mr. Marron, Billesdon, Leicester.

TO GARDENERS.—Situation wanted by a young man (age 21), as IMPROVER, Inside and Out, experienced.—Apply, E. S., Mr. Perrin, Gardener, Chobham House, Woking.

TO GARDENERS.—Situation wanted in a Gentleman's Garden for strong, willing Lad, age 17; has been two years in a good Nursery.—CHARLES RIMMER, Widmerpool, Notts.

TO NURSERYMEN.—Situation wanted. Quick Thinner, Potter, and Tyer. Age nearly 20. At last place two and a half years.—A. C., 14, Bedford Row, Worthing.

TO MARKET NURSERYMEN.—Situation wanted. Age 21; quick Potter, Thinner and Tyer. Four years last place. Good references.—C. P., 14, Bedford Row, Worthing.

TO NURSERYMEN and SEEDSMEN.—Advertiser, age 22, seeks situation in a Shop or Nursery; five years' experience, with some knowledge of Cut Flowers; excellent testimonials.—F. M., Messrs D. S. Thomson & Sons, The Nurseries, Wimbledon.

TO NURSERYMEN.—Situation wanted by a young Man, age 21, experienced in Chrysanthemums, Cucumbers, Carnations, Vines, Tomatos, Peaches, &c. Good references.—H. S., 41, Wellington Street, Strand, London.

TRAVELLER.—The Advertiser is open to represent a good Firm of Nurserymen (Trade) in England and Wales. First-class connection and testimonials.—ARAUCARIA, 41, Wellington Street, Strand, W.C.

SEED, BULB, and FLORIST TRADE.—Advertiser invites correspondence from a firm requiring the services of a thoroughly practical man as SHOPMAN, or to attend Markets, and call on Market Gardeners and Farmers. Excellent references.—STOURBRIDGE, 41, Wellington Street, Strand, W.C.

CLERK.—Requires a situation. Accustomed to Book-keeping, and well up in all Nursery and Seed Office Work. Good references. Particulars.—F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—Young Man (age 23), with fair knowledge of making, wants situation with first-class Florist, where a good insight of the work could be obtained.—H. Y., 41, Wellington Street, Strand, W.C.

SHOP-GIRL.—A young girl (age 20), is in want of a place as above. Has been at home for three years in the Florist Trade.—R. X., 41, Wellington Street, Strand, W.C.

TO FLORISTS.—A young Lady (age 28) seeks re-engagement. Thoroughly experienced. Good references.—T., 59, Victoria Road, Watford, Herts.

TO FLORISTS.—A young Lady, age 17, wants a situation, in or near London, as ASSISTANT, to learn Bouquet and Cut Flower Trade; assist at Fruit-counter if necessary.—W. G., 41, Wellington Street, Strand, W.C.

A WONDERFUL INVENTION is one which, whilst being useful to the world, has hardly before been dreamt of by scientific men. Many astonishing proposals have frequently been made with reference to a revolution in our already rapid means of locomotion, but nothing practical has yet been effected. No doubt the time will come when a trip between London and New York will seem like a pleasant excursion of a few hours' duration. The ingenuity of man can accomplish wonders, and there is no telling when its limit will be reached. It will be difficult, however, to produce anything more wonderful than HOLLOWAY'S PILLS and OINTMENT. As sterling remedies for all complaints nothing can equal them.

GREEN'S PATENT "SILENS MESSOR" AND "NEW MONARCH"
ROLLING AND COLLECTING MACHINES FOR 1895.

The Winners of every Highest Prize in all cases of competition, and the only Mowers in **constant** *use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.*

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS.
The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,
And most of the NOBILITY, CLERGY, and GENTRY of the United Kingdom.

They are the first, foremost, and best in the world.

The Queen's Head Gardener, Mr. OWEN THOMAS, writing from the Royal Gardens, Windsor, to Messrs. GREEN on January 17, 1894, says:—"I have pleasure in saying that both at Chatsworth and at the Royal Gardens my men have constantly had your Lawn Mowers in use for many years—Horse, Pony, and Hand power—and one and all of these Machines have done first-class work, and given every satisfaction. Not only is the workmanship and material in your Machines most excellent, as is proved by the fact of some of the Horse Lawn Mowers having been in use here for upwards of thirty years; but combined with good workmanship is the further important recommendation that they are of very light and easy draught." And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

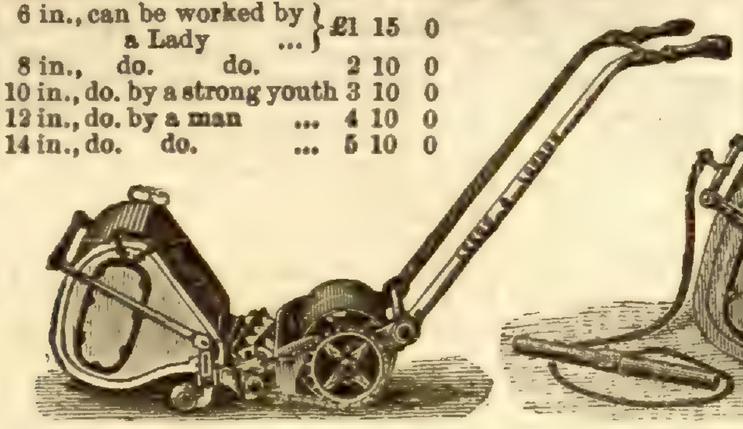
Upwards of 211,000 of these Machines have been Sold since they were first introduced in the year 1856.

They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER,
With Improved Steel Chains, Wheels, and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15	0
To cut 8 in., do. do.	2	10	0
To cut 10 in., do. by a strong youth	3	10	0
To cut 12 in., do. by a man ...	4	10	0
To cut 14 in., do. do. ...	5	10	0



We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

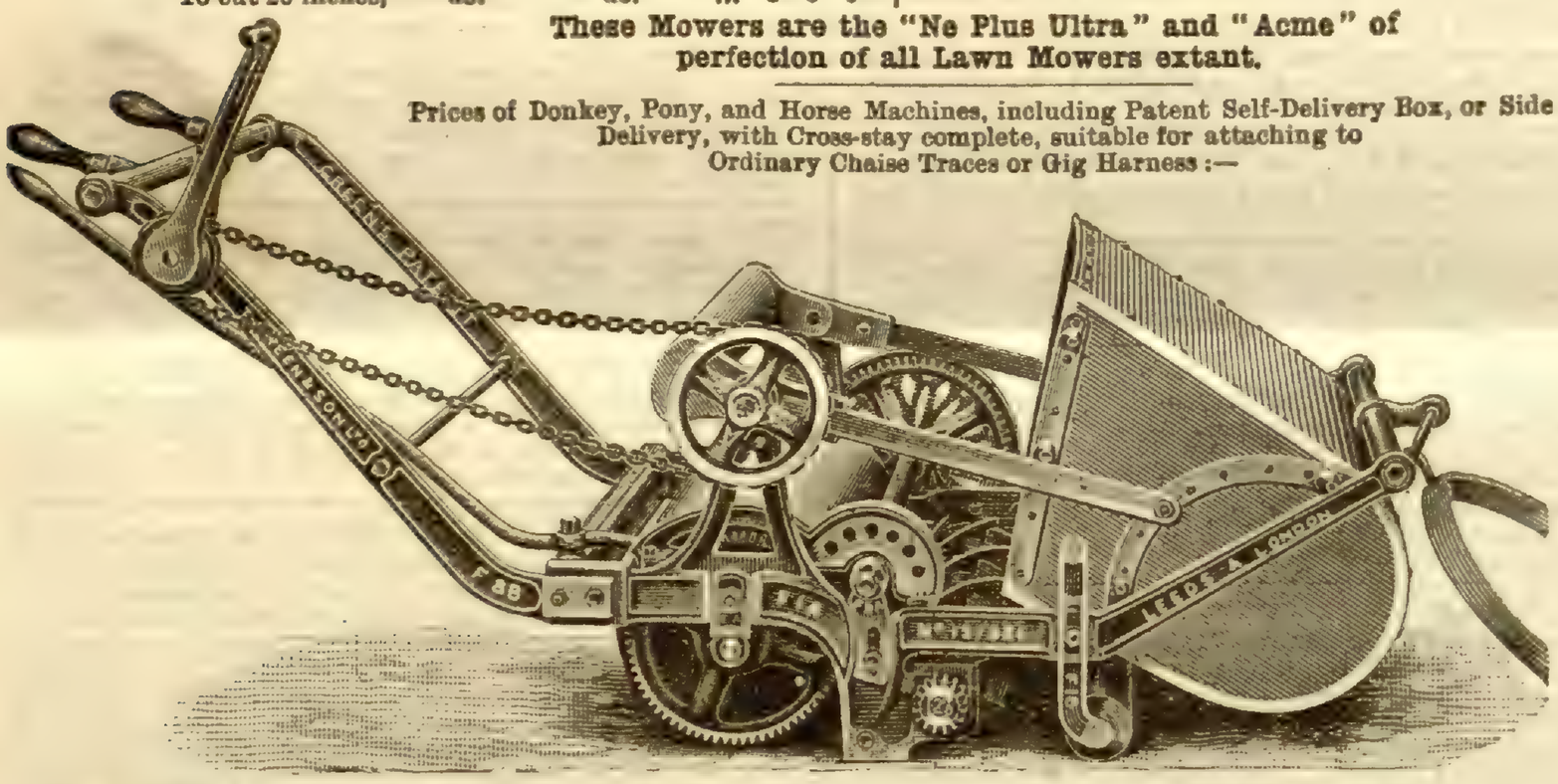
DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£6	10	0
To cut 18 inches, do. man and boy...	7	10	0
To cut 20 inches, do. do. ...	8	0	0
*To cut 22 inches, can be worked by two men	£8	10	0
*To cut 24 inches, do. do. ...	9	0	0

* If made stronger, suitable for Donkey, 30*s.* extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

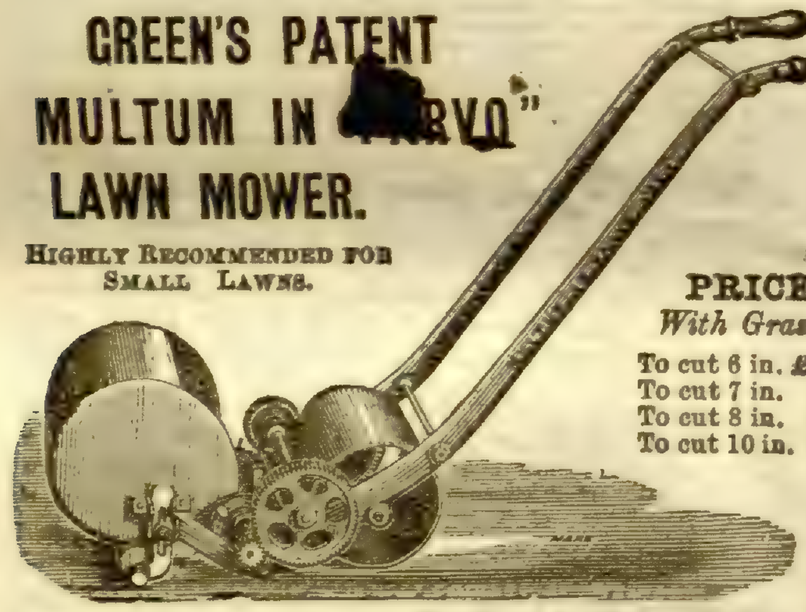
HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

GREEN'S PATENT MULTUM IN PARVO LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES,
With Grassbox.

To cut 6 in.	£1	5	0
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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On view morning of Sale, and Catalogues had.

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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Springfield Dukes, Springfield, near Chelmsford, about 1 mile from the Town of Chelmsford, on TUESDAY, June 18, at 1 o'Clock precisely, the Collection of ESTABLISHED ORCHIDS, in all about 200 lots, including Cypripediums, Cattleyas, Dendrobiums, Lælias, Odontoglossums, Masdevallias, Oncidiums, Lycastes, many varieties of each species; also Vanda Sanderiana, and others, together with the STOVE and GREENHOUSE PLANTS, consisting of Eucharis, Hibiscus, Hoya carnosa, Allamandas, Clerodendrons, Davallias, Palms and Ferns in variety, Chrysanthemums, Lilies, &c.

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OF ORCHIDS.

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- ,, Wardianum album
- ,, rubens
- ,, seedlings
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- ,, gigas Sanderiana
- ,, Mendeli
- Cattleya Warocqueana
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- ,, aurea
- ,, Harrisoniæ
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- ,, Rex
- ,, Schroderæ Beechcroftense
- Epidendrum vitellinum
- Cymbidium Lowii
- ,, giganteum
- Odontoglossum citrosmum
- ,, grande
- ,, Pescatorei
- ,, tentaculatum
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OF ESTABLISHED ORCHIDS.

By order of M. WELLS, Esq.

ABSOLUTELY WITHOUT RESERVE.

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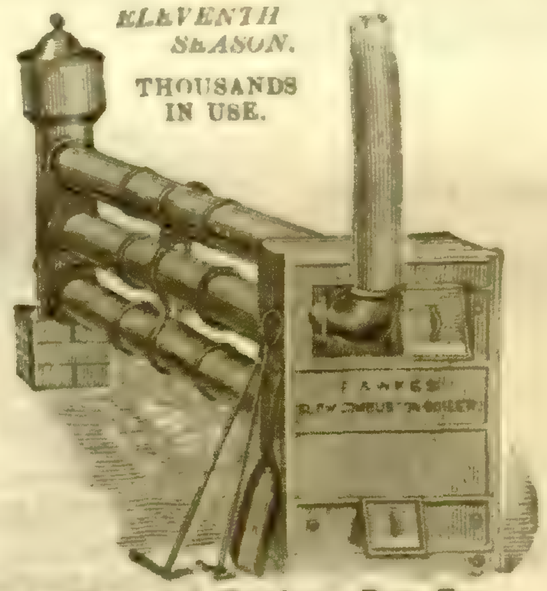

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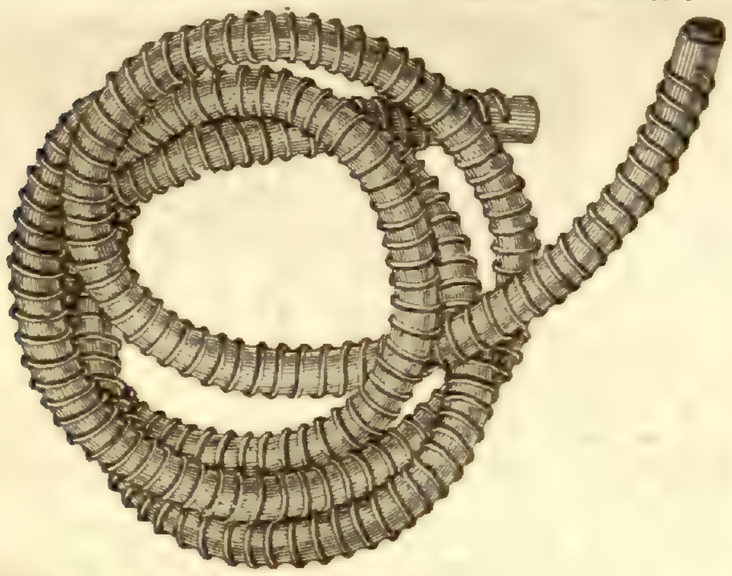

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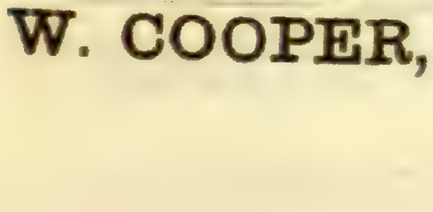

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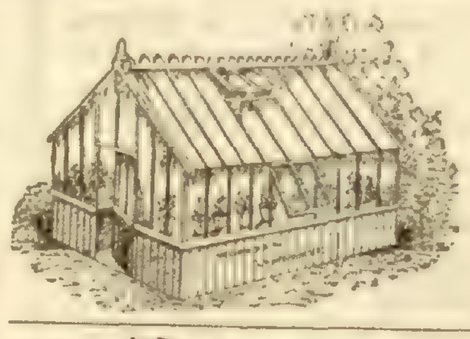

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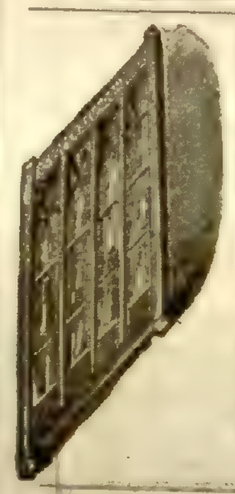

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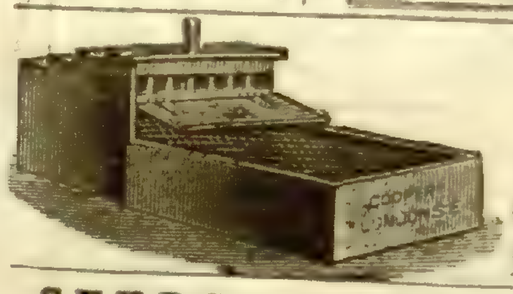

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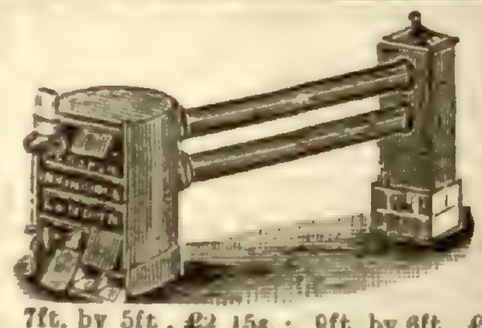

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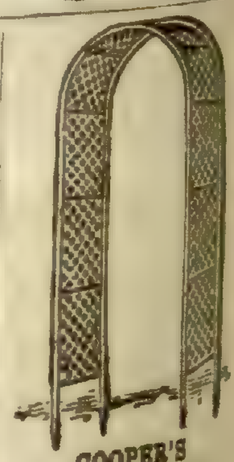

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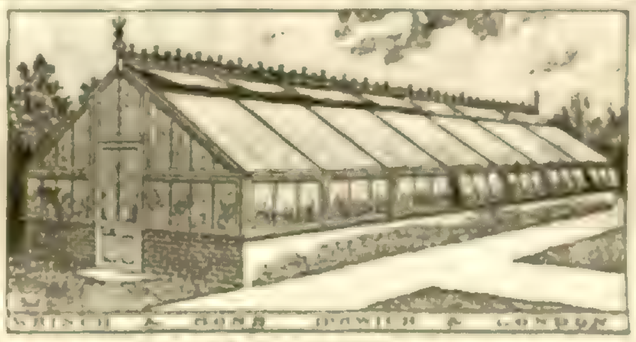

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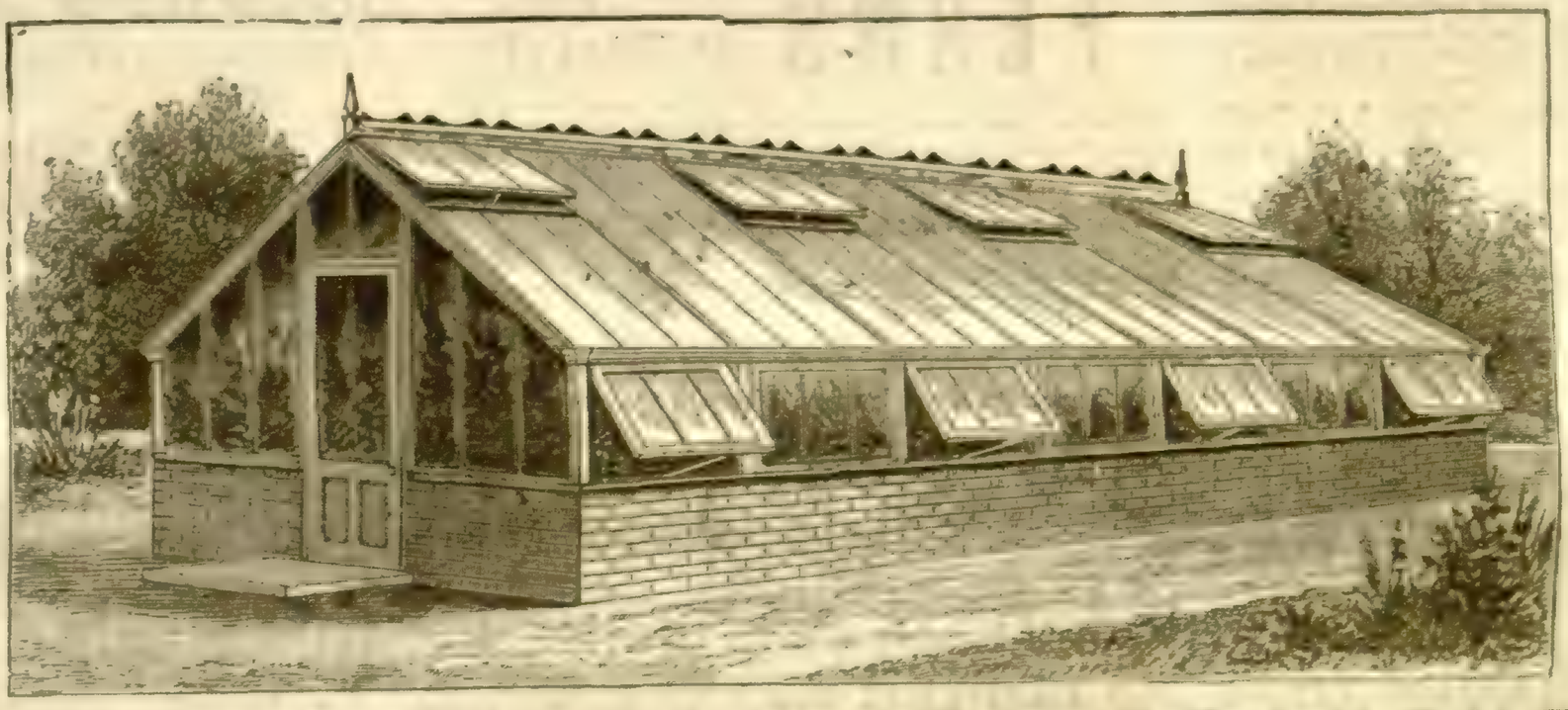

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THE
Gardeners' Chronicle.
SATURDAY, JUNE 1, 1895.

ROSES AT THE TEMPLE SHOW.

TO a lover of the queen of flowers it is always a pleasure to see them in any guise whatever, but to the amateur rosarian, however pleasing these early exhibitions may be, there is a certain lack of interest, owing to the fact that they are beyond his powers of cultivation; and, in truth, all those exhibited, whether as plants or cut flowers, came from the trade. Of course, it is just as easy for an intelligent amateur to grow them under glass—but as a matter of fact, no one does; they may, and do, grow a few, with more or less success, but they never attempt their cultivation for exhibition flowers, and rarely, if ever, take the same pains with them as with those grown in the open air. There is also another matter which hinders their full enjoyment. Rose growers are always on the search for novelties, and it is possible that some new flowers may be brought forward; they may look very promising, but then, as they have been grown under glass, no one can say how they will behave in the open, whether they will be fine weather Roses, or able to withstand the changes of our variable climate—then we can know nothing of their constitution, whether they will be vigorous or poor "doers." I have often seen flowers which promised well and were of pleasing colour, which afterwards turned out to be of such poor habit that they were not propagated, and never came into our catalogues; yet, withal, it could not fail to be a great pleasure to every lover of the Rose to see what can be done even at this early season with many of our favourites. The Rose exhibits were of two classes, plants in pots and cut blooms, and of both of these there was an excellent display.

The principal exhibitors of pot plants were Mr. Charles Turner of Slough, Messrs. William Paul & Son of Waltham Cross, and Messrs. Paul & Son of Cheshunt. In a class of this kind arrangement goes for more than the excellence of individual blooms, and I think most people endorsed the decisions of the judges in giving precedence to the first-named firm, see fig. 102, p. 691; but while arrangement was primarily considered, let it not be supposed that the flowers were indifferent, for in truth they were not, and many of them might have been placed in exhibition stands where the quality of the flower is alone considered. When one recollects how pot Roses used formerly to be shown, immense bushes of about 6 to 7 feet through, with a forest of sticks to which the shoots were carefully trained, we feel that we have fallen upon better times, and plants of more reasonable size, and not so over-trained, have taken their place. Of course, there are a

number of Roses which are sure to figure in these collections, as they are readily managed in pots. Crimson Rambler, as shown by Mr. Turner, proves how well justified was the opinion formed of it—that it will be one of the most useful additions to our garden Roses that we have had of late years. Unfortunately, it is deficient in one attribute which ought to be inseparable from a Rose, namely, perfume; but its rampant growth, perfect hardiness (notwithstanding what has been said in some quarters), immense freedom of bloom, all combine to make it a great acquisition. One is always glad to see an addition to our list of Rose exhibitors, and therefore the appearance of Messrs. Jackman, of Woking, with a very pretty if small collection, was especially welcome. There is one point which, as a matter of taste, I cannot but think unwise, viz., the custom of placing rows of boxes of cut blooms in front of these exhibits. They are placed upon the ground, and while their formality takes away from the artistic unity of the collection, they are too far below the line of vision to enable their beauty to be thoroughly appreciated. Of course, it is a mere matter of taste, and I may be altogether wrong, but I question whether such an arrangement would be tolerated in a Continental show; doubtless the grouping together of the pot-Roses and cut blooms of any one firm imparts to the exhibit a more imposing character, although, if my judgment be correct, it detracts from its beauty. I have little doubt that a number of the dwarf Polyantha Roses, such as Paquerette, Mignonette, Anna Maria de Montravel, grown and exhibited as I have seen them by the Cheshunt firm, would make a more pleasing frontage, and be more generally appreciated by the public than the boxes of cut Roses, and these latter might be more conveniently placed all together, as was done with the Pæonies, Pyrethrums, and other flowers.

A few boxes of cut Roses which were exhibited attracted a remarkable degree of attention; they were from Mr. George Mount, of Canterbury, and were admired not merely for the intrinsic beauty of the flowers, but for their arrangement. It has generally been thought that while you could get splendid blooms of Teas when grown under glass, it was hopeless to equal the out-of-doors flowers of H.P.'s; we have been often shown that this latter idea is fallacious by the exhibits of other firms, but I have never seen finer blooms than Mr. Mount's. There was a box of Mrs. John Laing, which I think for size and colour it would not be easy at any season or wherever grown to excel. But perhaps the one point that made this collection so interesting was the departure from the ordinary method of showing; alternate boxes were filled with Roses cut with stems of one foot each, these were placed in the tubes and stood thus well above the boxes, and were so arranged that each flower was seen in perfection without their being crowded: a box of twelve Catherine Mermet and another of twelve mixed varieties thus treated had a most charming effect. But amateurs are not likely to be able to follow this method, as it implies a considerable sacrifice of wood.

There was an almost complete absence of novelties, by which I mean Roses not previously shown to any extent. There was one flower that I noticed — Enchantress, a Tea in the style of Melanie, or, as it is more frequently called, Madame Willermoz, which may possibly hereafter be found useful; there were many of the flowers of the last two years exhibited, such as Corinne, Clio, Marchioness of Londonderry, but these have been so often shown and commented upon, that it is hardly needful to add anything more about them.

Thus have the exhibits at the Temple Show given a pleasing anticipation of the Rose season. What that season will be it is impossible, of course, to predicate; but if the drought which we have experienced now for some weeks should continue, with a hot sun by day and a low temperature at night, we must, I fear, look for an early invasion of mildew, and the consequent deterioration of the blooms. *Wild Rose.*

EARLY PEACHES.

The large increase in the number of glass-houses which has taken place during the last quarter of a century offers greater facilities for growing early Peaches, and if generally the early sorts are not so highly flavoured, there are some varieties of capital quality when well grown. Messrs. Rivers, of Sawbridgeworth, by the new early varieties they have raised of Peaches and Nectarines, have much extended the season during which ripe fruits may be enjoyed. Those who do no forcing, but have suitable walls outside, can now have Peaches a month earlier than could be had from older varieties. Some very early Peaches have come from America, but in the case of several of these, very indifferent results have attended hard forcing. Alexandra may be mentioned as the worst in this respect, and as so many fail with it, doubtless its defects are constitutional.

I should explain, my remarks will refer to trees that are hard forced, and to trees on walls. I have no means at the present time of testing varieties in cool-houses or cases, though a few years ago I grew in unheated houses or as pot trees, most of the newer varieties, and was thus enabled to select what I considered the best kinds for forcing. Doubtless the slow forcing method, which really includes very little forcing at all, is the most successful way to grow the newer varieties, better wood is produced, superior flavour obtained, and there is greater freedom from canker and insect pests. When the trees are in pots, however, much care is required when the fruit has set, as the latter drop badly if they receive a check, and when over-cropped the fruits are small and worthless. Some very early kinds which bear small fruits are not worth the room they occupy. The trees require equal care with the best kinds, and the fruits are poor and flavourless. In this short note I shall not name poor kinds whose only recommendation is their earliness. Unless the quality of the fruit be good, they are undesirable.

Many growers are inclined to place the early Alexander in the first place for forcing. Outside, or in cool houses, this variety is a very valuable addition to our early Peaches, but when hard forced it sheds its buds so badly, and the tree is so short-lived, that I do not recommend it under any circumstances. The flavour is good and the colour rich, but with me the fruits were few and not large. My favourite early Peach is the Early Amsden or Amsden June, a variety less grown than the Alexander. It is a cling-stone, and consequently has a serious objection to many; while a well-known authority on early Peaches describes it as inferior to Alexander, though it should be added that this description had reference to trees grown in a cool-house with merely glass protection.

Some friends in America who grow this variety largely, tell me that Amsden June is the most popular variety grown, that it attains a larger size than Alexander, has a better colour, and is extra free-bearing. It is true that the blooms open later than the small-flowered early kinds, and there is less bloom, but unlike the Alexander, every bloom sets. I have one tree that was planted four years ago last November, which now covers a large space, as it has been pruned on the extension principle. The second year after planting we gathered seven dozen fruits in May; the third year ten dozen, the first of which was ripe April 17; and in 1894, when the house was given a rest, and another one forced, no fewer than fifteen dozen were gathered. This year we commenced to gather on April 25, rather later on account of the weather early in the year, and had a heavy crop. I discarded last season a tree of Alexander in a similar position which had always a very poor crop, owing to excessive bud-dropping.

On open walls, last season, I had a nice lot of Amsden June ripe by the time the forced fruits were over. I had not tried it on open walls before, but have no reason to regret doing so. The fruit was excellent, of good flavour, and very highly coloured.

Another good early Peach there is Hale's Early, either indoors or out, and valuable as a succession. It is not a very large fruit, but of nice size, melting, and good, with a rich colour, and easily forced. This has been planted in the place of the Alexander. Condor, a later fruit, is valuable under glass, if not forced too hard. The fruits are large and handsome, of bright crimson colour, and rich flavour. On open walls it is one of the most reliable Peaches we have, but in our soil it is not a vigorous grower. I consider it valuable in places where these fruits do well, especially in a limestone soil. Dagmar is a grand cool-house variety or wall Peach to form a succession (in 1893 this variety ripened the third week in July), and being earlier, should have been noted before Condor. It has a large handsome fruit, and is a great bearer. In flavour, few earlier varieties are superior to Early Alfred, a valuable Peach for a warm wall: fruit is above medium size, of good colour, melting, and of rich flavour—it is one of the best growers we have. Early Grosse Mignonne is a very excellent fruit for forcing, large, and of rich flavour; this variety is much superior to the old Mignonne, which is often substituted for it, and should find favour always where quality is desired. *G. Wythes.*

ORCHID NOTES AND GLEANINGS.

CHEAM PARK.

The favourite Cattleya with F. C. Jacomb, Esq., is C. Mendeli, and in what was formerly a Peach-house the plants have thriven exceedingly. The house is furnished with low stages, these being filled with Palms, Begonias, and other foliage plants, and the scores of large masses of Cattleya Mendeli are suspended from the roof over them. Grown in this manner the plants possess remarkable vigour, and the gorgeous masses of bloom with which the plants are furnished are worth going a long journey to see. Mr. Jacomb buys none but the best and most distinct varieties, the result being that he now is the owner of a splendid selection, varying much in point of colour, and all of large size, with finely-formed flowers. The favourite variety at the present time seemed to be a white-petalled variety, with broad crimped carmine-crimson lip, the plant bearing ten fine blooms. The white C. Mendeli Morganiæ, and some fine forms with rosy-lilac sepals and petals, and of which some very closely resemble a good typical C. labiata, were remarked. The flowers do not come in all at once, but at various times, the flowering season being thus extended over a long period. Some few Cattleya Mossiæ, C. Lawrenceana, C. Schilleriana, and C. Skinneri, and some other showy Orchids, are in flower in the same house.

An Odontoglossum-house afforded a very fine show of flowers, the plants having grown in a very satisfactory manner under Mr. J. Turner's care. Among them are fine forms of O. crispum, a grand variety of O. × Coradinei, some handsome O. triumphans, O. luteopurpureum, O. citrosmum, and a bright lot of Masdevallia Harryana. A pretty feature, and one which has a salutary effect on the plants is the abundance of the common Toad-flax (Linaria cymbalaria), which is used as an edging, drooping over the edges of the staging, and reaching to the ground. It is a well-known fact that Orchids like trailers of this kind about them, and the Linaria, which at Cheam Park grows on all the walls out of doors, is excellent for the purpose; and as it keeps in good foliage

under glass, summer and winter, and is clean, it is an excellent subject for the purpose of draping the stages.

In a warm-house some fine examples of Miltonia vexillaria, Phalænopsis amabilis, Cypripedium Chamberlainianum, and various Dendrobiums, were noted in bloom; and suspended near the roof some small plants of Cattleya Warscewiczii, with stout flower-spikes coming up. The warmth and bright light when growing, doubtless, have much to do with Mr. Jacomb's small plants blooming so well, whilst other growers do not succeed with this variety.

VIOLAS.

It was but the other day that an eminent northern grower of these very beautiful hardy flowers was lamenting the difficulty of filling the place of advocate, raiser, and describer of Violas, rendered so suddenly vacant the other day at Birmingham. There will probably presently arise some one who will follow in that same path, but at least it is certain that so much has of late been done to popularise Violas as ordinary garden, bedding and border flowers, that there is little probability that they will suffer in public estimation. The worst danger they have to encounter seems rather to lie in the putting into commerce of too many varieties that are of no special value or beauty, and, of course, under name. That many of these are very charming when exhibited in a gathered form and in well-displayed sprays, there can be no doubt, but for outdoor purpose we need habit, freedom to bloom, effectiveness of colour, and general usefulness for massing. Of such good sorts there are now a legion, and yet they are constantly being added to. That is, however, very natural. Violas seed freely, and are easily raised from seed, hence they offer to all who grow them tempting material for producing varieties from seed, and it is no matter for wonder that in so simple a way novelties are constantly cropping up. But the other day, calling in at the Bedfont seed grounds, to see the thousands of Polyanthuses and Primroses then so beautifully and abundantly in bloom, I could but even from these turn aside to admire a large batch of seedling Violas, then flowering in great profusion. Such a batch as this indicated clearly enough how great is the incitement to raise a few thousands of seedlings yearly, not merely to see what advanced varieties may result, but even for the sake—so potent an attraction to the florist—of seeing plants of which nothing before was known unfold their flowers as to the colour and character. If all our seedlings, of no matter what, were certain to be reproductions of the parents, the charm which now so strongly clings to seedling raising would rob that labour of all its interest. Well, these seedling plants had all stood the hard winter thoroughly, showing their hardiness, and having become strong because a year old, had mostly developed into fine clumps. But lovely and attractive as all were, there were some that showed admirable garden merits over the bulk. Plants dwarf, compact, crowded with blooms, of good form, stout of substance, and of beautiful clear colours, whites, creams, yellows, blues, purples, and so on whilst many others in various markings would have been not less attractive for exhibition. Of course, these plants were all from seed, saved from the best named varieties, and of these there is at Bedfont a large collection. But small plants, even the finest of these bear no comparison with what may be seen on large seedling plants, which put out the previous summer have stood the winter and have developed into clumps some 12 inches over. Oh! that we could see such plants by tens of thousands about in our public parks and gardens, and in private ones too, either in masses or in borders, or on rock-work, where they do well and seem so much at home. The past few seasons has fully demonstrated that Violas stand our summers here in the south wonderfully well. I have seen some two or three years in succession, on Messrs. Cannell & Son's seed-farm at Eynsford, big beds of these flowers in August and September that were then full of bloom, and had been so all the summer. Violas, therefore, are now ranking amongst the most popular of bedding plants, and merit wider cultivation than they get; and those who do so employ them still neglect many attractive and beautiful varieties. Let those who want fine masses of these in the summer cram a big frame full of cuttings in the autumn, to root and winter for planting out in May. Such plants will bloom profusely all the summer if soil be good, and water be given freely in hot dry weather. Then it is just these plants cut over in the autumn, perhaps if rather large, divided and replanted, that will furnish such fine masses of bloom in the early spring. Those who prefer bizarre clumps or masses can always gratify their tastes by raising the produce of a packet of good seed, sown in the early summer. There are few hardy plants that, both in spring and summer, can produce such abundant and varied effects and masses of colour as these pretty Violas. *A. D.*

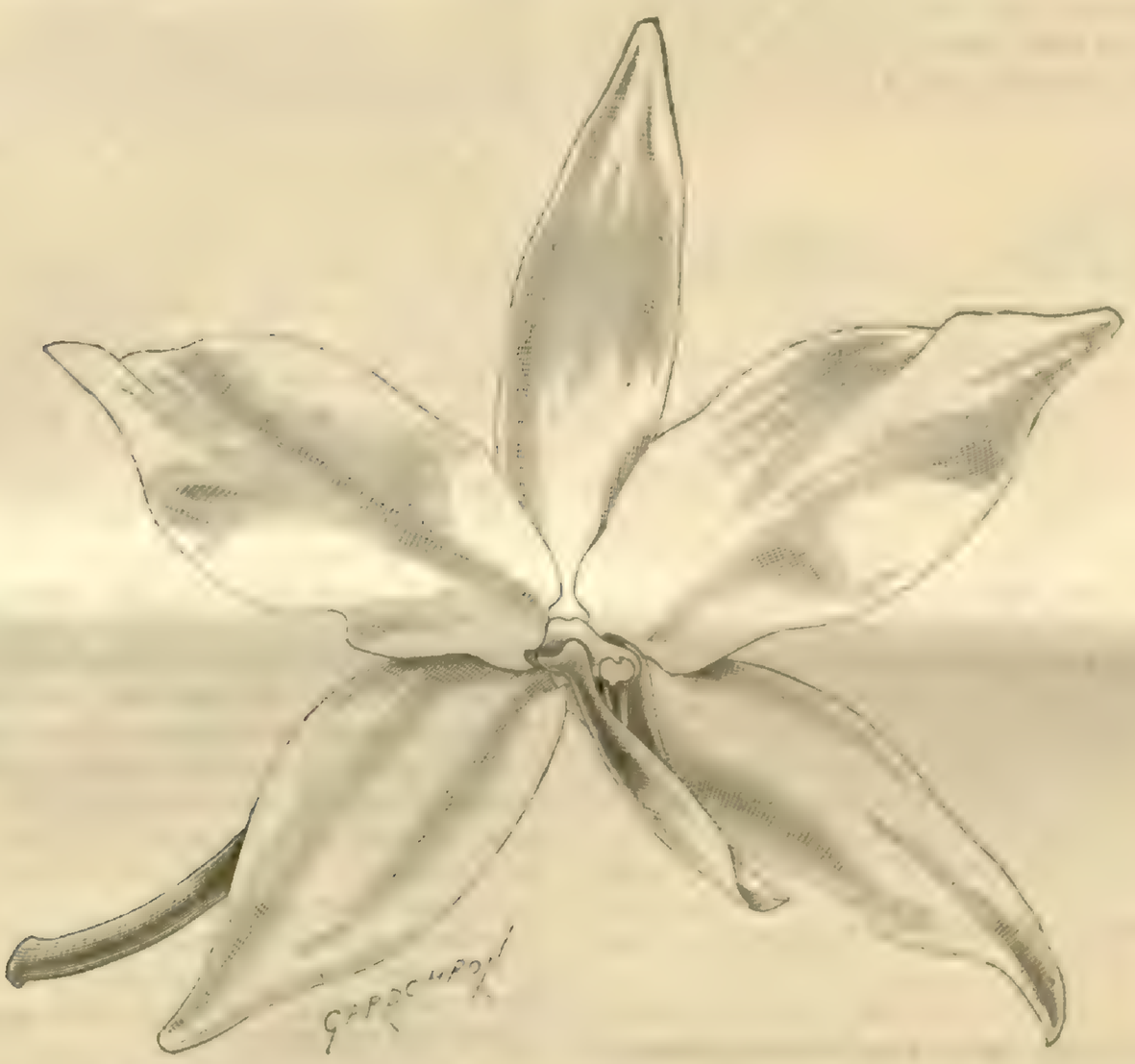

Fig. 98.—A monstrous flower of Cattleya Skinneri var. alba.

CATTLEYA SKINNERI ALBA.

Among the curiosities at the Temple Show were two spikes of this species, brought by Baron Schroder, which were produced as sports on a plant bearing other spikes of a normal character. The sepals and petals were of the ordinary form, but the lip was reduced to a narrow, lanceolate, stalked process, revolute at the margins, lilac at the base, yellowish in front, and with a central prominent ridge. The anther and ovary were imperfectly developed. The flowers were so altered in appearance, that many failed to recognise to what species it belonged. All the flowers on the spike were similarly affected.

RESTRICTIVE CULTURE *v.* FREEDOM.*

"Use thy youth so that thou mayst have comfort to remember it when it hath forsaken thee, and not sigh and grieve at the account thereof. Use it as the springtime which soon departeth, and wherein thou oughtest to plant and sow all provisions for a long and happy life."—*Sir Walter Raleigh.*

For some years I have steadily been pursuing a general system of planting-out in my stoves, greenhouses, and ferneries, and as time wears on, the more I see of it, the better I like it. The luxuriance of growth and richness of flower far surpasses anything which can be produced under pot-culture, without having to bestow the utmost care on the cultivation under the restrictive system. My system is something like the following:—Besides preparing the usual number of plants in pot for the decoration of the stages of our stoves, &c., and from which we cut sparingly, we prepare another batch, which by the end of August, or at any time during the summer or autumn months, when a house of Melons is over, are turned out of pots and planted into the beds vacated by the Melons. The loam is enriched by the addition of some well-rotted dung, leaf-soil, and sufficient sand to make it porous. A good watering when planted, and afterwards, say once a fortnight, or once a month, according to the state of the weather throughout the winter, is all the attention they require. Although indoors, I need not wait to explain to this intelligent company of practical gardeners that even here weather has its influences. To save cutting from our dressed conservatories, we cut freely from those planted out, and it is astonishing to observe how, after a severe cutting, the plants will again break and flower. By this system the old adage of "cut and come again" is well borne out. Anyone having a little pit-room to spare during the winter might with advantage give the system a trial, and I feel quite sure they will not repent it.

The plants which I generally use for this system of planting out for winter flowering are as under:—Begonia insignis, B. fuchsioides, one of the most beautiful, though with me shy in flowering B. erecta alba multiflora (this with me is the most useful and free-flowering of all); B. sanguinea, B. nitida, B. recurvifolia, &c. Eranthemum pulchellum, for its blue inflorescence, has always a place. Euphorbia Jacquiniæflora, when planted out, runs fairly wild; the length of its scarlet raceme is something extraordinary, and when cut it breaks again and flowers

* Extracts from a paper read by Mr. W. Miller, gardener at Coombe Abbey, before the Birmingham Gardeners' Mutual Improvement Association.

freely, which is certainly a feature in its character highly to be recommended. At Coombe Abbey we have a house, 40 feet long, planted from end to end with this lovely plant; its branches are trained curvingly over our Orchids. Of the latter we have just about enough to swear by, forming not only a most exquisite floral canopy, but also a sight once seen not soon to be forgotten. Justicia purpurea, and others of that ilk, are also admitted, although not much of plants to cut from. Poinsettia pulcherrima is another plant that rejoices in this treatment; we have had in this way bracts 15 inches across. Vinca rosea is also useful. Sericographis Ghiesbreghtiana is yet one of our most useful winter-flowering plants; for cutting it is invaluable, and we never can have too much of it—we have grown it plentifully. Thyrsacanthus rutilans also in this way yields its pendent inflorescence in a most graceful and peculiar manner, as if, in sailors' parlance, dipping its colours in honour of the happy group of plants surrounding. Many other and much newer plants might be mentioned, but these perhaps may suffice to illustrate the system of which I am an advocate.

Planted thinly, many other plants not mentioned above might be introduced, so as to thoroughly carpet the whole of the surface of the bed, which will produce a very charming effect, more especially if contrasted with a house where plants are cultivated in pots, and where it happens, as sometimes it will, even in the best disciplined establishments, that pots, and not plants are the predominant feature. Many an amateur, who, perhaps, could not find time daily to attend to the watering of plants in pots, might in this way have throughout the winter and spring months, a very gay house, keeping both his own and his friends flower-glasses plentifully filled with the choicest of flowers, and this too, during the most dark and dreary days of an English, or I might say, of a Birmingham winter.

Besides the above-mentioned system of planting-out in beds, I adopt the principle whenever an opportunity occurs. I have had in glorious flower, Lagerströmia indica, with shoots 4 feet, 6 feet, and 8 feet, planted against the back wall of a vinery; and under precisely the same circumstances, Stephanotis floribunda produces long heavy massive garlands of flower. In a house of medium temperature we have Bougainvillea glabra flowering yearly in great splendour. From one horizontal stem of nearly 40 feet long, and as thick as the stem of an old Vine, it sends out laterals from 5 to 8 feet long, laden with its lovely mauve inflorescence; these laterals are cut back to the main stem every year—in point of easy cultivation this plant is second to none. Thunbergia Harrisii is another plant which revels in great wildness, a plant of which we have had covering a roof 40 feet long, producing during winter and spring a complete mass of flowers very much to be admired, but as it was useless for cutting purposes we were reluctantly obliged to do away with it. Ipomœa Horsfalliæ is another lovely plant when treated in this manner; for years during the winter and spring months we have had the favoured opportunity of seeing this glorious plant in flower. The racemes when cut and put into glasses have a most pleasing effect, being peculiarly adapted to tall glasses, when the flower-stalks can either hang down or be entwined round the stem of the glass.

Our fernery, which contains a goodly collection of stove Ferns and Selaginellas, is treated also on the planting-out system. Some are planted on rocks, some in troughs, some in beds, some by the path-sides, and some everywhere. So quick and luxuriant is their growth in this house, that to keep them within reasonable bounds, and to prevent the more tender varieties from being killed, we are under the necessity every now and then of giving the whole a severe cutting back. The number of seedlings in this house and everywhere about is something surprising. Along the sides of the paths, what with Begonias, Caladiums, Ferns, &c., the paths are almost lost sight of; so also the path of the greenhouse with hardy exotic and British Ferns. Long rows of the hardy Adiantum capillus-veneris fringe the path-sides of our Melon and Pine stoves, enough of which could be had to turf down a goodly-sized Liliputian lawn.

A few years ago we planted out a house of Camellias, and they, too, have grown so tremendously, that it is necessary every now and then to introduce the process of pruning and selection of the best varieties.

Gardening in every department, like everything else, is continually changing. The transition within the last few years is something marvellous, and the pace at which we are now proceeding may, perhaps, be better imagined than described. Instead of being general, the profession of a gardener seems to be dividing itself up into so many specialties, when to be a clever expert in any one department is a position in horticulture worth trying for. Perhaps it is the way in which I have been schooled, but somehow I always like to hold conversation with the man who has received a broad horticultural training and education, whose angle-corners, if he has any, are smoothed over by contact with men of the newer school. My fears are, that a man possessed of but one idea, and who is exclusively a specialist, is a man who cannot reason beyond his own peculiar specialty; but I am nevertheless of

FIG. 99.—A PRECOCIOUS DWARF ROSE.

opinion that there is hope for the ultimate success of a young gardener who, during his probationary years, and whilst amongst his various duties, shows decided attention to some specialty, the culture of which he cares for, and follows up to a successful and masterly finish. For this manner of man there is every hope, and he will make himself known and heard when time gives him the opportunity.

At Frankfort-on-Main, a few years ago, I had an opportunity of seeing the celebrated Palm-garden there; the Palms I found—at least, the greater portion of them—not in tubs, but tastefully planted out on a glade of undulating ground, beautifully and completely carpeted over with Selaginella. But they do these things better on the Continent. The example of the Palm-garden at Frankfort might well be imitated in this country. What can be more repulsive to a mind fond of observing nature in all its freedom than to observe in our large garden establishments so many thousand plants, some in tubs, some in pots, and others in all manner of places of torture conceivable, struggling hard for life? In this way thousands of valuable plants are lost daily.

HEATING GREENHOUSES BY GAS.

MANY conflicting statements have been made as to the cost of this method of heating, none of these giving the exact duty obtained. With the object of setting the matter in such a form that there need be no future doubt or discussion, a series of exact observations have been made, with every possible care, the results being as follow:—

Date.	Mean Outside Temperature.	Mean Inside Temperature.	Rise.	Gas consumed. Cubic feet.	Gas per hour. Cubic feet.
Jan. 4 to 10 ...	26°	49°	23°	2,630	15½
,, 11 to 17 ...	44°	54°	10°	1,370	8
,, 18 to 24 ...	38°	52°	14°	1,580	9¼
,, 25 to 31 ...	36°	54°	18°	1,570	9¼
Feb. 1 to 7 ...	43°	55°	12°	1,380	8
,, 8 to 14 ...	37°	55°	18°	1,470	8½
,, 15 to 21 ...	35°	54°	19°	1,540	9
,, 22 to 28 ...	39°	55°	16°	1,160	7

The house is a lean-to, 16 feet by 10 feet, 12 feet high at back, 6 feet at front. Total area of glass, 380 square feet, including wood framing.

It will be noticed, in calculating out each of the above separately, the gas consumption varies; this difference being caused by the varying force of the wind.

Although the figures given are only to the end of February, they have been continued since; but as the sun-heat makes the records so irregular, they have been discarded. Taking the average results for the eight complete weeks, it will be found that for every 100 square feet of glass a gas consumption of 1 cubic foot per hour will give a rise of exactly 4½° Fahr., or 1° Fahr. rise of temperature for every 1 cubic foot per hour consumed in a house having 450 square feet of glass exposed, a rule which, from the care which has been taken to obtain absolute precision, may be relied on. As the main wall is part of a dwelling-house, the loss on this side wall needs no consideration. An attempt has been made to take the night averages only after February 28; but the interference by accumulated sun-heat during the day has caused sufficient variation to prevent the results being absolutely reliable, although they correspond fairly with the results recorded. As previous experiments have proved, at least nine-tenths of the heat is lost through the glass, and the cubic contents of the building needs no consideration. The brickwork round is 3 feet high, being in the usual proportion, and the loss of heat through the bricks is allowed for in calculating the glass area.

Position, protection from winds, and other interfering conditions will, of course, affect the results, but the above may, I think, be taken as an average standard for calculation.

The average mean temperatures for each month may be obtained from the gardening periodicals, or from any physical atlas, and the actual cost of heating any plant-house by gas can easily be calculated from the data given. *Thos. Fletcher, F.C.S., in The Gas World, April* 20, 1895.

PRECOCIOUS ROSES.

MESSRS. VILMORIN, ANDRIEUX & Co., of Paris, have introduced a new race of Roses which are exceedingly interesting owing to their dwarf habit and the rapidity of their growth. They belong to the Polyantha group, that is to say, they bear their flowers in trusses (See figs. 99, 100). The new Roses have the advantage over the others of being "perpetual," and consequently they flower continuously all through the summer. This advantage they owe to their origin, a natural cross (*croisement naturel*), observed in the Lyons Gardens, between the flowers of the first specimens of Polyantha introduced from Japan, and some hybrid perpetual Roses. By repeated and careful selections, a new race of Roses has been produced, which, like annuals, germinate, flower, and produce seeds in less than a year. As to the word "dwarf," that is justified by the height, which in adult plants is only about twenty inches. This interesting and new type of Rose has been sent out this year by Messrs. Vilmorin, Andrieux & Co. of Paris. The flowers are single, semi-double

or double, in almost equal proportions, and present almost all the variations of colour observed in cultivated Roses. Flowering commences, as has been already said, in the first year, and even a few months after sowing. This precocity is one of the most remarkable and interesting features of this new type, in which, in fact, the Rose assumes some of the characteristics of an annual. It is very curious to see a small Rose tree, perhaps only about three inches high, with a very slender stem and a few small leaves, put forth, in

Fig. 100.—A precocious rose. (seed sown january 15, flowered april 15.)

less than three months numerous flower-buds, which soon open into pretty little semi-double Roses the size of a florin or of a half-crown, and resembling in appearance Lawrence's Bengal Rose, or even more closely, the Rose Pompon de Mai. The accompanying photographic reproduction, fig. 100, shows the appearance of a young plant raised from seed sown on January 15, and which expanded its first flower three months later. Blooming is continuous throughout the summer, but is naturally more abundant in the second year, when the plant assumes the corymb character peculiar to Rosa polyantha, as shown in the illustration. This is the proper time to select those plants which are most desirable as far as doubleness or colouring is concerned, and those which will produce all the decorative effect possible.

Seeds should be sown as soon as possible after February, in pots or pans, placed on a hot-bed, or in a greenhouse; but in this latter case they should be placed close to the glass, to guard against blanching. Germination begins usually about a fortnight after sowing. If the young plants are left in the pots in which they were raised, they will flower even at the end of two months. MM. de Vilmorin even exhibited at the Société Nationale d'Horticulture de France two small plants, one with white, another with rose-coloured flowers, which, sown on March 1, were in flower, one on March 28, and the other on March 31. At the same time, and on account of the "drawn" habit of the plants which are not re-planted, it is much better to prick out the plants separately into pots, and even to pinch them in, to induce a branching habit, to keep them in a frame, and, if possible, on a small hotbed, to hasten growth, and to harden them off before planting them out in the open ground in May.

Judging by the habit of other Multiflora Roses, these new Roses will probably not survive uninjured the severe frosts which sometimes occur in the north. The short period of their vegetation will, moreover, not allow the wood to ripen sufficiently. We think, then, that it would be prudent to give protection in winter by using a good covering of litter or of dead leaves. To propagate those varieties which are most desirable, layering cuttings or budding may be resorted to as in the case of other Roses. *S. Mottet, Paris.*

American Notes.

(From Our Own Correspondent.)

ROSE BELLE SIEBRECHT.

What is to be done? This Rose is certainly the novelty of the season, and has been largely distributed in America under the above title, and will most assuredly always be known here as such; its name in England, Mrs. W. J. Grant, will never gain acceptance. I do not desire to enter into any discussion as to the rights or wrongs of the case. Priority of name deserves respect, if only to ease matters; but as has so often been the case with plants before now, the rule must sometimes be honoured in the breach. Now with this Rose we have several thousands of plants all over the country, it is decidedly a popular variety—and most deservedly so for its fine form and strikingly distinct colour; there are, we can safely say, thousands of people who know it by the name I have used against hundreds, or perhaps only tens, who know it as Mrs. W. J. Grant. Would it not be a graceful act for the English rosarians to accept the facts, and adopt the better known name?

The New York Botanical Garden.

It is a matter for congratulation that the raising of funds for the establishment of these sadly-treated gardens is progressing most favourably, about 12 000 dol. only now remains to be obtained, so that it may be confidently asserted that the Empire City will very shortly be on an equal footing with other large cities of the world. There is a talk of making an aquatic garden a leading feature in the whole, and as there is a river—the Bronx—traversing the length of the proposed garden, it would seem that nothing could be more fitting, especially as the summer-heat is so favourable to the development out-of-doors of the more tender species; of course, a winter protection is needed. Victoria regia will flourish superbly thus treated, as is evidenced in the water gardens of William Tricker & Co., at Clifton, N.J. Mr. C. S. Nash has published several beautiful photo views of these gardens. (See *ante*, p. 620, May 18, last.)

The Weather.

Talk of variety in England! How is this? On May 10 the temperature in New York was 95° F., and two days later only about 45° F. In many parts of the country there has been a very sharp frost, and the reports say that the Grape crop has been injured to an alarming extent. In Nebraska, Iowa, Michigan, Ohio, and West Virginia the effects have been severe. The season has been late, and it is possible that the damage to fruit crops generally may not be so severe as was at first feared, even in the northern States. Owing to the lateness of starting into growth, the Peach trees are not damaged, and the present prospects for that crop are excellent.

The Baldwin Apple.

While this is not of the highest table quality, still it is a standard fruit, and has many excellent points. It originated about 100 years ago, and was brought into notice by one Thompson, a surveyor whose attention was attracted by the woodpeckers, who seemed to have a predilection for that tree. Colonel L. Baldwin, of Woburn, Mass., had a large number of his orchard trees grafted with the new variety under the name of "Pecker." The colonel and his family distributed it largely, and it gradually became known as the Baldwin. The local historical association is about to erect a monument (in granite) on the spot of the discovery. The Baldwin stands at the head of all New England Apples, bears abundantly, and is more largely cultivated in the north for market use than any other, and where it is a winter Apple; but down south it becomes ripe in the autumn or early winter.

PLANT NOTES.

ROYAL BOTANICAL GARDEN, EDINBURGH.

SANDERSONIA AURANTIACA.—This plant, the only representative of the genus of the natural order Liliaceæ, a native of Natal, is rarely seen in gardens. In its foliage and herbaceous stems, it resembles Gloriosa and Littonia, but the flowers are distinct from those species. They are axillary and drooping, with a light orange coloured perianth, and the throat contracted. At the base of the perianth are six nectar-containing spurs. The full beauty of the plant is best shown by training it singly up strings in a light position in an intermediate-house. The tuberous roots are much like those of Gloriosa plants, and during the resting period the plant should receive the same kind of treatment as those, shifting the plant into a cooler house when the flowers become visible. It is flowering in the succulent-house.

RANDIA MACULATA.

When well grown, this species is very floriferous. A plant in one of the beds in the annexe to the Palm House about one yard high and 5 feet in diameter, is now carrying 400 flowers. These possess long tubes of a dark greenish-purple, which on the inner surface are white streaked with purple. The plant forms a symmetrical bush, with horizontal dichotomous branches and glabrous leaves, in the axils of which the flowers may be seen for several months previous to their opening. The weight of flowers upon the specimen here bends the branches, giving it the appearance of having a pendent habit. The plant has long received the synonym of Gardenia Stanleyana, and was introduced in 1843 from Sierra Leone. A figure may be seen in the *Botanical Magazine*, t. 4185.

EUADENIA EMINENS.

This plant, which belongs to the order Capparidaceæ, and is a native of tropical Africa, was introduced to this country by Mr. W. Bull, for whom it was collected by Mr. Mann. The plant in flower is about two feet in height, and has a single stem; the flowers are borne in considerable numbers at the apex, and last in perfection for a considerable length of time. The two upper petals are about 4 inches in length, spread out in an upward position, resembling somewhat a large insect; the two lower ones are very small, being nearly suppressed. The foliage is strong and appears after the flowers; the leaves are trifoliate. Two other species have been described, but this is the only one that is in cultivation. A figure may be seen in the *Botanical Magazine*, t. 6578, and in *Gardeners' Chronicle*, 1882, vol. xvii. A stove temperature and a moist atmosphere are necessary to grow and flower this plant successfully.

BEGONIA PRESIDENT CARNOT.

This evergreen hybrid, which was raised by M. Crozy, and distributed several years since, is a very beautiful plant. The parents of it are said to be B. olbia and B. rubra; but Mr. Watson is of opinion that B. corallina is intended for the latter of the two parents. Of an erect habit, the plant is a strong grower, and seems to succeed well under either pot-culture or planted out, the last method tending to preserve its beautifully-marked foliage for a longer period. A specimen flowering under such treatment in the stove has a stem a yard high, and leaves on the main stem 11 inches long and 5 inches in breadth. The flowers, of a rosy-carmine colour, are produced in very large clusters upon all the young growths, and these last a long time in perfection. Like the majority of Begonias, its propagation is easy, cuttings placed in a bottom-heat soon rooting and forming fine plants.

RUELLIA FORMOSA.

This Brazilian species, known also under the generic name of Arrhostoxylum, was introduced as early as 1808 to cultivation in this country, but is now seldom met with in gardens. It has a spreading habit and herbaceous stems, opposite ovate leaves, of a light green colour, and densely covered with hairs. The inflorescences are axillary, the peduncles rising well above the foliage, and carrying from two to six flowers of a bright scarlet colour. A group of these plants form quite an attractive feature in the stove. It is of easy culture, abundant light producing a sturdy growth. Struck in early spring from cuttings, fine plants may be had flowering in May. They should be well pinched during growth, so as to induce a shrubby habit.

MESEMBRYANTHEMUM PUGIONIFORME.

This species is well adapted for growing as a basket plant, the long and heavy stems being allowed to hang over the sides. The large showy yellow flowers are in some instances nearly 3 inches in diameter; the green leaves are three-angled, and about 3 inches long. Like the rest of the genus, much water should not be afforded it until well rooted, and exposure to full sunshine is necessary to have it in good condition. *R. L. H.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

POT VINES.—Young Vines for early forcing next season, which are growing freely and have filled the pots with roots, should be looked over at least twice a-day, in order to prevent them from suffering from want of water, which at this season would result in permanent injury. If close attention can be given to watering, I prefer not to plunge the pots, but now that these are lined with roots they should be protected by boards or long litter from the direct rays of the sun. We are now giving ours manure-water, made from sheep or cow manure, which made rather thick, leaves a deposit on the surface of each application, which keeps the soil moist and encourages a mass of small roots. Surface-dressings of fresh loam—inclined to be heavy—with crushed bones, have also been afforded, and have proved beneficial. The floor of the house should be frequently damped, and between the pots. The canes require all the light possible, but sufficient space between the foliage and the roof-glass to allow of a free circulation of air is necessary. Pinch back the side laterals to one leaf, and syringe early on bright morning and again at 3 P.M., when the house is closed. Ventilation should be given when the temperature rises above 75°, but not sufficiently to cause a dry atmosphere. The night temperature may be about 70°.

PINES.—Queens now swelling their fruit will require more shade, or the crowns may get scalded, and the fruit disfigured. Where light blinds are not fixed to the roof, it will be well to paint the glass over lightly with a mixture of skim-milk and flour. A slight coat is all that is necessary, as the fruit gains in colour and flower when allowed plenty of light. Abundance of heat and moisture are required until the fruit changes colour. Continue to supply the roots with liquid-manure or other stimulants, as each may require it, in preference to drenching all the plants once a week. A few of the most promising plants of Smooth Cayenne and Charlotte Rothschild should be selected to provide late summer fruit. Keep these a little cooler, and give less moisture both in the atmosphere and at the roots, after which they will show fruit directly they receive an increase of heat and moisture. Young plants should be growing freely, and receive regular attention as regards root-watering, damping between them and shading. Expose the plants as much as practicable to the sun so as to induce sturdy foliage, but shade from direct sunshine should be afforded from 10.30 A.M. until 3 P.M.

TOMATOS.—Plants in all stages will require plenty of ventilation and copious supplies of water at the roots. Remove the fruits as soon as they change colour, and add fresh soil—not too rich—to plants growing on ridges or in narrow borders. Pot on any young plants before they become starved, or plant out-of-doors at once any not required under glass. A pinch of seed may be sown, and the plants grown on in pots during the summer out-of-doors, to take the place of those now bearing fruits under glass.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

THE HERBACEOUS BORDER.—Those plants that were recently planted or transplanted will require abundance of water in dry weather. The staking of all tall-growing plants should be attended to without delay. If an increase of the various species and varieties of Doronicum, Pyrethrum, Phlox, Helianthus, &c., be required, offsets may still be taken off and planted in the reserve garden or elsewhere; afford them shade in bright weather, and see that they do not suffer lack of water at the root. It is a good practice to afford a mulch of short manure or peat-moss, to all herbaceous plants that have been removed, or indeed, to the entire border if the soil be light and shallow. Carefully hand-weed the border, and, as a rule, do not make use of the ordinary summer bedding plants, although Stocks, Asters, annual species of Chrysanthemum, and Sunflowers may be planted in it where there is space for them without injuring the herbaceous plants. The latter require, even after flowering, air and sunshine to ripen their growth for another season.

GENERAL WORK.—The continuation of dry weather, which in this district for the past two months has been exceptional, will necessitate the constant watering of plants that have been recently planted, also to many herbaceous plants and flowers. Sow Peas should be given waterings of diluted liquid manure about twice a week, and afterwards a dressing of soot about them to prevent slugs. Mignonette that has been planted out should be given a good supply of water, and a few boughs or leafy branches placed over it for a time to shade from bright sun and to shelter it from cold nights. In very late districts Stocks and Asters, Zinnias and other annuals, benefit by the same treatment. Many varieties of German-grown Aster seeds have failed to germinate, owing probably to the cold summer weather of last year. In many gardens this loss will be felt, and additional sowings of Mignonette, Sweet flowers, Sweet Sultans, and other annuals should be sown. The show, Cactus, and single varieties of Dahlias should be largely planted, and also Primroses, Polyanthus, Auriculas, and Pansies should be planted out in beds and borders of good soil.

WALLFLOWERS, ETC.—Make a sowing of these at the beginning of June, to be followed by a second sowing in about three weeks. When planting in the autumn for spring blooming, a choice may then be made from the two sowings, but so much depends upon the weather, that this is always desirable. Good varieties for sowing are Harbinger, Cloth of Gold, Garden Blood Red, Bedfont Giant Yellow, and dwarf Yellow Gem. Sow thinly in drills 1 foot apart, and during dry weather water these before sowing the seeds. Seed should also be sown of Iceland Poppy, Papaver nudicaule, Sweet William, Foxgloves, Lunaria biennis, and Sweet Rocket. It is best to sow in shallow drills 1 foot apart, then transplant as soon as the seedlings are large enough. The beds should be kept well watered and shaded from bright sunshine.

BEDDING OUT should now be proceeded with as fast as possible, putting out the hardier plants, such as Pelargoniums, Calceolarias, Centaureas, Violas, &c., first. Lobelia speciosa and other varieties for early flowering should be planted about 6 inches apart. Seedling plants of Centaurea candidissima for edgings should be put 12 inches apart. Calceolarias should be planted according to the growth of the variety, but with the exception of C. amplexicaulis, these are not to be depended on to make good beds in many districts, as they are subject to canker. Water them thoroughly before planting them, and after they are planted, and give frequent sprinklings with a fine-rose can, and a little shade if they show signs of flagging. C. amplexicaulis does not canker like the other varieties, and it may be pegged down and will make a satisfactory bed if planted 9 inches apart; its tall spikes of sulphur-coloured flowers are useful for cutting purposes. Lobelias, Centaureas, and Verbenas must be protected from hares and rabbits. Coleus, Iresines, Alternantheras, and tuberous Begonias should be left until the last, as they are the most tender. Begonias require a rich soil; their cultivation as summer bedders is increasing in the North. In sheltered places they are very satisfactory. When bedding out, avoid treading on the ground during wet weather, and plant, if possible, only when the soil works well. Mulch the beds after planting, which will benefit the plants, and lessen the need for watering.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

SEEDS.—Make another sowing of the principal late varieties of Broccoli, and a few of the earlier kinds; also Cabbages, Savoys, and any of the favourite kinds of Kales, and successional sowings of American Cress, Chervil, Endive, Parsley, Beans, Turnips, Spinach, Lettuces, Radishes, &c.

HERBS.—Many of these may yet be sown if it be done at once. Beds will require filling up from seedlings raised last season, and when planted, will need watering and shading for a time till established. Cut out the flowering stems of Angelica, and give it a watering with liquid-manure if not growing strongly to induce it to grow thick and crisp. Make successional sowings of Salsafy and Scorzoners.

POTATOS.—Hoe and keep the ground clean between the crop, and earth-up when the haulm is dry. Show Potatos that were disbudded to two eyes commonly produce more shoots than two, which will require to be very carefully taken out, by taking hold of the shoot a little below-ground, and giving it a sharp pull in an upright direction. This may be done without disturbing the set. Weak growers always give the best result if one shoot only is allowed to remain.

BROAD BEANS.—These will require to be stopped, except Bick's Dwarf Green Gem, the only variety that is not improved by this process.

SAVING OF SEEDS.—Where Onions and Leeks are to be seeded, the stalks will soon need a little support, so that wet or wind will not break them down. All the weakly shoots may be removed, and water well at the root if the present dry weather continues. An occasional syringing will assist them.

ASPARAGUS.—If seedlings appear from last year's berries, which have unwisely been kept to develope, and there are sufficient well-established roots in the bed, pull up all these seedlings bodily. Also cut all the "grass" that appears, whether big or little. The weather being very dry and rather cold, the "grass" is prevented growing quite so freely. A dressing of fish-manure will be very beneficial, and a good soaking of water afforded with a hose will help them. Where green tops are preferred, I would not cut the grass more than 1 inch below the surface of the soil, for I am persuaded that beds are damaged more than we dream of by cutting down into and injuring the crowns. I prefer them snapped off.

BRUSSELS SPROUTS.—If these are ready, put out the first batch, and afford them plenty of water.

PLANTS UNDER GLASS.

By W. H. Smith, Gardener, West Dean Park, Chichester.

THE CONSERVATORY.—The climbers in this house being now in course of rapid growth, will require to be regulated at short intervals of time, tying in the shoots loosely in a graceful manner, the fine species being encouraged and allowed to extend themselves at the expense of commoner or less-effective plants. Tea-scented Roses should have all the weak and blind, that is flowerless, shoots removed, the stronger shoots tied in closely or loosely, as may seem desirable, and the border, tubs, &c., top-dressed with bone-meal and a small quantity of soot, scratching it in to the surface. Afford all climbing plants plenty of water at the root; fumigate or vaporise the house if aphides or thrips infest any of the creepers, doing this without loss of time. As soon as Spiræas, Azaleas, Calceolarias, and any other small plants not regarded as permanent inmates begin to lose their beauty, remove them, filling their places with Celosias, Begonias, Coleus, &c. If Palms, Grevilleas, Japanese Maples, and such like foliage plants are mixed with the flowering ones, they should be taken out occasionally, laid on their sides, and thoroughly syringed with soft water. In southern parts of the country, many of the inmates of the conservatory, such as Myrtles, Camellias, Oranges, Lemons, Azalea indica, Polygala, Rhophala, Aralia Sieboldii, A. papyrifera, Eugenia, Acacia, and many others whose growth is in great part wholly or entirely made, may be stood out-of-doors in June, choosing places for them either in the reserve garden or in the grounds where they will be sheltered from winds, and where they will enjoy the sun for at the least half the day. If in the reserve-garden, the pots may be sunk in beds of coal-ashes or gravel, and in the pleasure-grounds they should be placed on pieces of slate: or, if tubs, on bricks placed under them, protecting the pots, &c., from sunshine with strips of bark. Tall plants, whether sunk in beds or not, will require stout stakes to fasten them to; heavy plants of no great height will be sufficiently safe with three short stumps driven into the ground close round the pot when standing on the surface. By doing this for three months there is much saving of labour in watering and other matters; the plants keep cleaner than in the houses, the wood gets well ripened, and there is no danger of a second growth occurring, and thus spoiling the future blossoming. An occasional syringing of the plants in the evening is advisable in hot weather.

AZALEA INDICA.—Plants that were forced early in the season whose flower-buds are not apparent should be removed to a cool-house, and be fumigated twice or thrice before placing them outside at the end of the month. These plants, and others liable to be infested with thrips, should be well syringed beneath the foliage.

DOUBLE-FLOWERED TUBEROUS-ROOTED BEGONIAS.—If the pots are filled with roots, shift the plants into pots of two sizes larger, employing turfy loam, peat, spent Mushroom-bed manure, and a liberal quantity of sharp sand, and affording them no water for a couple of days afterwards, but syringing them lightly twice daily. Keep the plants in a temperature of 65° by day, and 55° by night, with light shading over the glass in bright sunshine; and as the shoots grow, stake them out, pinch off all flowers for a time, and turn the plants round occasionally to ensure regularity of shape.

PELARGONIUMS.—Old plants which were repotted will now have made considerable length of shoot, and will require to have these tied out; place rather thinly in a light airy house. These Zonals will be found useful in the furnishing of cool greenhouses during the summer months; and the bedding plants being now in the open air, will afford plenty of space for the cultivation of specimen plants for decorative purposes.

LILIUM AURATUM.—Plants which have made about 1 foot of stem-growth will be furnished with roots at the base of the same, and may, therefore, be top-dressed with turfy loam, peat, cow-manure in a dry state, and plenty of coarse sand or grit from the roads. Place this compost round the stems carefully, the roots being easily broken off. Lilies must now be afforded water abundantly, and may have manure-water twice a week in the case of pot-bound plants. For early flowering keep them in a warm greenhouse; the flowers are, however, much stronger and better if the plants are allowed to come on in a cool house.

THE ORCHID HOUSES.

By W. H. White, Orchid Grower, Burford, Dorking.

PHAIUS.—Plants of Phaius tuberculosus now fast pushing new growth will soon commence to emit new roots, and then those that require repotting should be attended to immediately. Being a strong, free rooter, it requires plenty of surface room, and large shallow pans are preferable to pots. These should be two-thirds filled with drainage, made secure with a thin layer of sphagnum moss. I make use of a compost consisting of peat and sphagnum moss in about equal proportions, a few lumps of good fibrous loam, and a surfacing of living sphagnum moss. For standing the plants, choose a moist, shady part of the warmest house, and low down on the stage, where they will get plenty of air. After repotting, afford just as much water as will keep the sphagnum alive, affording more and more as root-action and growth increase, and on warm sunny days a slight dewing overhead. The chief reason of failure to have this plant in fine condition is the incursion of insect pests, and its greatest enemies are thrips. When once they have got a footing low down in the young growths, it is almost an impossibility to eradicate them. As soon as new growth commences, and the leaves to unfold, the plants should be examined every day for lurking thrips, fumigation being resorted to at once if any are noticed.

THUNIAS.—At the present time the following varieties are in bloom at Burford: T. Marshalliæ, T. Bensoniæ, T. Brymeriana, T. candidissima, T. alba, and T. Veitchiana, in all about seventy spikes. All of them are most handsome plants when they are grown strong. As the plants pass out of flower, place them in a cool airy house, where they will receive uninterrupted sunlight. The leaves may become infested with red-spider, but it is easily kept in check by occasionally laying the plants down on their sides and well syringing them with strong soft-soapy water. Afford water as long as the leaves keep green, but when they commence to change colour it should be gradually withheld, and the plants placed in a dry position where the temperature does not fall below 55°. Any Thunias that have failed to flower and which are still growing should be treated similarly to those that have bloomed.

CŒLOGYNE SANDERIANA.—This beautiful species is now commencing to send up its flower-spikes from the present year's growths, and should be given abundant supplies of water until the flowers expand. After blooming, liberal and frequent waterings must follow until growth is completed. Keep the plants well up to the roof glass of the Cattleya-house. The rare C. Forstermanni is, I believe, about to flower for the first time in this country. My correspondent informs me he has treated the plant as recommended in a former calendar (June 22, 1894), with apparently favourable results.

OVER FLOWERING.—Now that so many Orchids are in flower, it may be well to caution growers against allowing the spikes to remain on the plants too long a time, and small weakly plants to carry too many flowers. If the plants are small, and it is wished to determine the variety merely, leave just one or two buds; and when the variety has been determined, cut the spike immediately, and give the plants a rest, afterwards gradually starting them into growth. In the case of large healthy specimens it undoubtedly conduces to the future health of the plants if the spikes are not allowed to remain until shrivelling of the bulbs takes place. This is especially applicable to Oncidiums, which send up strong branching spikes, also to Odontoglossum crispum and its varieties. Plants of Cattleya and Lælia that are not well rooted suffer considerably if allowed to carry their flowers too long; also Vandas, Aërides, Saccolabiums, Angræcums, &c., frequently lose a number of their lower leaves from the same cause.

THE HARDY FRUIT GARDEN.

By W. Pope, Gardener, Highclere Castle, Newbury.

CURRANTS.—The laterals now pushing from the main branches of these may be stopped at the fifth or sixth leaf, and any subsequent growth after the first leaf. The growing shoots of Currants are often infested with aphides, which, by reducing the health and vigour of the trees, spoil the fruit by secretions of honeydew. Summer pruning or stopping, if timely done, destroy these pests to a great extent, the infected tops being buried in the ground, or burnt. Leading shoots on young trees need not be pinched, but should be dipped into diluted tobacco-juice or other insecticide. Increased air and sunlight are admitted also to the interior of the bushes by this system, and the size and flavour of the fruit are much improved thereby. If extra fine fruit is required for dessert or exhibition purposes, early and ample thinning must be done, selecting the longest and most evenly-set bunches, each of which should hang clear of its neighbour; the rest being cut away with scissors. Two or three good applications of liquid-manure will be of great benefit if applied before the berries commence colouring.

GOOSEBERRIES.—Lateral growths on these may be stopped as advised above for Currants. Gooseberries being much in demand for dessert, it is important that the fruit be thinned in good time, in order to secure berries of the best size and flavour, the berries thus taken away being utilised for culinary use. If red-spider prove troublesome, syringe the bushes two nights in succession with a solution of soft-soap and warm water, in the proportion of 2 oz. of soap to each gallon of water. Afterwards give two or three good washings with clean water. Caterpillars may be picked off by hand, or a sheet may be placed under the bushes, and the bushes shaken, after which the fallen caterpillars can be destroyed.

LAYERING STRAWBERRIES.—As soon as strong runners can be secured, layering should be commenced, in order to provide plants for forcing next season, or for forming new plantations: they are best layered into 60-sized pots, using rich, rather fine soil, pressed firmly into the pots. The runners may be kept in position in the pots of soil by placing a moderately-sized stone on each, or by means of a short peg. Pinch or cut off the point beyond the young plant at the time of layering. Small pieces of turf about 3 inches square may be used instead of pots if preferred. Plants obtained in such manner and secured early, are by far the best for permanent beds; the earliest and finest fruit being, as a rule, produced on them. Frequent waterings will be required to keep the soil moist till roots have been freely emitted, when they should be detached from the parent plants, and stood somewhat closely together, for the better convenience of watering, until required for planting. If time or space cannot be spared for the layering now, or planting later in permanent beds at the proper season, the runners may be allowed to root into the soil round the plants. These, if taken up carefully when well rooted, and planted 9 inches or a foot apart each way, into nursery beds, into which plenty of half-decayed leaves have been worked, will make good plants for putting into beds the following March or April; when taken up carefully with a trowel, very little check would be felt.

APPOINTMENTS FOR THE MONTH.

MEETINGS.

THURSDAY,	JUNE 6	Linnean Society.
FRIDAY,	JUNE 7	Royal Botanic Society, Lecture.
TUESDAY,	JUNE 11	Royal Horticultural Society's Committees, at Drill Hall, James Street, Westminster. Horticultural Club.
FRIDAY,	JUNE 14	Royal Botanic Society, Lecture.
SATURDAY,	JUNE 15	Royal Botanic Society.
THURSDAY,	JUNE 20	Linnean Society.
FRIDAY,	JUNE 21	Royal Botanic Society, Lecture.
TUESDAY,	JUNE 25	Royal Horticultural Society's Committees.
FRIDAY,	JUNE 28	Royal Botanic Society, Lecture.
SATURDAY,	JUNE 29	Royal Botanic Society, Meeting.

SHOWS.

MONDAY,	JUNE 3	Royal Horticultural Society of Southampton, Special Show in Westwood Park.
WEDNESDAY,	JUNE 5	Royal Botanic Society, Musical Promenade.
WEDNESDAY,	JUNE 12	Royal Botanic Society, Special Floral Fête.
WEDNESDAY,	JUNE 19	Royal Botanic Society, Musical Promenade. York Gala (3 days).
TUESDAY,	JUNE 25	West Cowes Horticultural and Rose Society. Royal Botanic Society, Musical Promenade. Richmond Horticultural and Rose Society.
THURSDAY,	JUNE 27	National Rose Society, Southern Show, in connection with the Gloucester Horticultural Society. Canterbury Rose and Horticultural Society.
FRIDAY,	JUNE 28	Devon and Exeter Horticultural Society, Rose and General Floral Show.
SATURDAY,	JUNE 29	Windsor Rose and Horticultural Society.

SALE FOR THE ENSUING WEEK.

FRIDAY,	JUNE 7	Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—59°.3.

Paris International Horticultural Exhibition.

THIS exhibition, which was partly held on the same days as our own Temple Show, occupied several tents, one of which was 357 feet in length, and 90 feet in width, considerably more than double the size of the big tent at the Temple. The site was the Tuileries Garden, parallel to the Rue de Rivoli, in the very heart of Paris. The exhibition, which was of an international character, was worthy alike of the important society under whose auspices it was promoted, and of the charming city in which it was held. Under the large tent, thousands of Rhododendrons, Azaleas, Calceolarias, Hydrangeas, Pelargoniums, Cannas, Carnations, Begonias, Ericas, and other plants, were grouped with that exquisite art which is peculiarly Parisian.

Large groups of decorative stove plants, Palms, Cycads, Tree Ferns, and similar plants, skilfully intermingled with this profusion of gay flowers, produced a charming contrast. Some splendid Clematis, thousands of standard and dwarf Roses, filled two tents, masses of cut flowers, floral decorations of unusual beauty, Orchids, new plants, Conifers, shrubs, vegetables, and fruit were also well represented. Among the more interesting groups were those consisting of Rhododendrons and Azalea mollis from M. MOSER (which gained the prize offered by the President of the Republic); miscellaneous greenhouse flowers, numbering 150, from M. TRUFFAUT; new Bertolonias from M. BLEU, fine and interesting new plants from M. L. LINDEN, which gained the first prize, a large gold medal; and those from MM. SANDER & Co., which were judged worthy of a second prize, a gold medal.

In MM. LINDEN'S exhibit, the following novelties were shown:—

Begonia Faureana, Brazil. 1895.
Miconia vesicaria, Peru, 1894
Hemitelia Lindeni, Peru, 1894
Anthurium van Wambekianum (A. Lindeni × A. Andreanum).
Adiantum lineatum, Brazil, 1895.
Cyathea pygmæa, Peru.
Davallia Truffautiana, Peru.
Adiantum Claesianum, Brazil, 1895.
Tradescantia superba, Peru, 1894.
Acanthophœnix grandis, Borneo, 1895.
Philodendron Devansayanum, Peru.
Alsophila Marshalliana, Peru.
Geonoma tenuifolia, Peru, in addition to Caladium liliputianum, Venezuela, 1895; Hæmanthus Lindeni, Congo, 1893; and
Begonia Lansbergiana, Brazil, 1893, sent out in 1894.

Messrs. SANDER'S collection contained the following:—

Anguloa Mantini.
Cypripedium Sanderæ × Epidendrum Endresio × Wallisii.
Odontoglossum crispum "La France."
Vriesea tessellata, var. Parisiensis.
Richardia Lutweychei, Congo.
Begonia Rajah.
Licuala Kersteniana, Madagascar.
Dracæna Sanderiana, trop. Africa.
Alocasia Watsoniana, Sumatra.
Maranta Sanderiana, Brazil.
Alsophila atrovirens, trop. America.
Crinum Mooreanum variegatum.
Bougainvillea glabra Sanderiana, Brazil.
Ludovia crenifolia, trop. America.
Vriesea, President Faure, Brazil.
Asparagus albanensis, S. Africa.
Ptychorachis angusta, E. Indies.
Eriocnema Sanderæ ×.
Alocasia Sanderiana, var. nobilis, Borneo.
Seedling Crotons.
Bentinckia nicobarica.
Dracæna Godseffiana.
Lælia purpurata, Ernest Bergmann.
Salmia Laucheana.
Podocarpus pectinatus.

A hybrid Cypripedium was shown by Messrs. Low & Co.; a splendid lot of Phyllocactus from M. SIMON; Anthuriums and Bromeliads (hybrid) from M. L. DUVAL; Crotons and Alocasias from M. CHANTRIER; Annuals from MM. VILMORIN-ANDRIEUX ET CIE., &c.

The international jury, numbering many members, was presided over by Count DE KERCHOVE. On the 23rd inst., the exhibition was visited by M. FÉLIX FAURE, the President of the Republic, Madame and Mademoiselle FAURE. Scarcely ever has a larger attendance been noted than on the opening day when the show was greatly crowded, and the success of the exhibition was thoroughly ensured.

The Horticultural Congress was opened on the 24th at 2 o'clock, in the Society's rooms, Rue de Grenelle, in presence of a numerous assembly. Among the foreign delegates was Mr. MOORE of Dublin. Resolutions were unanimously adopted giving expression to the following wishes:—"That the French Government should associate itself with the request addressed by the Italian Government to the Swiss Confederation, with a view to obtaining the revision of the Berne International Convention and the free circulation between all countries signatory to the Convention of all vegetables and Vines, accompanied by a certificate of origin. That the Postal Administration should return to the old reduced tariff, of which periodical publications on horticulture have hitherto had the advantage." In the evening, at 8 o'clock, the officials of the Union Commerciale des horticulteurs et Marchands-Grainiers of France, held a concert in the Salon Russe of the Eiffel Tower, for the entertainment of the members and foreigners then in Paris, who were also "banquetted" and conducted on various excursions, as to the School of Horticulture at Versailles, the trial grounds of MM. DE VILMORIN, the gardens of Baron ROTHSCHILD at Ferrières, &c.

The Recent Temple Flower Show.

IN our brief remarks on the great show of the Royal Horticultural Society, we noticed the chief features for which it was remarkable as a show, and likewise some of its shortcomings, which we are inclined to believe could be readily met on a future occasion. In the following contribution from a correspondent are displayed some perfectly true, if at the same time rather optimistic criticisms, and commendations of the horticultural productions exhibited:—

"A very marked feature of this very remarkable show was its representative character. The resources of horticulture are great, but in few cases are those resources more fully displayed than in the furnishing of a great exhibition of this nature. It is not so much in reference to the bulk, which, of course, could have easily been exceeded. The representative nature of the show was found in the variety of its exhibits, which seemed to comprise everything in gardens that is cultivable, and yet still left much outside, chiefly because not then in season. It would be indeed a severe task were any one set to count up the whole of the diverse plants, flowers, fruits, and vegetables there displayed, yet all this was the product of our own islands, and absolutely without the aid of anything of foreign growth. No one wishes to see the Temple Show a mere insular exhibit, and if this year it seems to have assumed that character, it may have resulted from pure accident. In any case, vilified as the climate of Great Britain sometimes is, and as so often happens in other directions, so in this one, by her own children: yet here we had presented an excellent exhibition of horticultural material. Praise is due to our home growers of every class, who can under what may often be regarded as adverse climatal conditions create products of such remarkable beauty and excellence. It was specially noticeable that in scarcely one instance was there an exhibit that was inferior or out of place. That is an unusual experience, as sometimes, perhaps often, it happens that at ordinary shows something is staged that it would have been much better to have left at home. In all cases where culture was distinctly in evidence, as in the case of things in pots, for instance, the marked feature was equality. If Orchids, Roses, Clematises, Pelargoniums, Begonias, Acers, Gloxinias, Calceolarias, and many other things, showed excellence in culture, so also did purely hardy flowers, Alpines, perennials, fruits, or vegetables. Were not the Apricots, the Tomatos, Peas, or Beans, and Cucumbers, in pots, remarkable? the Apples in many respects, even at the end of May, finer than the best from Australia; the vegetables excellent!

Then there was the other marked feature, that this show was produced without the offer of a single half-penny in prizes, although honorary awards were freely bestowed. But whilst these may or may not be remunerative, there remains the fact that the resources of the horticulture of this country are placed freely at the disposal of the Royal Horticultural Society, without stint or price. This tribute to the unselfish character of our horticulturists deserves recognition; and it shows also that the efforts of the society are appreciated by those qualified to judge. It is, however, to be regretted that excepting always the Orchids, there were very few amateur exhibitors.

"Many visitors remarked on the almost entire absence from the exhibition of certain groups illustrative of market produce, once so strongly in evidence. Whilst always pleased to see it, it

The Kauri Pine, Agathis australis. The Monarch of the New Zealand Forests.

is difficult to avoid asking, where it could have been placed? But the remark serves to show what a reserve in that direction alone British horticulture has, and how inexhaustible its resources seem to be. Were there to be, as some still so fondly hope to see, another great international horticultural exhibition, like that of 1866, organised, a few years hence, in London, then indeed would these resources be found abundantly displayed. After all, the Temple Show, good an exhibition as it was, did but show the surface, and left untouched that immense reserve to which reference has been made. Our horticulture, insular as it may be, cannot, however, be at all fully exemplified in any one show, however gigantic, or at any one time of the year. Later, as the season rolls on, there will come the Roses, the Carnations, Dahlias, Gladioli, Chrysanthemums, the fruit and vegetables, products in every case in which our growers take high rank, and therefore a continuous series of exhibitions is required to enable those who would enquire into our horticultural resources to realise what they are.

But whilst all this variety and beauty can thus be displayed, we have still to deplore the fact that the great British public, necessarily the mainstay of all exhibitions, does not afford that patronage or seem to appreciate that delight which these exhibitions can give. That may seem to be a strong statement in face of the large attendance seen at the Temple Show, but it is too true, in a relative sense, all the same. Doubtless exhibitions of a sensational nature have served to vitiate popular tastes, and for many horticulture, however beautiful it may be, is yet all too tame. Yet a reaction may come, and there may be a time not far distant when the masses of the people shall crowd by tens of thousands to see and enjoy the triumphs of British horticulture, unaided by battles of flowers, decorated donkeys, fireworks, or acrobats, happily absent from the Temple, and where fine frocks and smart bonnets may not be the chief attraction!

AGATHIS AUSTRALIS (see Supplementary Illustration). — This, the Kauri Pine of New Zealand, is better known as Dammara australis. The tree attains a height of 80 to 150 feet, with a girth in some cases of 24 feet, and has broad leathery glaucous green leaves. Some of the trees are estimated to be more than 4000 years old. It yields timber possessing a larger number of good qualities than any other "Pine" known to commerce; but, as usual in such cases, the colonists are gradually but surely killing the golden-egged goose. Let us hope the Forest Department, under the direction of our esteemed correspondent, Mr. KIRK, will be enabled in future to prevent wanton waste, regulate the felling, and secure natural reproduction. The Kauri furnishes a resin which exudes from the tree. Much of it is also dug up from the ground, formerly covered by Kauri trees, in a semi-fossilised condition, resembling amber. The search for this substance affords a remunerative occupation to the settlers, the "gum" being used for varnish making and other purposes. A very interesting account of the tree is given in KIRK's excellent *Forest Flora of New Zealand*. There is a fine tree of this species in the Temperate-house at Kew. It produces cones annually. These cones were figured in our columns some years since from a drawing obligingly furnished by Mrs. DYER.

THE PLANT OF EPIDENDRUM STAMFORDIANUM AT THE TEMPLE SHOW.—Sir TREVOR LAWRENCE writes to say, that the beautiful specimen of Epidendrum Stamfordianum in his collection at the Temple Show, which was figured in our last number, was grown by his neighbour, Mr. EDWARD NIX, of Trashurst, Dorking; the plant doing great credit to the gardener, Mr. CHAS. FAYNE.

CLEMATIS MONTANA.—This beautiful and generally abundant flowering species is now at its best in southern counties, adding beauty to the cottage wall and the gentleman's garden. Being a strong grower, it should be planted where it has plenty of space of ramble unrestricted.

THE EFFECTS OF THE WINTER IN IRELAND.—The following is the list of the principal plants found to be—1, unhurt; 2, injured; or 3, killed, in the gardens of the Earl of ANNESLEY, at Castlewellan, co. Down (see ante, p. 657).

1. UNHURT.

Abelia floribunda
,, serrata
Acanthopanax ricinifolia
Aciphylla Colensoi
,, squarrosa
Actinidia argentea
,, kolomikta
,, volubilis
Adenocarpus decorticans
Ailantus glandulosa
Akebia quinata
Amorpha fruticosa
Arbutus Rollissoni
Aristolochia altissima
,, Sipho
Asimina triloba
Astragalus Tragacantha
Atriplex Nuttallii
,, Halimus
Azara Gilliesii
,, integrifolia
,, microphylla
Baccharis patagonica
Bambusa, twelve varieties, all perfectly hardy
Benthamia fragifera
Berberis aristata
,, buxifolia
,, congestifolia
,, Darwini
,, dulcis
,, heteropoda
,, japonica
,, Jamesoni
,, nepalensis
,, stenophylla ×
,, Neubertii ×
,, Thunbergii
Bignonia grandiflora
,, speciosa
Broussonetia Kæmpferi
Buddleia Lindleyana
Cæsalpinia japonica
Camellia, sorts
Caragana Chamlagu
,, frutescens
Carmichaelia flagelliformis
Caryopteris Mastacanthus
Cassinia fulvida
Cedrela sinensis
Celastrus scandens
Circidophyllum japonicum
Chamærops humilis
Choisya ternata
Cinnamomum sericeum
Cladrastis amurensis
Clerodendron trichotomum
Cleyera japonica
Cordyline Banksii
,, indivisa
Coriaria myrtifolia
Crinodendron Hookeri
Cunninghamia sinensis
Cytisus capitatus
Daphne Blagayana
,, Cneorum
,, Fioniana
,, Mazelii
Daphniphyllum glaucescens
,, Jessoensis
Desfontainea Hookeri
,, spinosa
Desmodium pendulifolium
Drimys aromatica
,, Winteri
Elæagnus aureo-marginata
,, edulis
Embothrium coccineum (against a wall)
Ephedra altissima
Eriobotrya japonica
Escallonia Phillipiana
,, pterocladon
Eucalyptus coccifera
,, cornigera
,, urnigera
Eucryphia pinnatifolia
Eurybia erubescens
Eurybia purpurea
Fabiana imbricata
Garrya elliptica
Genista ætnensis
,, Andreana
,, sagittalis
Glyptostrobus pendulus
Grevillea rosmarinifolia
Grislinia littoralis
,, lucidum
Halimondendron argenteum
Hartogia capensis (?)
Hedysarum multijugum
Hymenanthera crassifolia
Idesia polycarpa
Indigofera floribunda
,, Gerardiana alba
Kadsura japonica
Kolreuteria paniculata
Lagerstrœmia indica
Lardizabala biternata
Ilex latifolia
Leptospermum bullatum
,, lævigatum
Limonia laurifolia
Limoniastrum monopetalum
Lindera obtusifolia
Lomatia pinnatifolia
Metrosideros floribunda
,, robusta
Mitraria coccinea
Olea fragrans
Olearia dentata
,, Fosteri
,, gummifera
,, Haastii
,, macrodonta
,, nitida
Osmanthus argenteo-variegatus
,, aureo-variegatus
,, ilicifolius
,, myrtifolius
Phillyrea decora
,, Vilmoriniana
Philodendron amurense
Photinia serrulata
,, Benthamiana
Piptanthus nepalensis
Pittosporum Colensoi
,, coriaceum
,, erioloma
,, lucidum
,, Mayii
,, undulatum
Platycarya japonica
Quercus bambusæfolia
,, Buergeri
Rheum officinale
Rhyncospermum japonicum variegatum
Rubus japonicus
,, odoratus
Senecio compactus
,, elæagnifolia
,, Fosteri
,, petasites
Smilax aspera
,, latifolia
Stephanandra flexuosa
Trachycarpus excelsus
Veronica anomala
,, Traversii
Viburnum cassinoides
,, macrocephalum
,, nudum
,, plicatum
,, Tinus
Weinmannia racemosa
Xanthoceras sorbifolia
Yucca aloifolia variegata
,, filamentosa
,, flexilis
,, gloriosa
,, recurva
,, Treculeana
,, Whipplei

2. INJURED.

Abelia rupestris
Agapanthus umbellatus
,, ,, alba
Aloysia citriodora
Anopteris glandulosa
Aralia papyrifera
Arbutus Menziesii
Ardisia japonica
Aristotelia racemosa
Aster argophyllus
Buddleia globosa
Calceolaria violacea
Callistemon coccineus
,, spectabilis
Carpenteria californica
Ceanothus azureus
,, divaricatus
Ceanothus Gloire de Versailles
Clethra arborea
Colletia bictonensis
,, cruciata
Coprosma lucidum
Corynocarpus lævigatus
Edwardsia grandiflora
,, microphylla
Elæagnus macrophylla
Eryngium pandanifolium
Escallonia Ingrami
,, macrantha
,, organensis
Eucalyptus Gunni
,, pilularis
Eugenia apiculata
,, myrtifolia
Eugenia Ugni
Euonymus, sorts
Fontanesia phillyræoides
Glyptostrobus heterophyllus
Grevillea sulphurea
Grislinia macrophylla
Hakea crassifolia
Laurus nobilis
Libertia ixoides
Maclura aurantiaca
Meliosma pungens
Myrsine ilicifolia
Myoporum sp.
Myrtles
Nandina domestica
Phormium tenax
,, ,, variegata
Phygelius capensis
Pittosporum floribundum
,, nigrescens
,, Tobira
Quercus glabra
,, cuspidata
Serissa fœtida
Veronica Andersoni
,, Hulkeana
,, decussata
,, salicifolia
,, selaginoides
Viburnum Awafurkii

3. KILLED.

Acacia melanoxylon
,, undulata
Billardiera longifolia
Bucklandia populnea
Cassia coquimbensis
Chironia dianthæfolia
Correa viridis
Corypha australis
Dicksonia antarctica
Diosma gracilis
Epigynium leucobotrys
Escallonia coquimbensis
,, montevidensis
Eucalyptus cordata
,, obliqua
,, piperita
,, rostrata
Eupatorium riparium
Greyia Sutherlandi
Macadamia ternifolia
Ozothamnus rosmarinifolius
Pittosporum eugenioides
Plumbago capensis
Rhaphiolepis glabra
,, ovata
Rhodomyrtus tomentosa
Rubus australis
,, phœnicolasius
Solanum jasminoides
Sollya heterophylla
Tecoma jasminoides
Thea assamica
,, Bohea

LINNEAN SOCIETY.—On the occasion of the anniversary meeting of this Society on Thursday, May 24, Mr. C. B. CLARKE, President, in the chair, the Rev. A. Thornley and Mr. Rudolf Beer were admitted Fellows of the Society. The Treasurer presented his annual report, duly audited; and the Secretary having announced the elections and deaths during the past twelve months, the usual ballot took place for new members of Council; the following were elected:—Professor J. B. Farmer, Mr. A. Gepp, Professor Howes, Dr. St. G. Mivart, and Mr. A. S. Woodward. On a ballot taking place for the election of President and officers, Mr. Charles Baron Clarke was re-elected President, Mr. Frank Crisp, Treasurer; Mr. B. D. Jackson, Botanical Secretary; and Professor G. B. Howes, Zoological Secretary. The Librarian's report having been read, and certain formal business disposed of, the President delivered his annual address, on the "Vegetation and Physical Characteristics of the Sunderbunds," prefaced by some remarks on the present position of the Society. On the motion of Sir Joseph Hooker, seconded by Dr. John Anderson, a vote of thanks was accorded to the President, with a request that he would allow his address to be printed. The Society's Gold Medal was then formally awarded to Prof. Ferdinand Cohn, of Breslau, and was received on his behalf by Mr. B. D. Jackson for transmission through the German Embassy. The President having called attention to the retirement of the zoological secretary, Mr. W. Percy Sladen, after holding office for ten years, an announcement which he felt sure would be received with universal regret, it was proposed by Mr. Carruthers, seconded by Mr. Crisp, and supported by Mr. Charles Breeze, "That the Fellows of this Society, regretting the retirement of Mr. Walter Percy Sladen from the post of zoological secretary, which he has occupied for the past ten years, desire to record upon the Minutes of the Society's Proceedings an expression of their high appreciation of the services which he has rendered to the Society, and of the very able manner in which he has at all times discharged the duties of his office." This resolution having been put, was carried unanimously, and after a sympathetic reply from Mr. Sladen, the meeting adjourned to June 6. In the evening a number of Fellows of the Society dined together at the Grand Hotel, Charing Cross, the President occupying the chair, and being supported by several distinguished visitors.

—— An evening meeting will be held on Thursday, June 6, 1895, at 8 PM, when the following papers will be read:—1, "On a New Distomum," by Mr. Geo. West; 2, "On a New Genus of Siphonean Algæ, Pseudoconium," by Madame van der Bosse; 3, "On the True Nature of Mobiusispongia parasitica, Duncan," by Mr. A. Vaughan Jennings, F.L.S., &c.; 4, "On a New Genus of Foraminifera, Raphidoscene conica," by Mr. A. Vaughan Jennings, F.L.S., &c.

ANCIENT SOCIETY OF YORK FLORISTS.—The second show of the season, promoted by this Society, was held on the 22nd ult., in the Corporation Art Galleries. Tulips formed a special feature of the exhibition; and of these and cut flowers generally, while there was not a large, there was a very satisfactory and meritorious display. The visit of the National Tulip Society last year had evidently stimulated growers, and competition was keen in most of the classes. Mr. T. B. WHYTEHEAD was successful in showing the premier feathered and premier breeder Tulips; while Miss BARSTOW had the premier flamed variety. Dr. HINGSTON was awarded the Society's Certificate for a collection of herbaceous Calceolarias (compact strain).

LADY HUTT WHITE GRAPE.—We have had sent us by Messrs. CUTBUSH & SON, Highgate, a bunch of the above variety of the crop of 1894. The colour of the berries, dull yellow; skin tough, as befits a long-keeper; and flavour, even at this late date, very fair. Earlier in the year the flavour would doubtless be much sprightlier. The bunch was of middle size, and the berries large.

CHANGE OF EDITORSHIP OF THE "GARDENING WORLD."—We understand that Mr. JOHN FRASER who has hitherto acted in the capacity of sub-editor, will, in future, conduct the editorship of the above journal, hitherto performed by Mr. BRYAN WYNNE. Having regard to Mr. FRASER's great stores of knowledge, we should suppose that the interests of the paper will be well served and horticultural progress warmly promoted. Mr. COBBOLD continues as publisher. Mr. WYNNE takes sole charge of the *Nurseryman and Seedsman*.

A WHITE-FLOWERED MARÉCHAL NIEL ROSE.—We are informed by Mr. FRANZ DEEGEN, Rose-grower, of Köstritz in Thuringia, that he has succeeded in raising a new variety of Maréchal Niel Rose. This new variety is white, with the exception of the inner petals, which at first are yellowish-white, and later become of a creamy-white. The blossoms, which bear a certain resemblance to those of Niphetos, have all the fine points of Maréchal Niel, the same fragrance, and handsome foliage, and the plant has the same vigorous growth.

THE BOTANICAL DEPARTMENT OF THE BRITISH MUSEUM.—Those who have occasion to consult the collections in the British Museum will learn with regret the retirement of Mr. W. CARRUTHERS. Mr. CARRUTHERS, it appears, has served his time in the department of which he has for some years been the head. During the course of his career he superintended the removal of the collections from Bloomsbury to South Kensington. In their new quarters the collections have been largely augmented, and carefully re-arranged, both for educational purposes, and for the facilitation of research. An important library has also been got together. Mr. CARRUTHERS' personal studies have largely been devoted to the investigation and classification of fossil plants. Mr. CARRUTHERS retires in the full vigour of health, and in the maturity of his powers, so that we hope that science will be the gainer by his release from the details of administration. Courtesy, and readiness to afford every facility to students have been characteristic of Mr. CARRUTHERS' rule, and will cause his retirement to be a source of regret. Mr. GEORGE MURRAY, an accomplished botanist, will assume the post vacated by Mr. CARRUTHERS, and his personal qualities no less than his attainments, offer good guarantees for the increased usefulness of the department.

IS BAMBOO WOOD?—A judge of one of the United States Courts has, says *Meehans' Monthly*, been called on to decide whether a Bamboo handle for an umbrella-stick was "wood" or not. The legal luminary decided that the umbrella stick in dispute was "grass," and not wood. As a Bamboo stick is as woody as most other sticks of the same age, if not more so, it is difficult to see the grounds for the judge's decision. It is fortunate for the judge that he is not likely to present himself before any Court of Botanical Examiners!

THE WHEAT PRODUCTION OF THE WORLD.—If ever one thing more than another serves to spread a glamour over figures, it is the statistics connected with the subject of this paragraph—the Wheat production of the world; and as we are beginning, here and there, to forecast the probable yield of the crop at home, and in countries far and near, the moment may not be inopportune for placing on record a selection of totals for the year 1891 and last year, for the four great Continents, and some of the great Wheat-producing countries contained therein. The statistician of the Agricultural Department at Washington, U.S., has published to the world the crop results for some years past, collected from every available and trustworthy source, all of which he has translated into English, and reduced the various measures to bushels. We have selected the two years above-noted, and added a column of "differences," plus or minus, as the case may be; and certainly the result is most astounding. Here is a sample of how much information can be set forth in a brief space—Continent-producing, product (in bushels) for 1891 and 1894, and result of comparison:—

Contrasts.	1891.	1894.	Difference.
North America ...	688,814,000	515,488,000	—173,326,000
South America ...	48,805,000	104,000,000	+ 55,195,000
Europe	1,208,590,000	1,538,216,000	+329,626,000
Asia	342,611,000	341,959,000	— 652,000
Africa	47,051,000	47,098,000	+ 47,000
Australia	33,875,000	43,360,000	+ 9,485,000
Total	2,369,746,000	2,590,121,000	+220,375,000

These totals are enough to take one's breath away, and lead one to speculate on the growth of the world's population, and of civilisation; of the increase in the number of "hands" necessary to grow and harvest the crops, and improvements in machinery. We have selected about a score from the long list of countries supplying statistics, the better to tell the story. Our column of "differences" in amount of bushels furnished will be found of equal value to that in the preceding table:—

Countries.	1891.	1894.	Difference.
Manitoba	23,923,000	17,714,000	— 6,209,000
Canada (total) ...	62,034,000	43,221,000	— 18,813,000
Argentine	32,000,000	80,000,000	+ 48,000,000
Bulgaria	40,902,000	30,000,000	— 10,902,000
France	220,353,000	343,345,000	+122,992,000
Germany	85,750,000	114,000,000	+ 28,250,000
Great Britain ...	74,401,000	61,038,000	— 13,363,000
Ireland	2,615,000	1,530,000	— 1,085,000
Italy	141,456,000	122,959,000	— 18,497,000
Netherlands ...	3,504,000	5,000,000	+ 1,496,000
Russia	168,846,000	366,000,000	+197,154,000
Poland	12,681,000	18,000,000	+ 5,319,000
Spain	71,349,000	94,000,000	+ 22,651,000
India	256,704,000	258,459,000	+ 1,755,000
Algeria	23,184,000	24,000,000	— 2,184,000
Cape Colony ...	2,727,000	3,098,000	+ 371,000
Egypt	11,140,000	12,000,000	+ 860,000
New South Wales ...	3,761,000	6,705,000	+ 2,944,000
Victoria	13,153,000	15,736,000	+ 2,583,000
New Zealand ...	5,934,000	5,046,000	— 888,000

Of course, the reader is understood to remember seasons of spoilt harvests; and the occasional substitution of one crop for another, or the turning of arable into pasture-land, or the other causes for the addition of plus or minus to the differences recorded. In some Asiatic States no difference can be observed; so also in the north of Africa, and in New Zealand and Australia, one does not find such a set of figures as might be expected.

A PRESENTATION.—On Friday, May 24th, Mr. JAMES MOIR, gardener and bailiff to Miss COX, Clement Park, Dundee, for thirteen years, was entertained at dinner by upwards of fifty of the leading horticulturists in the district, and presented with a marble timepiece, on the occasion of his leaving Dundee for Earnock, Hamilton, and Mrs. MOIR with a tea-service. Mr. MOIR is well-known as a competent judge at the leading horticultural societies.

HONOURS TO HORTICULTURISTS.—We are glad to announce that M. MAXIME CORNU has been promoted to the grade of officer of the Legion of Honor, and M. DUVAL to that of Chevalier. M. VIVIAND-MOREL has been appointed officer of the "*Merité Agricole*." Many other similar appointments have been made, but among horticulturists not so well known in this country.

HYBRID POPPY.—M. MOTTET described in a recent number of the *Revue Horticole* a hybrid raised in M. M. DE VILMORIN'S establishment from the perennial Papaver bracteatum by P. somniferum. The new race has, it appears, some annual and some perennial representatives. The petals are also entire or fringed. The colour is rosy-carmine, or some analogous shade.

STAPELIAS.—A correspondent sends follicles of Stapelia, which he says were not preceded by flowers. The state of the case is, however, as follows:—The flowers of Stapelia expand fully, get fertilised, and the corolla falls away, the calyx then closes around the carpels, which sometimes quickly develop into fruit, but at other times they do not develop for five or six months, the calyx remaining closed over the very small carpels all that time. In the case before us, the fruit has only now developed from a flower that opened and was fertilised probably last September or October. The occurrence of this has been more than once mistaken for cleistogamy among Asclepiads, for the phenomena is not confined to the Stapelia group. There is an article of Mr. N. E. BROWN'S on the subject in our volume for 1885, v. 24, p. 434, entitled "Cleistogamous Flowers of Hoya."

ROYAL NURSERYMEN.—Messrs. B. S. WILLIAMS & SON, of the Victoria and Paradise Nurseries, Upper Holloway, N., have been appointed nurserymen to the Queen, under date of May 8, 1895.

THE BORDEAUX EXPOSITION.—The Belgian section of this exhibition was brilliant. Hundreds of fine Orchids from MM. LINDEN, VAN IMSHOOT, VAN WAMBEKE, JANSSENS and VINCENT, attracted much attention from the thousands of visitors. The Palms, Cycads, large ornamental plants, Gleichenia, Araucaria, Azalea mollis, &c., from M. Romain De Smet (of the firm of De Smet Frères) surprised the public by their size and beauty. Greenhouse plants sent by M. Alexis Dallière, indoor plants from M. Guill. de Bosschère, new Palms from M. Ed. Pynaert, miscellaneous plants from MM. B. Spae & Spae, Vandermeulen, Duriez Frères, Tolffaert, and many others, enabled the Belgian committee (M. LUCIEN LINDEN, president) to arrange a splendid exhibition. MM. Dallemagne of Rambouillet, MM. Cahuzac and Treyeran of Bordeaux, staged some fine Orchids in honour of the Belgians who received a most kindly welcome at Bordeaux. The garden of the Exposition Universelle is beautifully laid out in a formal style, capitally managed under the capable direction of M. Daniel Treyeran, who superintended the horticultural section, and is worthy of all commendation from horticulturists in general and Belgians in particular. Two *grands prix avec objet d'art spécial* were awarded to MM. Lucien Linden and Romain de Smet; M. L. Linden obtained another special *diplôme d'honneur* for his work *Les Orchidées Exotiques*, and for his serial publications, *Lindenia*, *Illustration Horticole*, and *Journal des Orchidées*. Works of Art were awarded to MM. Van Imshoot, Van Wambeke, Guill. De Bosschère, and A. Dallière. M. Pynaert received a Gold Medal; M. Jean de Bosschère fils, a Silver-gilt Medal for his album of Orchid flowers.

REICHENBACHIA.—The second volume of the second series of this sumptuous publication is dedicated by special permission to Her Majesty, MARIE HENRIETTA, Queen of the Belgians.

"Les Plantes Alpines et des Rocailles." Par M. H. Correvon, Directeur du Jardin Alpin de Genève. (Paris: Octave Doin, 8, Place de l'Odéon.)—This little volume is, as the title-page tells us, devoted to the description, culture, and acclimatisation of the alpine and rock plants of the world. The first division of the book is given up to a general account of the various types of alpine plants, of the right and the wrong way to acclimatise and cultivate them, and to a few illustrations to make the author's meaning more clear. These preliminaries passed, we come to a sort of dictionary or index of the names of the alpine and rock plants growing in different parts of the globe; their respective habitats and

Fig. 101.—Messrs. J. Backhouse and Son's group of alpine plants.
Exhibited at the Temple Show.

times of flowering are appended to each, together with a brief note respective of the various ways in which the species multiply and can be cultivated. This handbook should prove useful to the many who now-a-days include a rockery in their garden, and who but too often, from want of reliable information on the matter, fail in growing certain plants thereon, as the original habitat and conditions of these are unknown to them.

"Object-lessons in Botany": From *Forest, Field, Wayside, and Garden*. (Book ii., for standards iii., iv., and v. By Edward Snelgrove. B A; London: Jarrold & Sons, 10 and 11, Warwick Lane, E.C.).—There exist already so many elementary books on botany that a new-comer among them may well raise doubts as to the success of yet another addition to so numerous a class. But the one before us has much to recommend it, even to those severest critics of all, the children for whose instruction it is intended. There is no patronising language nor condescending tone used in the pages, which treat the subject in a brief, brisk, and business-like way. The author wisely uses as his examples the common and most accessible plants; he would have, where possible, living, fresh specimens laid before the students, and the various parts and functions of each explained and thoroughly understood before any more ambitious work is undertaken. Plain illustrations are plentifully sprinkled through the pages, and scientific terms are freely used, their meanings being first made quite clear. On this principle the pupil has not only nothing in the way of popular or local terms to unlearn, but should, by the time this book is worked through, be well prepared for a more advanced treatise, the phraseology of which will be already familiar to him. For class-teaching, especially, this volume should be found a very useful one.

The Agricultural Seed Trade Association.—The annual dinner of this body took place on Monday, May 27, at the Holborn Restaurant, Thomas Thornton, Junior, Esq., in the chair. This gentleman remarked in responding to the toast "Prosperity to the Agricultural Seed Trade Association:" "It furnishes us with a simple and easily accessible court of arbitration for the settlement of disputes which must sometimes arise even in the best regulated of trades; it acts, in police-court parlance, as a deterrent to evil-doers; most important of all, it serves to draw us all more closely together, and promotes good fellowship; and to quote another phrase much in vogue at the present day, a union of hearts which cannot fail to be productive of good to each and all of us. But there is one pressing need from which it suffers, namely the want of sufficient members, and this is a matter which we can all take our share in remedying. Let me urge upon you, gentlemen, in conclusion, to use your best endeavours to bring new members into the fold, and thus increase the efficiency of the association, and strengthen its powers for good."

"The Horticultural Handbook and Exhibitors' Guide."—A treatise on cultivating, exhibiting, and judging plants, flowers, fruits and vegetables, by William Williamson (William Blackwood & Sons, Edinburgh and London). This is a new edition, revised by Mr. Malcolm Dunn, and will certainly not be less popular among horticulturists than was the first issue. The book gives useful recommendations concerning the management of flower-shows; electing the judges, judging, &c.; also information as to the best kinds of flowers, fruit and vegetables to cultivate for exhibition purposes, and how to grow them. The supplement, or newer portion of the guide, is devoted to notes upon the Carnation, Chrysanthemum, Rose; classification of competitors, judging of horticultural exhibits by cultural merits and relative value, and judging cottagers' gardens and allotments. The utility of

the book will ensure for it an increased measure of popularity among those readers to whom it is especially addressed.

ROYAL GARDENS, KEW.—We are requested to announce that the following guides are on sale at the Royal Gardens, Kew: Key Plan and Index to the Royal Botanic Garden and Arboretum, Kew. 3rd ed. 1893. Price 2*d*. Official Guide to the Museums of Economic Botany. No. 1: Dicotyledons and Gymnosperms. 2nd ed., revised and augmented. 1886. Price 4*d*. Official Guide to the Museums of Economic Botany. No. 2: Monocotyledons and Cryptogams. 1894. Price 4*d*. Official Guide to the Museums of Economic Botany. No. 3: Timbers. 2nd ed., revised and augmented. 1893. Price 3*d*. Official Guide to the North Gallery. 5th ed., revised and augmented. 1892. Price 6*d*. Guides to Museums and North Gallery in one volume, cloth boards. Price 1*s*. 9*d*. Hand-list of Trees and Shrubs grown in Arboretum. Part I.: Polypetalæ. 1894. Price 8*d*. Hand-list of Ferns and Fern Allies Cultivated in the Royal Gardens. 1895. Price 6*d*.

PUBLICATIONS RECEIVED.—*Dictionnaire Pratique d'Horticulture et de Jardiage*, par G. NICHOLSON, traduit et adapté par S. MOTTET (OCTAVE DOIN, 8, Place de l'Odéon, Paris); Livraison 37 of this work is now ready, and is by no means inferior to former parts. The authors have got as far as Machærianthera in their task.—*The Flowering Plants and Ferns of New South Wales*. By J. H. MAIDEN, F.L.S., assisted by W. S. CAMPBELL, F.L.S (Department of Mines and Agriculture, Forest Branch, New South Wales), Part I., of a useful work, having especial reference to the economic value of the flora. This issue treats of No. 1, The Waratah (Telopea speciosissima; No. 2, The Bloodwood (Eucalyptus corymbosa); No. 3, The Flannel Flower (Actinotus Helianthi); No. 4, The Coast Myall (Acacia glaucescens). Each species is represented by a coloured plate, and the description includes the vernacular names, botanical names, botanical description, distribution and propagation, thus comprising a comprehensive sketch of both the properties and appearance of the plant.—*Ferns and Evergreens of New England*. A Simple Guide for their Determination. By EDWARD KNOBEL (Boston: BRADLEE WHIDDEN). A small handbook which could be carried in the pocket on botanical excursions. It contains plates, or rather diagrams, showing white Fern-fronds on a black background, and gives concise descriptions of ways in which Ferns may be identified by their branching, &c.—*A Guide to Find the Names of all Wild growing Trees and Shrubs of New England by their Leaves*. A companion treatise to the one on Ferns just mentioned. The illustrations are clear, the distinguishing botanical terms are carefully explained, and their uses for purposes of identification are made evident. The hand-book should be useful to all who like to know the names of the trees around them, but those who consult it should remember how much the leaves on different trees of the same species, or even on one tree vary; for instance, leaves of the various shapes which are given as being each peculiar to one species of Oak, might almost all be found growing on the same tree.—*The British Moss Flora*. This valuable treatise (by Dr. R. BRAITHWAITE). has now reached Part XVI., and includes Fam. XVII.—Meeseaceæ (continued), and Fam. XVIII.—Mniaceæ. It need scarcely be said that this issue is quite equal to the former ones in interest and accuracy.

BOOK NOTICE.

UNCULTIVATED BAST-FIBRES OF THE UNITED STATES.

THE Agricultural Department of Washington has recently issued a useful report upon the above subject. In the introductory remarks it is said the indigenous or uncultivated species of plants producing Bast-fibre in the United States form an interesting group in the Fibre series. They are subjects of constant inquiry, as the masses of their filaments, disintegrated and semi-bleached on the parent-stalk by the winter storms, often attract the attention of the farmer, who, regarding his discovery as new, and considering it a source of a valuable, undeveloped industry, writes to the Department to learn the name and history of the species.

For the most part the species belong to three large families of plants—the Malvaceæ, of which the Cotton-plant is a member; the Asclepidaceæ, and the Leguminosæ. The malvaceous species are the most numerous, and, possibly, the most widely distributed, their fibre possessing fair strength, comparing with Jute, rather than with Flax and Hemp, though whiter in colour than the former. These are considered as "Jute substitutes," while the species belonging to the two other families, and which give stronger fibre, may be termed "Hemp substitutes," and are, therefore, the more valuable.

That these fibres are not employed commercially is due to several causes, the machine question being an important factor. The facts that Flax and Hemp can be readily grown over large areas of the States, and that the cultivation of these plants and the manipulation of the fibre are matters well understood, have prevented some of the native forms from being brought into prominence in northern localities favourable to their growth, while the cheapness of commercial Jute has kept back the culture of others, particularly in the south, where they might readily be produced; nevertheless, some of the species have been regarded with high favour in the Old World, where they have been cultivated to some extent, and where the fibre is prepared cheaply, though by primitive methods that could not be adopted in the United States. In these countries the product is usually manufactured in or near the localities of growth, and is considered of "local" rather than of "commercial" importance. This gives a hint as to the possible utilisation of some of the species; for while it might be difficult to produce fibre that would be marketed with the commercial cordage fibres, small local industries might be established to grow the fibre, and utilise it in such manufactures as would enter exclusively into home consumption. For many purposes sisal and manila cordage only can be employed; but, at the same time, considerable quantities of both sisal and manila cordage are employed in uses for which the cheaper, home-grown fibre would be just as well adapted.

The first thing to be considered, however, is the question of economical production. What will it cost to grow an acre of stalks, and what will be the expense of stripping and cleaning the fibre? Until these questions can be satisfactorily answered, the cultivation of the fibre must be considered as still in the experimental stage, and it would be unwise to go into the culture expecting sure remuneration.

The machine question, as stated, is an important factor in the problem. The hand methods in vogue in many foreign countries, when such fibres have been successfully produced, are unsuited to the progressive ideas and spirit of enterprise which underlie all American agricultural and industrial practice.

For example, the farmers of to-day will never stand waist-deep in pools of stagnant water, to thresh off the fibre of several acres of stalks, a handful at a time. This suggests the use of machinery, at least, for stripping the bark from the stalks, the fibre to be cleaned and prepared by after-processes which, however, do not concern the grower. The bast of Hemp has been stripped from the stalk for a hundred years by means of a cumbersome hand-brake, the fibre being first softened by some form of rotting. With the advent of a satisfactory hemp-brake, may doubtless be a machine that will decorticate all of these so-called Hemp and Jute substitutes, and if their cultivation can be shown to cost no more than the cultivation of Hemp, there is a possibility that their production may some day become industries. *J. J. Willis, Harpenden.*

SALE OF BOTANICAL WORKS.

A NUMBER of interesting and important botanical and horticultural books occurred in the sale of a library, the property of a gentleman, removed from Surrey, at Messrs. Puttick & Simpson's on Wednesday last.

The more important of the octavo section of these were as follows: D. Wooster's *Alpine Plants*, coloured plates, 1872, 15*s*.; W. Baxter's *British Phænogamous Botany*, six volumes, numerous coloured plates, Oxford, 1834, £2 16*s*.; G. Bentham's *Handbook of the British Flora*, two volumes, illustrated by Fitch, 1865, £2 16*s*.; Bentham & Hooker's *Genera Plantarum*, vol. i., the first and second parts of vol. ii., and the first part of vol. iii., £2 18*s*.; Bentham & Mueller's *Flora Australiensis*, seven volumes, 1863 to 1878, five guineas; *The Botanical Register*, vols. 1 to 33, with index, numerous fine coloured plates, 1815 to 1847, £42; *Bulletin de la Société Botanique de France*, from 1854 to 1875, 24 vols., numerous plates, Paris, ten guineas; E. A. Carrière's *Traité General des Conifères*, two volumes in one, Paris, 1867, one guinea; A. P. de Candolle's *Prodromus, Systematis Naturalis regni Vegetablis*, with index, 21 vols., Paris, 1824 to 1842, £9; De Candolle's *Monographiæ Phanerogamarum*, three volumes, Paris, 1878 to 1881, £1 18*s*.; *Flore des Serres et des Jardins de l'Europe*, by Lemaire & Van Houtte, vols. 1 to 23, numerous beautiful coloured plates, 1845 to 1883, £11 10*s*.; J. Gaudin, *Flora Helvetica*, seven volumes, 1828, £1; A. H. R. Grisebach, *Flora of the British West Indian Islands*, 1864, £1 8*s*.; W. H. Harvey, *Phycologia Britannica, or History of British Sea weeds*, four volumes, coloured plates, 1846 to 1851, £3 18*s*.; Harvey & Sonder's *Flora Capensis*, three volumes, Dublin, 1859 to 1865, £1 17*s*.; Hooker's *Journal of Botany, and Kew Garden Miscellany*, vols. 1 to 9, 1849 to 1857, £3 10*s*.; Hooker's *Century of Ferns*, two volumes, coloured plates, 1854 to 1864 £1 7*s*.; Hooker's *Handbook of the New Zealand Flora*, 1867, £1 11*s*.; Hooker's *Flora of British India*, two volumes, 1875, £1 19*s*.; *Journal of Botany*, edited by B. Seemann, vols. 1 to 16, numerous coloured plates, 1863 to 1881, £12 5*s*.; Lindley's *Orchidaceous Plants, Vegetable Kingdom, Introduction and Natural System of Botany*, together, nine volumes, 1830 to 1852, £2; Lindley's *Pomologia Britannica*, three volumes, coloured plates, 1841, £2 8*s*.; Lindley's *Folia Orchidacea*, vol. i. only, £1; J. C. Loudon's *Arboretum et Fruticetum Britannicum*, eight volumes, 1838, £5 17*s*. 6*d*.; F. A. Michaux's *The North American Sylva*, two volumes, coloured plates, scarce, Philadelphia, 1817, £4 12*s*. 6*d*.; J. T. Moggridge's *Contributions to the Flora of Mentone, and Winter Flora of the Riviera*, coloured plates, 1871, £2 11*s*.; Paxton's *Magazine of Botany*, 16 volumes, numerous coloured plates and woodcuts, 1834 to 1849, £4 10*s*.; Annie Pratt's *Flowering Plants, Grasses, Sedges, and Ferns of Great Britain*, six volumes, coloured plates, £2 9*s*.; E. D. Puydt's *Les Orchidées, avec une revue descriptive des espèces cultivées en Europe*, 50 coloured plates and 244 vignettes, Paris, 1880, £1 5*s*.; P. J. Redouté, *Les Roses, décrites et Classées selon leur ordre Naturel*, three volumes, coloured plates, Paris, 1835, £6 17*s*. 6*d*.; *Refugium Botanicum*, edited by W. W. Saunders with descriptions by H. Reichenbach and J. Baker, coloured plates by W. Fitch, four volumes (the second volume has only part i.), tree calf gilt, by Rivière, 1869 to 1871, £5 7*s*. 6*d*.; Sir J. E. Smith's *English Botany*, second edition, twelve volumes, coloured plates by Sowerby, 1832, £14 5*s*.; R. Sweet's *Geraniaceæ, the Natural Order of the Gerania*, five volumes, coloured plates, 1820 to 1830, £4 8*s*.; Sweet's *British Flower Garden*, both series, seven volumes, numerous coloured plates, 1823 to 1838, £9 15*s*; Sweet's *Cistineæ, the Natural Order of the Cistus or Rock rose*, coloured plates, 1825 to 1830, £1 18*s*.; Sweet's *Flora Australasica*, coloured plates, 1827 to 1828, £3; W. W. Watson's *Dendrologia Britannica*, two vols., coloured plates, 1825, £2 15*s*.

The volumes in quarto included J. B. Barla's *Iconographie des Orchidées*, sixty-three coloured plates,

Nice, 1868, £3 6s.; E. Bossier's *Voyage Botanique dans le Midi de l'Espagne*, two vols., coloured plates, Paris, 1839 to 1845, £7 15s.; Hooker's *Flora Novæ-Zelandiæ*, two vols., coloured plates, 1853, £14 5s; Hooker's *Flora Tasmaniæ*, two vols., coloured plates, 1860, £20 5s.; Hooker's *Filices Exoticæ, or Coloured Figures of Exotic Ferns*, 1859, £3; Loddiges' *Botanical Cabinet*, twenty vols., coloured plates, 1817 to 1833, £11; Maund's *Botanic Garden*, fourteen vols. (in seven); *The Fruitist, Floral Register*, and *Auctarium to the Botanic Garden*, £7 5s.; Reichenbach, *Icones Floræ Germanicæ et Helvetiæ simul Terrarum adjacentium ergo Mediæ Europæ*, a complete set from the commencement, twenty-two vols., with numerous beautiful coloured plates, 1850 to 1867, £39; J. Forbes Royle, *Illustrations of the Botany of the Himalayan Mountains*, two vols., coloured plates, 1839, £2 12s.; B. Seemann, *Flora Vitiensis: a Description of the Plants of the Viti or Fiji Islands*, 100 coloured plates by W. Fitch, 1865 to 1873, £7 7s.; J. Torrey's *Flora of the State of New York*, two vols., coloured plates, Albany, 1843, £3; R. Wight's *Icones Plantarum Indiæ Orientalis*, six vols., Madras, 1840 to 1853, £5 18s.; and Wight's *Illustrations of Indian Botany*, two vols., coloured plates, Madras, 1840 to 1850, £3 12s.

The folio volumes included H. C. Andrew's *Coloured Engravings of Heaths*, with descriptions in Latin and English, four vols., 1802 to 1809, £12 15s.; James Bateman's *Monograph of Odontoglossums*, coloured plates, 1874, £3 2s. 6d.; C. L. Blume et J. B. Fischer, *Flora Javæ nec non Insularum adjacentium*, four vols., coloured plates, Leyden, 1828 to 1858, £11 5s.; Blume's *Rumphia*, four vols., coloured plates, Leyden, 1835 to 1848, £8 16s. F. Booth's *Illustrations of the Genus Carex*, four parts complete in three vols., numerous plates, 1858 to 1867, £16 15s; W. Curtis's *Flora Londonensis*, enlarged by Graves and Hooker, five vols., coloured plates, bound in green morocco extra, a fine copy, 1835, £30; H. J. Elwes, *Monograph of the Genus Lilium*, illustrated by W. Fitch, coloured plates, seven parts complete (only 250 copies printed), 1877 to 1880, £6; Hooker's *Rhododendrons of Sikkim Himalaya*, coloured plates, 1849, £2 5s.; Hooker's *Illustrations of Himalayan Plants*, coloured plates, 1855, £2 2s.; Lambert's *Description of the Genus Pinus*, with an appendix by David Don, three vols., numerous beautiful coloured plates, bound in green Morocco extra, by F. Bedford, a fine copy, 1828 to 1837, £37; J. Lindley, *Digitalium Monographia*, coloured plates, 1821, £1 5s.; W. Roxburgh's *Plants of the Coast of Coromandel*, three vols., numerous finely-coloured plates, 1795 to 1819, £13 15s.; *Sertum Botanicum, Collection de Plantes remarquables par leur utilité, leur élegance, leur éclat et leur nouveauté*, six vols., coloured plates, Brussels, 1828, £5; and Sibthorp's *Flora Græca*, ten vols., London, R. Taylor, 1806 to 1840, with 966 beautifully-coloured plates, imperial folio, £121. The library, comprising 282 lots, for the most part botanical or horticultural, realised £1032. *W. Roberts.*

Fig. 102.—A group of roses.

Exhibited at the Temple Show by Mr. C. Turner, Nurseryman, Slough.

Home Correspondence.

THE WEATHER AND THE CROPS.—May has almost beaten the record this year in her changes and caprices. Within the week just closed we have had a difference of 40° in some districts—that is, we have had summer heat and winter cold succeeding each other within a few days. Nevertheless, May this year has not up to the present date bit cultivators so hard, nor so cruelly dashed their hopes to the ground as on May 20 and 21 last year. On both days we had about 15° of frost. This year, on the same dates and during the week just ended, we had wintry winds and low temperature, but little or no actual frost. In some exposed localities we observe, however, that the hail, and cutting, scathing nor'easters, or other north winds have severely whipped many of our fruit trees, bushes, shrubs, white Lilacs, Laburnums, Roses, &c. Pears and Plums have got a chill, and the effects on Apples in full flower, cannot yet be determined. As, however, Early Potatos are not cut down, it is hoped that sufficient fruit blossoms remain sound to ensure an average crop. Gooseberries have also escaped, and are selling in our local market at 4*d.* per pint. But we must not hallon till we are out of the wood, and we have still ten days of fickle, treacherous May before us. Still, I have hopes that the worst is over now we have passed the rubicon of the 20th without an absolutely killing frost. Another almost unique feature this year, is that many of our flowering trees, and shrubs and flowers, seem to have suffered more than our fruit trees. Several lots of Strawberries seen to-day—May 21—seem safe and sound after the extreme changes and scathing blasts of last week. *D. T. F.*

GREVILLEA ROBUSTA.—I welcome "W. T.'s" enquiries (p. 624), as a pleasing proof of returning interest in these too seldom grown, and so rarely well-blossomed plants. I therefore hasten to answer them as briefly as possible. The fine plant in the Botanic Gardens, Cambridge, was smothered in flowers. It was labelled, and doubtless was, Grevillea robusta, though its light grey panicles of drooping flowers rendered it a charming picture of elegance. G. robusta, or some of its sub-varieties, such as pulchella or elegantissima, is also, I believe, the best species or variety for the clothing of walls,

rafters, or arches. As to describing the flowers, I would rather leave that in abler hands, merely stating that the effects are equal in grace, lightness, and beauty, though widely different to the most elegant of all our Spiræa aceriifolia grown in shady glades. "W. T." will also find this and other Grevilleas pretty fully described in Nicholson's *Dictionary of Gardening*, and possibly were he to write to Mr. Lynch, the Curator of the Cambridge Botanic, he might, with his usual courtesy, send him a brief description of the fine plant under his care, with a sample of its flowers if a few of its rather persistent blossoms still remain. No one who has ever seen Grevilleas could think for a moment that they had the faintest resemblance to racemosus or any other. They happened to be named together as possible market plants, almost equally easily grown and propagated. Grevilleas are also largely used in a small state as foliage plants outside and in, and the ideas thrown out how much their beauty and profit might be enhanced, could they also be forced to bloom in a small state as freely as Cytisus racemosus. Had this been already done, there would have been no cause to notice the magnificent specimen of Grevillea robusta in the Botanic Gardens, Cambridge. There is also a wider scope for Grevilleas as foliage plants in most public and private gardens. *D. T. F.*

NECTARIES ON THE CARPELS OF CALTHA PALUSTRIS.—In reply to Mr. Cuthbertson's question (*Gardeners' Chronicle*, May 25, p. 657), I would say that when Müller's work was first issued, his account of the nectaries on the carpels of Caltha palustris was quite new to me, so I hastened to examine them at the first opportunity; but I could never discover anything quite resembling the figure on p. 80 of Müller's book. What I noticed, however, was that the superficial tissue at certain places on the sides of the carpels was not unlike the peculiar undeveloped or merismatic character of the tissue of ordinary honey-glands. It seemed, therefore, that the glands have become arrested in this country, perhaps from being less visited here than in Germany. I was in a field where Caltha abounded last April, but I saw no insects about at the time. Müller does not mention the time of flowering, but Koch, in his *Deutschen und Schweizen Flora* gives it as "Apr.—Jun.;" while Hooker, *Students' Flora of the British Isles*, says, "March—May." If, therefore, the flowering period be prolonged in Germany into the hotter weather than prevails here, this may account for the twelve species of visitors which Müller enumerates, including the honey-bee, which came "in hundreds, collecting pollen, and only sucking the honey to aid in storing the pollen." The numerous insect-visitors would be quite in keeping with a correspondingly well-developed honey-secreting system. *George Henslow.*

THE DEVELOPMENT OF PLANTS.—I have been very much interested in Mr. Druery's article (see *Gardeners' Chronicle*, May 18), and have an example before me bearing on the subject. We know, as he points out, the wonderful effects which can be produced by selection and cross-fertilisation, and that by careful management we can gift the North American and Canadian plants with the vivid colours of the tropics. I have now flowering in my grounds a seedling Rhododendron of the most intense and vivid scarlet, which has braved a frost of 4° below zero during the last winter, and is now a mass of bloom. The scarlet colour of its blossoms is brighter, and more vivid than that of any specimens I have ever seen of the scarlet Arboreum Rhododendrons, which, of course, are of too tender constitutions for general purposes. Now in this and similar instances we seem to be masters of the position, and able to create, or if not actually to create, at any rate to modify and re-adapt, the various creations, after our own desire, so that we can produce hitherto unknown colours, forms, or qualities. Up to a certain point this is certainly true, but there comes a time when our power apparently ceases, when strive as we will, select, cross-fertilise, experiment as we may, there is no result. Nature has become suddenly dumb, or is deaf to her questioners, and we dash ourselves against a dead wall of silence. No science at present available, no skill, no adaptation can serve us any further, why this is so we know not; we only know we have come into a blind alley of knowledge, and must retrace our steps and laboriously start again in a new direction. These blind alleys must be well known, not only to men of science, but also to practical experimenters in the selection and intercrossing of plants, like myself; and it would be very interesting if Mr. Druery's article should recall to some of these their experiences, and suggest their relations in the columns of the *Gardeners' Chronicle*. *Charles Noble, Bagshot.*

LATE SEAKALE.—I am not sure that Seakale to the end of May or first week in June is not more valued than that vegetable is in the month of November, when we begin cutting our earliest supplies. For about thirty years I have found that during the spring months, a period when green vegetables are few in variety and not abundant, well-blanched Seakale is always welcomed. I have tried various methods of procuring late supplies, and found that plants grown on the north side of a high wall or hedge would furnish heads as late as June. This, of course, can be better managed in the cooler climate of Scotland than in the south of England. The past season was favourable for keeping the growth late, and at the end of last month we had our last dish; but had the plants been shielded from the sun, they would have been several weeks later. The method of blanching is much the same as that recommended by Mr. Wythes, manure, old tan, leaf-mould, and the natural soil being used to exclude light and air. I found that Seakale, white, strong, and perfectly tender, is a telling article in collections of vegetables at midsummer exhibitions, and many years ago when I was somewhat keen as a competitor, I found that such an adjunct in the collection as indicated was quickly noted by the judges. I have used substitutes for Seakale—such as Seakale Beet—and blanched Turnip-tops, but have not been very successful in gaining the approval of the culinary *chefs* by these makeshifts, although I know of others who have done so, and one of the most notable cases was by one of my old foremen who, with some degree of mirth, related his experience with Turnip-tops in blanched condition. The *chef* for whom he had to cater was anxious to get supplies of Turnip-tops (such as are so largely grown for the London markets); my friend put them in close, dark quarters where they did capitally. When the cook returned to the country when the end of the London season was over, he was asked how the Turnip-tops pleased. The reply was, "I got none, but the excellence and abundant supply of Seakale more than made up for the green tops." I have never tried to blanch common Scottish Kale, but think that after the heads were cut they could be turned to good account if blanched similar to Turnip. *W. Temple, Carron.*

A CYPRIPEDIUM CROSS.—In a previous issue you mentioned a hybrid Cypripedium I exhibited at one of the Royal Horticultural Society's meetings at the Drill Hall, a cross between C. Lawrenceanum and C. Sedeni, and named Coverdeani. I quite agree with your remarks that, although it bore a strong resemblance to C. Lawrenceianum, it showed no trace of Sedeni. What I should like to explain is, that not having raised the seedlings myself, I cannot vouch for the particulars of the parentage being correct, and therefore had to fall back upon the label, now in my possession, which was attached to the pan when the plant was purchased at Messrs. Protheroe & Morris' Sale-room, which is written on one side—No. 1, Lawrenceanum × Sedeni: on the other side is—Sown April .90; seedlings, July .90. This statement, if not correct, will, I fear, add one more to the long list of doubtful crosses by which auctioneer and purchaser are alike misled. *T. W. Swinburne, Coverdean Hall, Winchcombe.*

THE CORSTORPHINE PLANE.—Anent the notice of Mr. Temple, on p. 647, respecting the beauty (at this season) of the Corstorphine Plane, we quite agree with him, but wish to mention that a continental variety more recently introduced under the name of Worlei, is richer in its colouring, and more lasting. It also appears equally vigorous in its growth. An allied variety, of a much deeper reddish-bronze or terra-cotta colour, appeared as a sport here two or three years ago. It was so thoroughly distinct from either of the above in shade of colour, and so very beautiful, that we thought it worth preserving, and are propagating it. *J. Backhouse & Son.*

VIOLA TRUE BLUE.—Mr. G. Reynolds, the gardener at Gunnersbury Park, finds this variety one of the best of its colour. It was raised and distributed by the late Mr. W. Dean in 1878, when he was in business at Walsall, and it is still regarded as one of the best blue bedders at the present day. Being an early bloomer, it is excellent for spring gardening, and is especially telling when mixed with white Hyacinths, or other white flowers, and in the summer with silvery-leaved plants. *R. D.*

LAND TORTOISES.—It has been recently stated that tobacco-smoke is poisonous to these. We have two in the tropical-house, one has lived there since the house was built, and no notice has been taken of them whilst the house has been fumigated. They are lively enough now, come when called, and have exceedingly good appetites. The fumigation does not appear to affect the green frogs in any way although it might have been expected that they would have been injured. *Thos. Fletcher, Grappenhall, Cheshire.*

MONA'S PRIDE POTATO.—I for one cannot endorse the remarks of Mr. Fletcher respecting the quality of Mona's Pride Potato, either for frame-work, or earliness outside, and I have tried it against four varieties of the Ashleaf Kidney, viz., Rivers, the old variety; Myatt's, and Veitch's; but, if there are any differences between these I am unable to say, although I like the first-named best, but to obtain it quite true is, I think, a difficult matter at the present time, all the varieties of Ashleaf appearing to me to have merged into one. I remember once having to depend on Mona's Pride as a frame Potato, and for planting out-of-doors, and I was greatly disappointed with it. Of tubers I had plenty, but the largest were not of good size, and the eating quality was third-rate. the tubers resembling when boiled nothing so much as lumps of starch; and when cold, they turned black. I do not think it could be the soil, which consisted of good loam on a bed of red sand, and the best soil for a Carrot crop that I ever had to do with. Other varieties of Potatos were excellent in all respects, and they were all planted in the same manner, had the same sort of manure applied, viz., half-spent hot-bed and farm-yard-manure mixed. I have only seen Mona's Pride do well at one place, and that was in the Trent Valley, Staffordshire. In that district, overlying a coal-field, the Potato not only did well, but every other root-crop. This was on the south side of the river, for the northern side, if my memory serves me rightly, there is no coal, and the land is very strong, and of a marly nature. I should like to know if any reader of the *Gardeners' Chronicle* has noticed the quality of Potatos grown on land where coal is underneath. *T. Goddard, Milner Field, Bingley.*

SCOTLAND.

FROST AND SHRUBS.

Seldom have flowering hardy shrubs been better clothed with inflorescence than they are this season. While many Coniferæ and evergreen shrubs have suffered from the severity of the weather, there is little injury observable to deciduous plants; Staphylea colchica, Lilacs, Ribes, Weigelas, Deutzias, Hydrangea paniculata, Azaleas (Ghent species), and others which are planted in shrubberies and kept in stock for forcing, are flowering abundantly in exposed positions. There is much injury among some species of evergreens, such as Laurustinus and Laurels; Retinospora obtusa, R. plumosa, R. pisifera, and others have in some cases also suffered severely—while in others the same species are uninjured. Cupressus Lawsoniana have all suffered somewhat, and many of them are quite dead. C. L. erecta viridis are all quite dead. Many trees and shrubs are killed on one side, while the other half is uninjured. Those exposed to north and west have suffered most. I observed that Coniferæ in general are starting freely into growth. Many Roses are losing their best parts by branches dying back. Dwarfs are generally little the worse: gross growers have suffered most. *M. Temple, Carron, Stirlingshire.*

Obituary.

William Thomas.—It is with much regret we have to record the demise, on the 24th ult., of the Superintendent of the Wolverhampton Public Park. Although upwards of seventy years of age, Mr.

Thomas, until last autumn, was active, and comparatively well, enthusiastic in his regard for the appearance of the park, and attending personally to all the details of its management. A third attack of influenza, however, left him so extremely weak that considerable apprehension was felt by his friends as to his ultimate recovery. While his decease, however, was not altogether unexpected, the sudden character of his death has caused a considerable manifestation of sympathy on the part of his numerous friends at Wolverhampton. Mr. Wm. Thomas was a Welshman, having been born in Swansea in 1823. He was afterwards apprenticed in the gardens attached to Singleton Abbey, the home of the late Lord Swansea, which at that time were well-appointed, and carefully kept. On leaving Singleton he entered the gardens at Tredegar Park, near Newport, Mon., the seat of Lord Tredegar, where he remained for a period of four years or more. His first position as head gardener was in the gardens belonging to Mr. Wilson, of Beechley, near Ollerton, Liverpool, and here he remained seven years. In 1853 Mr. Thomas was appointed head gardener to the late Lord Hatherton, at Teddesley Park, near Penkridge, Staffs. In 1857 he resigned this position, and commenced a business in Wolverhampton, having a seedsman's shop in Exchange Street, and a nursery at The Birches, near Codsall. This business was held until 1880, and in the following year the deceased was appointed curator of the new public park at Wolverhampton, which position he continued to hold until his death. Mr. Thomas was a gardener of the strictest and neatest school, and his chief trouble while at the park has been that he could not maintain the flower-beds, grass, and paths in such faultless condition as would have been possible in a private garden, his zeal in this respect, and consequent regulations, at times occasioning slight irritation on the part of some of the less appreciative visitors to the grounds. That he ably succeeded in maintaining a smart and bright appearance throughout his charge, we took occasion to remark in the *Gardeners' Chronicle* for September 8, 1894, after a visit to the town in August last. Exhibitors and others who have attended the Wolverhampton Floral Fête can hardly have failed to observe and enjoy the genial and bright presence of this excellent gardener, who has so recently been called from a charge he so eminently fulfilled. It may be added that Mr. Thomas continued to walk about his grounds until a few hours before his death. Deceased leaves a widow and one daughter, also a widow.

SOCIETY.

PANSY AND VIOLA EXHIBITION AND CONFERENCE AT BIRMINGHAM.

May 30, 31.—This proved a conspicuous success, notwithstanding the general dryness of the ground and the great heat. But as the Tulips at the Temple Show came mainly from the north, so did the magnificent Fancy Pansies from parts of Scotland and the North of England.

Pansies.—There were six stands of forty-eight blooms so closely balanced, that the judges took a considerable time in making their awards, the 1st prize, which carried with it the Silver Medal of the Society, went to Mr. J. Smellie, florist, Busby, N.B., who had the following varieties in fine condition: Mrs. Shankland, W. H. Clark, Mrs. D. Johnstone, Jeannie P. Tait, Maggie McPherson, James Campbell, Mrs. Grossart, Mahogany, David Rennie, D. Russell, Dr. McGregor, John Taylor, Jas. Marshall, Lord Hamilton, J. S. Irvine, Mrs. Sherrard, &c. 2nd, Mr. A. Lister, florist, Rothesay, who had very fine Tom Travis, Celtic Gem, George Stewart, W. Watson, Annie Knowles, Marmion, Beauty, M. A. Scott, Tamworth, Admiral McFarlane, D. Rennie, Colonel M. R. G. Buchanan, Mrs. Travers, Miss Paterson, Romeo, &c.

There were six stands of twenty-four varieties of Fancy Pansies, and, as in the class for forty-eight varieties, the flowers were brilliant and striking. Mr. J. Sutherland, Lenzie, Glasgow, was 1st with admirable examples of J. Sutherland, J. S. Irvine, J. T. Tait, Dr. Bostock, Mrs. McDonald, Mrs. David Allan, Lord Hamilton, Mrs. D. Johnstone, John Allan, and Mr. McPhail; 2nd, Mr. A. Bailey, Jun., Sunderland.

With twenty-four show varieties, which, though shown nice and fresh, appeared to lack the quality seen twenty years ago; there were four competitors, the 1st prize falling to Messrs. W. Paul, the florists, Bridge of Weir, N.B., who had of yellow grounds, P. C. O. Boswell, Neil Turner, A. Smith, and J. McLaish; white grounds, D. C. Irvine, R. Gardner, Grace Darling, and Royal Visit; dark selfs, Dr. Inch, Harry Paul, Rev. J. Morrison, and J. T. Howard; yellow selfs, Mrs. J. Hunter, and Bella Wilson; white selfs, Bobbie Hooper, and Madeline Stewart. 2nd, Mr. A. Lister, also with some good fresh flowers.

There were six stands of six fancy Pansies in one variety, Mr. A. Lister being 1st with Col. M. R. G. Buchanan; 2nd, Mr. J. Smellie, with Edith F. Gabb. With twelve seedling fancy Pansies in six varieties, two blooms of each, Mr. J. Smellie was 1st with unnamed flowers; Mr. A. Lister being 2nd, with Alex. Andrew, Miss J. Gillespie, John McFarlane, A. H. Lister, and Col. M. R. G. Buchanan.

Violas.—For twenty-four sprays, six blooms in a spray, the Society's Silver Medal being added as an additional 1st prize, Mr. J. Smellie was 1st, having Acushla, Lord Salisbury, Dawn of Day, Mahogany, Border Witch, Mrs. Smellie, Blue Cloud, Sylvia, Mary Scott, Goldfinch, Dr. Livingstone, and seedlings 2nd, Messrs. W. Paul & Co., who had good bunches of H. M. Stanley, Wonder, Archie Grant, Edina, Iona, &c. The class for twelve sprays did not bring an entry, nor did that for twelve sprays of Miniature Violas, or for seedling Violas. The foregoing were all open classes.

Amateur's Classes.

Pansies.—There were eight stands of twenty-four Fancy Pansies. Mr. J. McFarlane, Glasgow, who had capital blooms, but unnamed; 2nd, Mr. T. Naden, Alvaston, Derby, with blooms only just inferior, having Miss J. Johnstone, Tamworth Yellow, Anak, G. Parker, Maggie McPherson, Ellen Paterson, Miss Hudson, Mrs. Lister, &c.

With eighteen varieties, Mr. T. Naden came 1st, having excellent blooms, the finest being Mrs. J. Johnstone, Tamworth Yellow, Anak, John Coutts, Lord Rosebery, Mrs. Thompson, John Lamont, &c.; 2nd, Mr. A. C. Christie.

There were seven collections of twelve blooms, Mr. J. McFarlane being 1st with unnamed flowers; Mr. T. Naden being 2nd.

With six seedling fancy Pansies, one variety, Mr. Naden was 1st, with Tamworth Yellow; and Mr. A. C. Christie 2nd, with an unnamed variety. With six seedling fancy Pansies, Mr. S. McKee, Belfast, was 1st; and Mrs. R. Lovatt, Newport, Salop, 2nd.

Violas.—With twelve sprays of Violas, six blooms in a spray, Mr. A. J. Rowberry, Woodford, was 1st, having capital examples of Craigie, Cottage Maid, Lemon Queen, Blue Gown, Countess of Hopetoun, W. Niel, Christiana, Sweet Lavender, Princess Beatrice, Duke of Fife, &c.; 2nd, Mrs. Lovatt. There was no competition in the class for six sprays, or for the same number of sprays of miniature varieties.

In the Maiden Class for eighteen varieties, Mr. J. McFarlane took the 1st prize; and Mr. H. F. Clark, Wellington, was 2nd; and the same exhibitors were 1st and 2nd with six fancy flowers. There were no exhibitors of Violas in pots, though prizes were offered for them.

Miscellaneous Exhibits.—A Silver Medal was awarded to Messrs. Dobbie & Co., seedsmen, Rothesay, for 120 sprays of Violas; and to Mr. S. Pye, Gatherall, Garstang, for the same, both being very fine exhibits. A Bronze Medal was awarded to Mr. W. Sydenham, for cut Violas and Pansies; and a special award for table decorations. To Mr R. Sydenham, for a group of plants of Uriah Pike; and also for table decorations.

First-class Certificates of Merit were awarded to Mr. A. Lister, for fancy Pansy Colonel M. R. G. Buchanan, having large dark blotches on a yellow ground; the upper petals fiery bronze and purple, large and very fine. To Viola A. J. Rowberry, a deep yellow rayless flower of fine quality, from Mr. Geo. McLeod, Chingford; and to Prince of Wales, also deep yellow, large and stout, from Mr. A. Irvine, Tigh-na-bruaich, N.B.

MARKETS.

COVENT GARDEN, *May* 30.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per dozen blooms	2 6	- 3 0
Azaleas, per dozen sprays	0 6	- 1 0
Bouvardias, p. bun.	0 6	- 1 0
Carnations, 12 blms.	1 6	- 2 6
Eucharis, per dozen	4 0	- 6 0
Gardenias, per doz.	2 0	- 3 0
Lapageria, 12 blms.	1 0	- 2 0
Lilac (French), per bunch	3 0	- 4 0
Lilies of the Valley, doz. sprays ...	0 9	- 1 6
Lilium Harrisii, per dozen	2 6	- 3 6
Maidenhair Fern, per 12 bunches ...	4 0	- 6 0
Marguerites, 12 bun.	1 0	- 3 0
Mignonette, 12 bun.	2 0	- 4 0
Pelargoniums, scarlet, per 12 bunches	4 0	- 6 0
— 12 sprays ...	0 8	- 1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	- 2 0
— Paper-white, p. 12 bun. ...	3 0	- 10 0
Orchids:—		
Cattleya, 12 blms.	6 0	- 12 0
Odontoglossum crispum, 12 blm.	3 0	- 6 0
Pyrethrums, 12 bun.	2 0	- 4 0
Roses, Tea, per doz.	1 0	- 2 0
— coloured, p. dz.	2 0	- 4 0
— yellow (Maréchals), per dozen	2 0	- 6 0
— red, per dozen	2 0	- 6 0
— (French), red, per dozen... ...	2 0	- 3 0
Iris, per doz. buns.	9 0	- 20 0
Stephanotis, dozen sprays	2 0	- 4 0
Tuberoses, 12 blms.	0 4	- 0 6

Orchid-bloom in variety

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	-30 0
— specimen, each	5 0	-15 0
Azaleas, per doz. ...	18 0	-24 0
Calceolaria, per doz.	6 0	- 9 0
Coleus, per dozen ...	6 0	- 9 0
Cyperus, per dozen	4 0	-10 0
Dracænas, each ...	1 0	- 7 6
Erica Cavendishii, per dozen ...	36 0	-42 0
— various, doz.	12 0	-24 0
Evergreen Shrubs, in variety, per dozen	6 0	-24 0
Ferns, small, doz....	4 0	-12 0
Ferns, various, doz.	5 0	-12 0
Ficus elastica, each	1 0	- 7 6
Foliage plants, doz.	9 0	-24 0
Fuchsias, per doz. ...	8 0	-10 0
Genistas, per doz.	5 0	-10 0
Heliotrope, per doz.	4 0	- 6 0
Hydrangeas, p. doz.	12 0	-18 0
Ivy Geraniums, doz.	4 0	- 9 0
Lobelia, per doz ...	4 0	- 6 0
Marguerites, p. doz.	6 0	-12 0
Mignonette, p. doz.	4 0	- 8 0
Palms, various, ea.	2 0	-10 0
— specimens, ea.	10 6	-84 0
Pelargoniums, doz.	9 0	18 0
Rhodanthe, per doz.	3 0	- 7 0
Spiræas, per doz. ...	8 0	-10 0
Stocks, per doz. ...	4 0	- 6 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cobs, per 100 lb. ...	15 0	-20 0
Figs, per dozen ...	6 0	- 8 0
Grapes, 1st quality, black, English, per lb.	2 6	- 3 0
— Guernsey ...	1 0	- 2 0
Melons, each	2 0	- 3 0
Peaches, per dozen.	10 0	18 0
Pine-apples, St Michael, each ...	3 0	- 6 0
Strawberries, morning gathered, lb.	2 0	- 4 0
„ „ 2nds., lb.	1 6	- 2 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0
Beans, per lb. ...	0 6	- 0 8
Cauliflowers, p. doz.	2 0	- 3 0
Cucumbers, per doz.	3 0	- 4 0
Mint, per doz. bun.	1 0	- 1 6
Mushrooms, per lb.	0 6	- 0 8
Peas, ordinary, lb.	0 6	-0 10
— Telephone, lb.	0 10	-1 0
Seakale, p. punnet	0 6	0 9
Tomatos, Home-grown, per lb.	0 3	0 9
— Guernsey, p. lb.	0 6	-0 7

Old Potatos.

Trade slow. Imperators, 80s. to 90s.; Bruces, 70s. to 80s.

New Potatos.

Malta kidneys 16s. to 18s.; do., rounds, 14s.; Lisbons, supplies short, 10s.; Canaries, good demand; best samples, 16s. to 18s.; small, 9s. to 12s.; Jersey Kidneys, 18s. to 20s. *J. B. Thomas.*

SEEDS.

London: *May* 29.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market bare of both buyers and business. The prolonged drought has dried up sowing orders for Clover and Grass seeds. Spring Tares offer at unusually low rates. Canary seed, owing to its strong statistical position, its meagre stocks, bad crop prospects, and judicious market operations, is steadily advancing in value. For Hemp seed, 1s. per quarter more money is asked. Rape seed, in sympathy with the improved outlook for nearly all articles, is moving upwards. Mustard also is regarded with increasing favour. Peas and Haricots this week call for no special remark.

FRUITS AND VEGETABLES.

Borough: *May* 28.—Quotations:—Carrots, 1s 9d. to 2s.; Onions, 2s. to 4s. per bag. Apples, Tasmanian, 4s. to 8s. per case.

Farringdon: *May* 30.—Quotations:—Reading Giants, Scotch, 90s to 110s.; Bruces, do., 90s. to 100s; Lincolnshire Bruces, 70s. to 80s.; do. Reading Giants, 80s. to 90s.; black-land Magnums, 60s. to 70s. per ton. New: Jersey, 18s. to 21s. per cwt.

Stratford: *May* 28.—The supply to this market during the past week has been excellent, and with a good attendance of buyers a brisk trade was done as under. Quotations: Cabbages, 2s. 6d. to 5s. per tally; Greens, 1s. 6d. to 2s. per sieve; do., 2s. 6d. to 4s. per dozen; Cauliflowers, 1s. 6d. to 2s. 6d. per dozen; ditto, 7s. to 12s. per tally; Cucumbers, 2s. to 5s. per dozen; Spinach, 1s. 6d. to 2s. per bushel; Horseradish, 9d. to 1s. per bundle; Gooseberries, 3s. to 5s. 6d. per half-sieve; ditto, 5s. to 6s. per bushel; Carrots, household, 30s. to 40s. per ton; ditto, cattle-feeding, 5s. to 17s. do.; Mangolds, 10s. to 16s. do.; Onions, Egyptian, 10s. to 12s. do.

Farringdon: *May* 30.—Quotations: Cabbages, 4s. to 6s. per tally; Bunch Greens, 3s. to 4s. per dozen bunches, Cut Greens, 1s. 6d. to 2s. per bushel; Spring Onions, 2s 6d. to 3s. per dozen bunches; Radishes, 4s. to 5s. per tally; Asparagus, 1s. 6d. per bundle; Leeks, 1s. per dozen; Carrots, 9s. per dozen bunches; Turnips, 1s. 6d. per bunches; Rhubarb, 1s. 6d. per dozen bundles; Cucumbers, 4s. per dozen; Gooseberries, 3s. 6d. per half-sieve; Apples, Tasmanians, 9s 6d to 10s. 6d. per case; Cherries, 4s. per bushel; Tomatos, English, 8s. per dozen.

POTATOS.

Borough: *May* 28.—Quotations for old ranged from 60s. to 130s. per ton; new, from 9s. to 24s. per cwt.

Stratford: *May* 28.—Quotations:—Fen land Magnums, 50s. to 60s.; light soil, do., 70s. to 100s.; light soil Bruces, 75s. to 100s.; York Bruces, 80s. to 100s; Dro'ers, 100s. to 110s.; German Magnums (Bruce), 3s. to 4s. per bag; Imperators, 1s. 6d. to 4s. 9d. per bag; Scotch Magnums, 90s. 100s.; do. Bruces, 90s. to 110s.; do. Main Crop, 100s. to 120s. per ton. New: Jersey Kidneys, 20s. to 22s.; Lisbon, do., 10s. to 12s. per cwt.

London Averages: *May* 29.—Dunbar Regents, 90s. to 130s.; Magnums, 60s. to 80s.; Imperators, 20s. to 60s. per ton. New: Jersey, 16s. to 22s.; Maltese, 16s. to 20s.; Lisbons, 9s. to 12s. per cwt.

TRADE NOTICE.

MR. J. WILLIAMS, late gardener at Penwortham Priory, Preston, and Brooklands, Garstang, has commenced business at Bowgreave, Garstang, as seedsman and florist.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending May 25.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	44	0	+ 18	+ 269	2 —	90	15·0	29	29
1	1 —	47	3	— 50	+ 417	1 +	73	8·8	20	33
2	2 —	41	1	— 17	+ 280	2 —	78	9·6	19	31
3	1 —	59	0	— 16	+ 286	2 —	70	7·5	32	35
4	1 —	65	0	— 26	+ 373	3 —	60	8·0	22	33
5	1 —	70	0	— 78	+ 333	3 —	57	6·9	34	34
6	1 +	64	0	— 19	+ 365	3 —	77	10·2	27	30
7	1 —	64	0	— 31	+ 302	2 —	67	9·6	15	32
8	1 —	69	0	— 69	+ 337	4 —	64	10·9	50	40
9	1 —	56	0	— 73	+ 275	2 —	83	10·6	41	31
10	2 —	58	0	— 111	+ 195	4 —	71	12·1	42	33
*	1 —	75	0	— 94	+ 248	4 —	75	9·4	52	46

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending May 25, is furnished from the Meteorological Office:—

"The *weather* during this period has again undergone a decided change. At first it was very cold and inclement in continuation of the conditions which prevailed at the end of last week, and slight falls of cold rain occurred in many places. Later on the conditions became gradually milder over the Kingdom as a whole, and slight thunder-storms were reported in several localities. On our east and south-east coasts, however, where dense fog was experienced, the air continued cold.

"The *temperature* was below the mean in nearly all districts, the deficit ranging from 1° to 2°; in 'Scotland, N. and W.,' however, it was 1° above the normal. The daily maxima during the early part of the week did not exceed 50° in many parts of 'Great Britain,' but by the middle of the period, the thermometer had risen considerably, and between the 22nd and the 25th the highest of the maxima ranged from 73° in the 'Midland Counties and Ireland, N.,' and 72° in 'England, S.,' to 65° in 'Ireland, S.,' and 64° in 'Scotland, N. and E.' The lowest of the minima were recorded on somewhat variable dates, and ranged from 29° in 'England, S.W.' at (Llandovery), 30° in 'Scotland, W.,' and 31° in 'Ireland, N.,' to 38° in 'England, E. and N.E.,' and to 44° in the 'Channel Islands.'

"The *rainfall* was a little more than the mean in 'Scotland, E.,' but was deficient in all other parts of the Kingdom. In most districts the fall was again extremely slight, and at some of our southern and south-western stations there was none whatever.

"The *bright sunshine* varied a good deal in different localities, but was, as a rule, very deficient, exceeding the mean in 'England, S.W. and Ireland, N.' only. The percentage of the possible duration ranged from 52 in the 'Channel Islands,' 50 in 'England, S.W.,' and from between 41 to 42 over 'Ireland,' to 34 in 'England, S.,' 20 in 'Scotland, E.,' and only 15 in 'England, N.W.'"

NOTICES TO CORRESPONDENTS.

COLOURING OF GROS COLMAR GRAPES: *Vine Grower.* Those conditions and methods of treatment which are of use in putting a good colour on other black Grapes, will be found to answer, viz., warmth during growth of 45° to 55° at the start, gradually increased to a maximum of 60° to 80° in full growth, then a descent of a few degrees as ripening approaches, not exposing the bunches to full sunshine, not over-cropping, maintaining the border in a moist condition, never flooding it or letting it get too dry, and admitting plenty of air into the vinery whenever the weather is favourable for doing so by day, and also by night in a much less degree when the weather is warm. Do not syringe the Vines when fruit is on them, or the bloom on the berries will be spoiled somewhat.

COST OF GARDENER'S REMOVAL FROM ONE PLACE TO ANOTHER: *Constant Reader.* An employer is not obliged to reimburse the gardener, either wholly or in part, the costs incurred although it is customary to do so in full. Having no agreement in writing, we do not see what you can do in the matter.

DAMPING-OFF OF CRESS IN BEDS IN THE HOUSES AND OUT-OF-DOORS: *Small Salad-grower.* It is due, probably, to sowing too thickly on over-rich soil, the evil being increased by the excessive use of water.

GLOXINIA: *L. L.* The flower you send forms a large and nearly regular cup. It is due to the fusion of four flowers, as is seen by the four styles.

GOODYEAR BOUQUET: *W. W.* It is a bouquet shaped as a shower, with ribbons of similar colour to the flowers interspersed with them, and furnished with streamers to match.

GRAPES: *J. B. N.* A very curious state of affairs, which we have occasionally met with before, in which, for some reason unknown, the seeds burst through the sides of the berry, and the seed-coats themselves become fleshy. The condition occurs as a regular thing in some Berberids, as noticed long since by Robert Brown. If you do not destroy the affected bunch, we should be glad of another specimen later on. It is so interesting, that we hope you will spare it, to see what comes of it.—*T. R.* A bad case of shanking; look to the roots; do not over-crop, or mercilessly denude the Vines of foliage at any one time. It is usually a root trouble.

HAWTHORN BLOSSOM: *W. R. A.* Cut the sprays before the blooms expand, pack in almost dry wood-moss, and place in a tin box, placing this in a wooden one.

INDIA-RUBBER PLANTS: *Nurseryman.* This plant is best struck from one and two-year-old wood, furnished with leaves. After making the cuttings, bury them head downwards in moderately moist sand, exposing the cut basal ends; and when the milky juice has dried on the surface of the cuts, insert one each in sandy loam in a 3-inch pot, and plunge in bottom-heat of 85° in a close frame, shading them during sunshine till rooted. Inure the rooted cuttings by degrees to a certain amount of ventilation, and repot when the cutting-pots are filled with roots. Watering must be cautiously done.

INSECTS: *Interested.* The creatures on the plant bug are parasitic mites (Acari) probably of the genus Hypopus. They will do no harm to plants.—*G. N.* The grubs in the Apple blossoms are the too common Apple weevil (Anthonomus pomorum). The perfect weevil hybernates in chinks in the bark, &c., and the eggs are laid in the buds in very early spring. *R. McL.*

MANURE FOR FORE-COURT TREES: *F. S.* Fresh lime, bone-meal, nitrate of soda, and liquid drainage from the stables and cow-sheds, would be found of use, slightly pricking-up the surface before applying any of these. They should be applied as far as the roots are supposed to extend. The bone-meal may be liberally used; nitrate of soda, three dressings during growth, of about 2 oz. to the square yard; lime 1 lb. to the same area; liquid-manure sufficient to penetrate the soil a yard in depth; not afforded just as it comes from the stables, but diluted with 100 per cent. of water.

MYOSOTIS: *A. R.* Both excellent varieties, highly coloured, free-flowering. No. 1 is the more vigorous, and the flowers are rather larger, and richer in colour.

NAMES OF PLANTS: *J. E. J.* Saxifraga granulata, double fl. var.—*Lindsay, Bury.* Cattleya Mendeli, a poor variety.—*W. S. L.* Epimedium species; send when in bloom.—*W. H. C.* 1, Anthericum lineare variegatum; 2, Omphalodes verna; 3, Veronica gentianoides; 4, Symphytum atropurpureum; 5, Phlox setacea var.; 6, Tiarella cordifolia.—*W. B.* Æsculus (Pavia) flava, native of Virginia. Caterpillar next week.—*G. F. W.* Andromeda floribunda.—*J. S.* Both varieties of Centaurea montana. Divide by parting the root, or save the seed.—*T. W. B.* Sedum carneum variegatum.—*D. T.* Trollius europæus, Globe-flower.—*C. H. J.* 1, Saxifraga granulata, double fl.; 2, Polemonium cœruleum; 3, Spiræa prunifolia, double fl.; 4, Saxifraga hypnoides. Others next week.—*J. M.* Varieties of Primula cortusoides Sieboldi.—*W. J. P.* 1, not found; 4, Magnolia acuminata; 2 and 3, next week.—*F. M.* 1, a variety of Laburnum alpinum; 2, next week.

NURSERY TENANT: *Justice.* The customary period of time allowed to clear saleable nursery stock depends in a measure on the season when the holding is given up. It is usual to include the two more suitable transplanting seasons, viz., autumn and spring—or say, one year or under, as the case may be.

PEACH LEAVES: *A. S.* The silver leaf disease, for which there is no known cure. The plant is Centaurea montana.

PEAS: *J. E.* Your Peas are affected with a fungus, Pythium de Baryanum. We fear you can do nothing effectual. Burn the plants, to prevent a similar attack next year, and do not grow Peas on the same soil.

STOPPING TOMATO PLANTS IN HOUSES: *Nurseryman.* The length of stem allowed will depend on the length of rafter or height of the house. There is no hard-and-fast line about stopping the growing point. If you keep them to one stem, stop the lateral shoots at a leaf or two from the base, and let the stem run to any convenient length. Stopping the lead is a certain way of producing a lot of side-shoots and discouraging extension of the roots. This may not be of much moment where the plants are cultivated in pots; but in borders if the roots do not occupy the soil pretty fully there is danger of the latter souring from an excess of water present in it.

THE BIGGEST CEDAR OF LEBANON IN BRITAIN: *F. G. M.* One of the largest which exists, for all that we know to the contrary, is in the gardens of the Archbishop of Canterbury, Addington Park, Croydon, but we are unable to give the dimensions. Perhaps some of our correspondents will kindly afford enquirer the girth and spread of head of some large specimens of this species of Cedar.

TOMATOS: *C. M.* The plants are suffering from the "sleepy-disease," caused by a fungus called Fusarium Lycopersici, Sacc. Remove and burn at once all plants that are attacked, being careful to get up the roots, then sterilize the soil in which the plants grew with quicklime to prevent the spread of the fungus in the bed. *G. Massee.* [An illustrated article on this subject will probably appear in our next issue.]

TWIN CUCUMBER: *A. B.* The specimen you send with a photograph is not uncommon. Two flowers start together in juxtaposition, and as they grow they become united.

VINES: *A. K. D.* The green blisters are warts, generally indicative of heat and a stuffy, damp atmosphere. Give more air.

WEIGHT OF CROP OF GROSS COLMAR AND ALICANTE GRAPES, &c.: *Vine Grower.* That will depend on the vigour of the Vines, and if long spur or short spur pruned. It may range from 25 lb. to 40 lb. on the latter, on the former it is anything the Vines could carry without distress, and with good bunches, fine colour, ample, firm, stout foliage, &c. Manure-water may be afforded thrice during the season. Do not put much into the soil in solid form, unless you intend to grow Vines for selling the produce, wearing them out in half-a-dozen years; then it does not matter, the border being renewed when new Vines are planted.

WOODLICE AND CRICKETS: *M. H.* To rid the houses of the first-named, pour boiling water into all crevices and likely hiding-places, doing this in the evening, when they usually come out in great numbers. Place small pots stuffed loosely with damp hay about in the houses, and empty them every morning into the garden furnace. To catch crickets employ common treacle in saucers, into which they will get, and stick fast. These simple methods, if followed up, will greatly thin the pests. There is a beetle-trap with a glass-top, into which crickets may be enticed with a bait, and out of which they cannot escape.

COMMUNICATIONS RECEIVED.—C. H., Vines (next week).—Roslyn (next week).—Raspberry (next week).—D. Allester.—E. M.—Fisher, Sibray & Son.—Hurst & Son.—Lymington.—East Anglia.—F. M.—W. S. T.—H. T.—W. S. T.—Major B.—W. B.—C. H.—J. E.—S. Mottet, Paris.—W. J. B.—C. N.—W. T.—W. S.—Visitor.—F. S.—S. Pickering.—E. D.—M. T.—J. J. W.—T. W.—R. Gilbert.—E. M.—F. Son & S.—A, B.

PHOTOGRAPHS RECEIVED WITH THANKS.—Visitor (later on).—W. T. T. D.—S. M.

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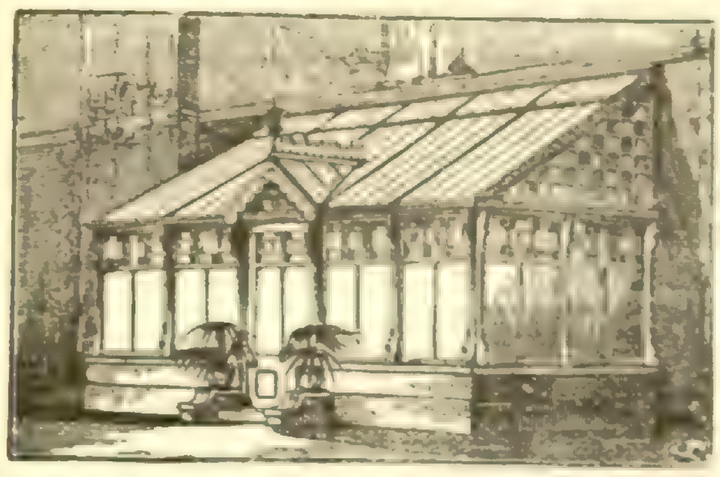

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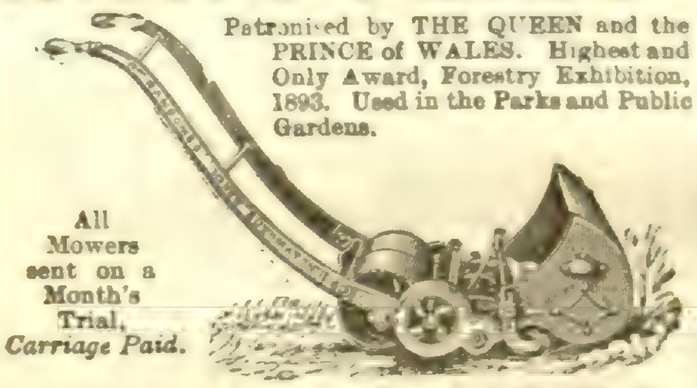

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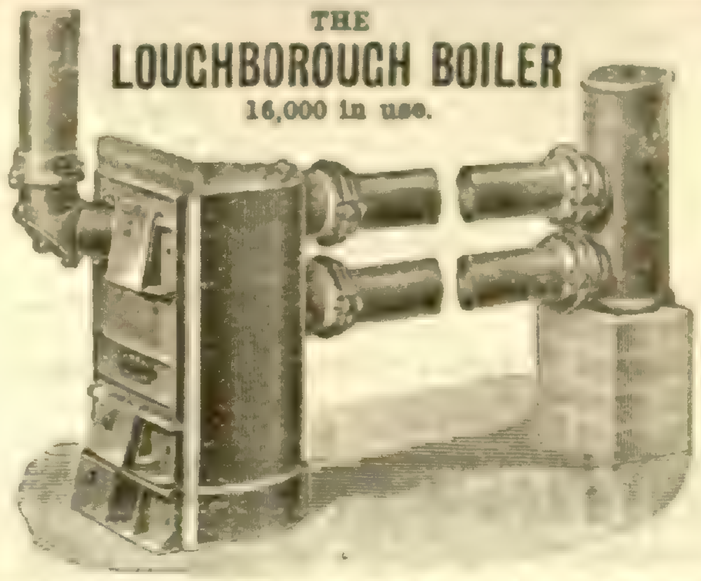

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The immense sale of this Boiler, and the numerous imitations of it sent out in recent years, afford abundant testimony to its undoubted success.

Secure the *Original Pattern only* from the inventors.

No. 1, £2 15s.; No. 2, £4 5s.; No. 3, £5 15s.; also larger sizes. Estimates for complete apparatus. Also illustrated lists and copies of testimonials on application.

MESSENGER & CO., Loughborough, Leicestershire.

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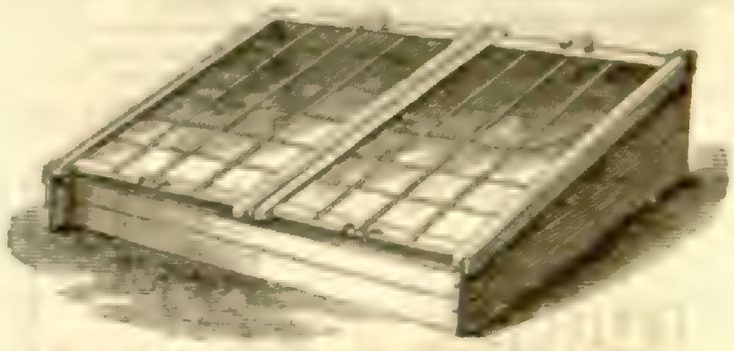
OUR WELL KNOWN MAKE.



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These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft...	CASH	2	0	0
2 ,, 8 ft. by 6 ft...		3	0	0
3 ,, 12 ft. by 6 ft...	PRICES,	4	2	6
4 ,, 16 ft. by 6 ft...		5	5	0
5 ,, 20 ft. by 6 ft...	CARRIAGE	6	7	6
6 ,, 24 ft. by 6 ft...	PAID.	7	10	0

Larger sizes at proportionate prices.

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ROYAL HORTICULTURAL WORKS,

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WARE & SONS' FLOWER POTS

Telegrams: Pottery, Uckfield.

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Estab. 1770

ARE THE BEST.

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Hundreds of Testimonials.

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HORTICULTURAL G.S.F.S. GLASS SHEET

STOCK SIZES—in inches.

12×10	14×12	18×12	16×14	20×14	20×16	24×16	12×18
14×10	16×12	20×12	18×14	20×15	22×16	20×18	24×18

21-oz. Foreign, of above sizes, 100 and 200 feet boxes, 3rds and 4ths qualities, always in stock. **15-oz.** Foreign similar current sizes in 200 feet boxes.

English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.

PROPAGATING and CUCUMBER GLASSES, &c.

PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.

PIT LIGHTS, cheap line of **21-oz.** 200 feet, 9 inches by 7 inches, and 10 inches by 8 inches.

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AND FOR ALL GLASS STRUCTURES THAT REQUIRE SHADING.

It combines efficiency with appearance, convenien e with economy, and its effects are lasting, while it is easily removed when necessary with hot water. It can be supplied either pale green or grey.

The public are warned against spurious imitations which are offered them, through the success obtained for many years by Elliott's "Summer Cloud" Shading, and they should see that in ordering they get the "Summer Cloud," which is the only original and bonâ fide article, with the Trade Mark on each packet.

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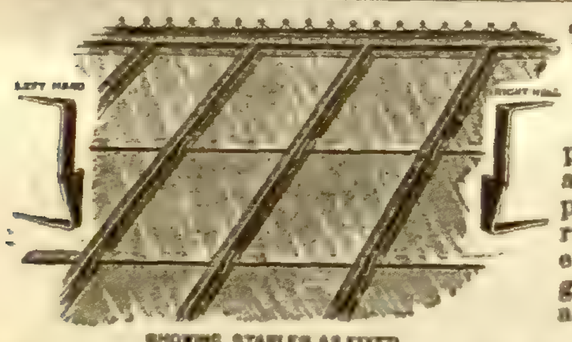

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Broken panes replaced instantly, and without top putty. Will not rust. Practically everlasting. Sample gross assorted right and left hand, sent post-free, 1/9.

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The BEST LAWN MOWERS

ARE THE

"INVINCIBLE"

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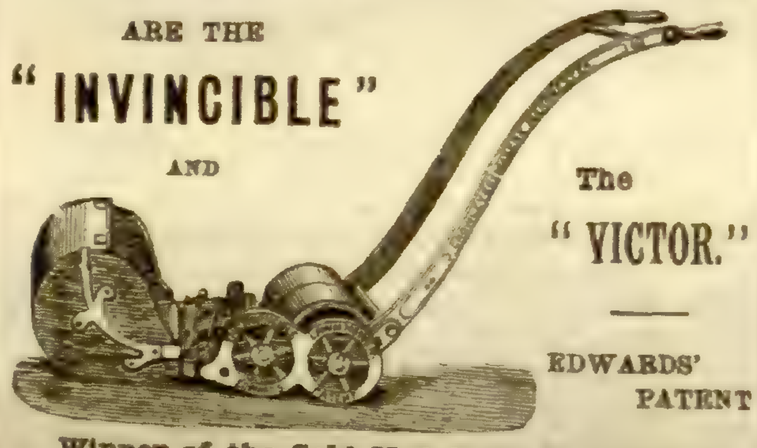

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A Customer writes:—"Dear Sirs,—You will be pleased to hear that after 20 years' use the 24-in. 'Invincible' Lawn Mower I had from you does its work better than when we first had it. As to the 14-in. I have not wanted to alter a screw since we have had it, now 4 years."

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CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

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1 Cwt., and Oil Mixture, Free to all Stations.

Liquid Non-Poisonous Paint for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

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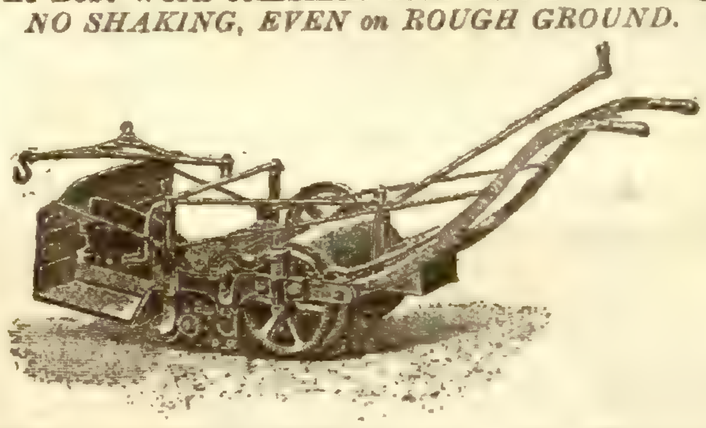
FITTED with PATENT AXLE SPRINGS.

A GREAT BOON TO GARDENERS AND ALL USERS.

The Best Work combined with Ease in Working.

NO SHAKING, EVEN on ROUGH GROUND.



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HAND MACHINES, driven by Chain or Gear, and Fitted with Springs.

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Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36*s.* 6*d.*; 2-light frame, 6 × 8, 58*s.*; 3-light frame, 12 × 6, 85*s.* 6*d.*

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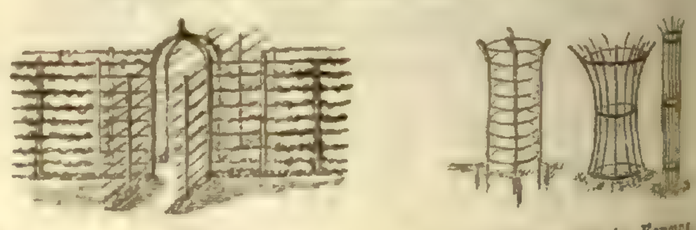

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Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

"SLUGICIDE," "SLUGICIDE."—CERTAIN DEATH to SLUGS, Fertiliser to Soil, perfectly harmless to plants and domestic animals. The greatest boon to gardeners yet invented.

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For Greenhouses. Cheap, safe, and always effective for Green fly, Thrip, &c. Used in nearly all the large establishments in England.

Price 1s., enough for 1,200 cubic feet, carriage paid. Refills for 3 tins, 2s. 6d. Everyone should try them. Held under a Gooseberry bush every caterpillar will be on the floor in less than a minute.

Manufacturer—E. G. HUGHES, Victoria Street, Manchester.
Sold by all Seedsmen.

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Price £3 10s per ton, in bags. Lots under 10 cwt., 4s per cwt.; 1 cwt. sample bag sent carriage paid to any station in England, on receipt of P. O. for 5s. Extracts from 19th Annual Collection of Reports:—

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The best Fertiliser for all purposes. Sold in tins, 1s., 2s. 6d., and 5s. 6d.; also in air-tight bags. ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neots, Hunts.

"12, Knowle Road, Brixton, London.

"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.

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The Cheapest, Most Simple, and Best Fumigator in existence. A Liquid Compound simply Evaporated from a Small Copper Cup by the Agency of a Spirit Lamp.

Prepared in Bond, from Duty-Free Tobacco, by Special Permission of the Hon. Board of H.M. Customs.

One Fumigation with this clears houses of insects for double the length of time that can be accomplished by the use of any other Fumigator. Note the remarkable saving of expense:—

Compound

For using in the Fumigators.

Bottle.	Enough for cubic feet.	s.	d.
No. 1	40,000 ..	24	0
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No. 3	10,000 ..	6	6
No. 4	5,000 ..	3	3

PATENT.

Fumigators

(Will last for Years).

To do 5,000 cubic feet of space at a time, 2s. each.

To do 2,000 cubic feet, 1s. 9d. each.

*** *Showing a cost for fumigating of only 8d per 1000 cubic feet of space.*

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THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at Home and abroad.

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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

"EUREKA" WEED KILLER.

Safe, Effective, and Cheap.

There is no risk of poisoning Birds or Animals if directions are followed when applying this preparation. Guaranteed to clear all weeds; mixes at once; no sediment; leaves the paths bright and clean, without stains.

½-gall., 1s. 9d.; 1 gall., 3s. (tins included).
2 gall. drums, 2s. 9d. per gall.; 5-gall. drums, 2s. 6d. per gall.; 10-gall. drums, 2s. 3d. per gall.; 40 gallons at 2s. per gall.
Double Strength, Mixes 1 to 80.

Sample Half Gallon Tin post free for stamps, 2s 6d.

ONLY ADDRESS:—

TOMLINSON & HAYWARD,

MINT STREET CHEMICAL WORKS, LINCOLN.
Wholesale London Agents:—
OSMAN & CO., 132, Commercial Street, E.
Ask your Chemist or Seedsman for this make.

NICOTINE SOAP.

(Introduced 1870).

Manufactured in Bond, free of Duty.

Greatly improved in make and strength.

PRICES LARGELY REDUCED.

Nothing can equal it for the eradication of all insect pests that affect plants, and it is a boon to fruit-growers. It thoroughly cleanses without the slightest injury to foliage or young fruit.

In stone bottles, the original size, 1s., 2s. 6d., 5s.
In drums, 12 lb., 13s. 6d.; 28 lb., 25s.; 56 lb., 50s.

To be had of the SEED and NURSERY TRADE generally.
Manufacturers: CORRY AND CO., Ltd., London.

CLAY'S FERTILIZER

LONDON

TRADE MARK.

They are used by Leading Growers, Royal Botanic Society, Royal Horticultural Society, Royal Parks, London County Council, throughout the United Kingdom, and in every quarter of the globe.

UNSURPASSED FOR CHRYSANTHEMUMS, VINES, ROSES, AND All HORTICULTURAL PURPOSES.

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Sold by the trade in 6d. and 1s. Packets, and SEALED BAGS:—
7 lb. 2s. 6d. 14 lb. 4s. 6d.
28 lb. 7s. 6d. 56 lb. 12s. 6d.
112 lb. 20s. Or direct from the Works, Carriage paid in the United Kingdom for Cash with order (except 6d. Packets).

Crushed Bones, Peruvian Guano, Sulphate of Ammonia, Nitrate of Soda, and other Manures. Tobacco Cloth and Paper. *Best Qualities only. Prices on Application.*

CLAY & SON,

Manure Manufacturers, Bone Crushers, &c.,
Temple Mill Lane, STRATFORD, LONDON, E.

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TRADE MARK.

AQUAMORTIS THE WEED KILLER

Over SIX THOUSAND CASKS sold Annually
PRICE 2/- PER GALLON.
TO BE HAD ONLY OF Andrew Potter
MAKER TO WOLVERHAMPTON THE QUEEN

THE BALLIKINRAIN
ANT DESTROYER.
AN INFALLIBLE REMEDY.

(*See "Gardeners' Chronicle," May 25, page 657*).

In Bottles, 2s. 6d. and 3s. 6d. each.

To be had of all Nurserymen and Seedsmen; or from the Sole Makers,

ALEX. CROSS & SONS,
19, HOPE STREET, GLASGOW.

RICHARDS' NOTED PEAT.
(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.

G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

ORCHID PEAT.
THE FINEST OBTAINABLE.

For particulars apply to—

D. CAMERON, Forester's Lodge, Mount Mascal, Bexley, Kent.
SPECIAL TERMS TO THE TRADE.

Genuine Scotch **TWEEDS.**

St. Ronan's SUIT LENGTH 12/6

Where to get them direct at Makers' Prices, saving 30 to 40 per cent. Parcels carriage paid. Patterns post-free, to be returned within seven days. Mention this paper. Unequalled for selection & style. Serges, Trouserings.

Marmion	15/-
Ivanhoe	18/6
Leithen	19/6
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Ettrick	23/3
Yarrow	24/3
Teviot	25/6

Tod Porteous & Co., Innerleithen, N.B.

ESTABLISHED 1851.

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TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

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STOCKS and SHARES purchased and sold.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

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HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

GARDENING APPOINTMENTS.

MR. THOS. TROLLOPE, formerly Gardener at Hulse Lodge, Dartford Heath, Kent, has succeeded Mr. B. HOPE (deceased), as Head Gardener to the Earl of JERSEY, Middleton Park, Bicester, Oxfordshire.

Mr. T. WILD, for the last four years Gardener and Bailiff to BAILEY DAWKIN, Esq., at Houndswood, St. Albans, as Gardener and Bailiff to the same gentleman, at Stagenhoe Park, Welwyn, Herts.

Mr. W. BUTTON, until lately Gardener to Sir HENRY PETO, Bart., at Fleet House, Weymouth, has removed with Sir HENRY, to Chedington Court, Crewkerne, Somersetshire.

Mr. GEO. ORMISTON, late of Gatton Park, Reigate, as Gardener and Forester to Lord MONTAGUE, Ditton Park, Slough.

Mr. WILLIAM SUTTIE, late Foreman at Norton Hall Gardens, Daventry, as Head Gardener to Miss BRAND, of Wylnefield, near Dundee, N.B.

Mr. JAMES INGLIS, Foreman in the Gardens of Sir Thomas Erskine, Bart., Cambo House, Fife, has been appointed Head Gardener to Major LAULMAN, The Nunnery, Douglas, Isle of Man.

Mr. ALEXANDER FARQUHAR, Craigcrook Castle, Midlothian, as Head Gardener to R. GRAHAM MURRAY, Esq., M.P., Stinton, Dunkeld, Perthshire.

WANTED, a SINGLE-HANDED GARDENER, with assistance (for Herefordshire).—Must thoroughly understand Flowers and Kitchen Gardens. Wife must be a very good Laundress, and able to undertake family's washing.—Write wages, and all particulars, to R. S. O., Willing's Advertisement Offices, 162, Piccadilly, W.

WANTED, as GARDENER, one able to attend to Conservatories, and willing to look after Horse and Trap, and make himself generally useful. Furnished Cottage, salary, and commission. Must have good character and ability.—Apply, Mr. KING, 240, Lewisham High Road, S.E.

WANTED, by a Gentleman's Son who has had six years' practical experience in high-class London and Provincial Nurseries, and at the Royal Gardens, Kew; a HALF SHARE in an OLD-ESTABLISHED BUSINESS, one making specialites of Florists' Flowers, Herbaceous Plants, Hardy Flowering Shrubs, Bulbs, &c., preferred. A responsible post in such a Nursery would be accepted for a time at a reasonable salary with a view to a future partnership in the concern.—W. P., 41, Wellington Street, Strand, W.C.

WENMAN, Hickleton Gardens, Doncaster, THANKS ALL APPLICANTS for Foreman's place, and begs to say he is SUITED.

WANTED, a HEAD WORKING GARDENER.—Not under 30 or over 40; well up in Grape, Peach, and Flower Growing, under Glass, and Outside.—Apply, personally preferred, 18, Highbury Grove, N.

WANTED, a HEAD and SECOND GARDENER. Must be steady, active Men. Apply, stating experience, references, and wages asked (a cottage is supplied in each case) to L., La Poudretterie, St. Martin's, Jersey.

REQUIRED by a Gentleman who grows Fruit, &c., for the London Market, an UNDER-GARDENER, who is thoroughly acquainted with Kitchen-Garden Work, Pruning Trees, &c., and who will do Inside work when required. He must be a thoroughly honest, polite, and hard-working man, in good health, and married, without children, and must have first-class references; age, about 40. Wages 18s. a week, and 2s. 6d. lodging. In the event of his giving satisfaction, and doing work to increase the profits over and above the expenses, he would have a share in the surplus.—Address COLONEL SCOTT, Forest Lodge, Farnborough, Hants.

WANTED, an UNDER-GARDENER.—Strong, active, young. Understanding Kitchen Garden and Pleasure-grounds. Able to Milk. Gentleman's place. Bothy. Good character. State age and wages required. Give references. Send copies only of testimonials.—Address, T. J. EDWARDS, Esq., Toksowa House, Dulwich Common, London.

WANTED, an UNDER GARDENER, married; one accustomed to work under Glass. Wages 16s. per week with Cottage and Garden.—Apply, stating particulars to HEAD GARDENER, Ham Hall, Ashbourn, Staffs.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

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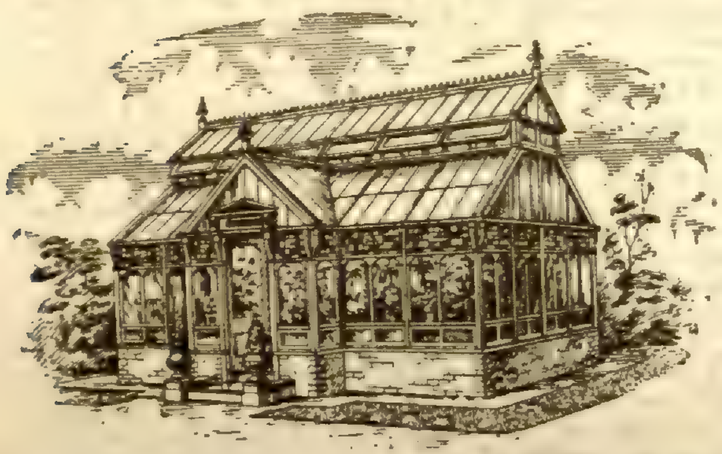

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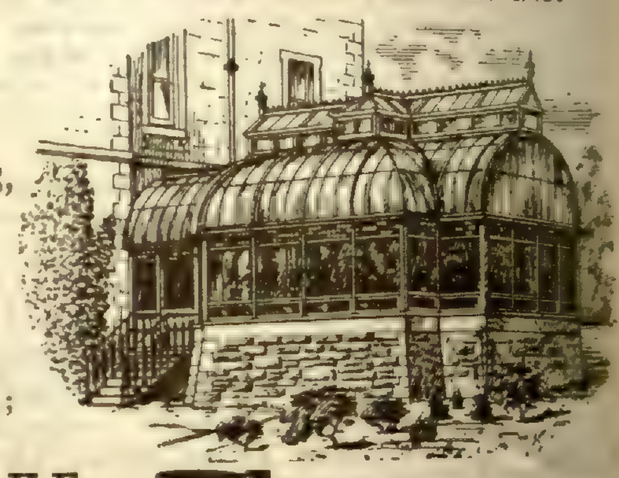

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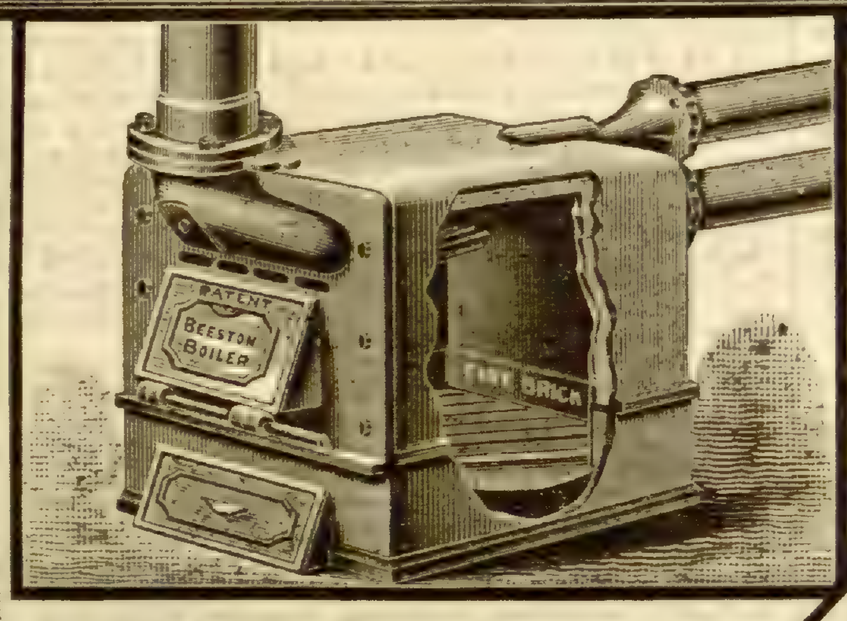

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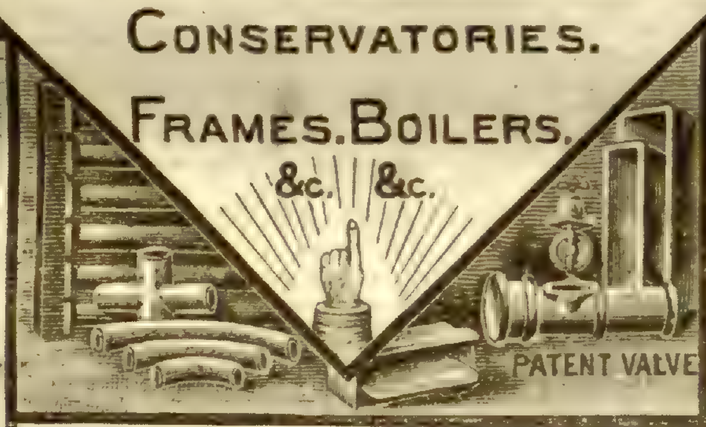

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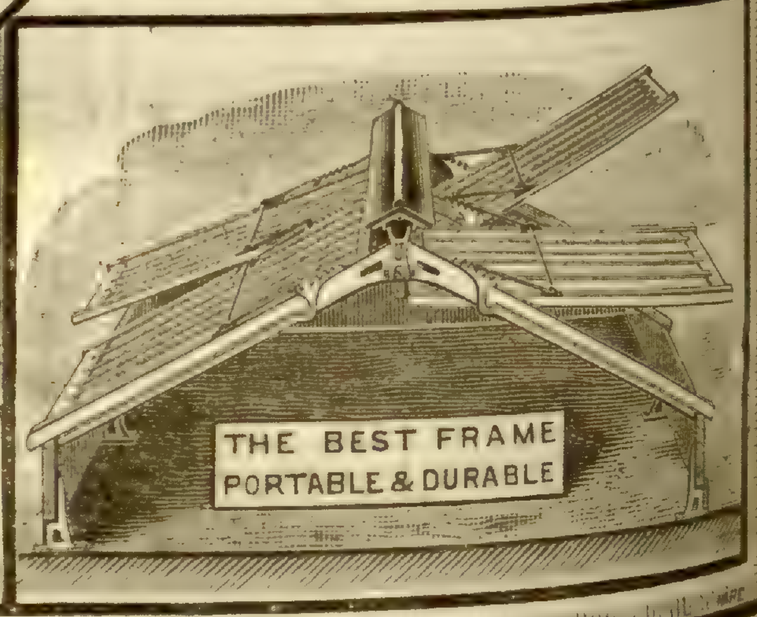

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

PRIMULA—THE LADY.—Never has there been such a distinct, useful, elegant and easily-grown variety as this, it grows naturally into a lovely pyramidal shape, 18 inches to 2 feet high, thickly set with pretty white flowers, and which are freely produced throughout the winter; it is quite different to the ordinary kinds. Figured in the *Gardeners' Chronicle*, and is spoken of by all as an acquisition—sow now. Also all our other kinds, together with our splendid strain of CINERARIAS, Single and Double, 1s., 1s. 6d., and 2s. 6d. per packet.
H. CANNELL AND SONS, Swanley, Kent.

The Best Present for a Gardener.

VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5s.; post free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

1,000,000 DRUMHEAD CABBAGE PLANTS, 2s. 6d. per 1000; Myatt's Offenham, 2s. 6d.; Drumhead SAVOY, 2s. 6d.; Covent Garden BRUSSEL, 2s. 6d.; Veitch's Autumn Giant CAULIFLOWER, 4s.; Early London, 4s.
W. HORNE, Cliffe, Rochester, Kent.

For Present Sowing.

SUTTON'S PERFECTION CALCEOLARIA.—The finest strain in existence. Price of seed, per packet, 5s. and 3s. 6d., post free.

SUTTON'S CALCEOLARIA, "CLOTH OF GOLD."—A pure golden yellow self coloured Calceolaria, of robust yet compact habit, with immense trusses of flowers of the largest size. Price of seed, per packet, 5s. and 2s. 6d., post free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

PRIMULAS! PRIMULAS! PRIMULAS!
20th year of Distribution.
Williams' Superb Strain, 1s. 6d. per dozen; 10s. per 100.
CINERARIAS, same price; also DOUBLE WHITE PRIMULAS, 6d. each. Package and Carriage free for Cash with Order.—JOHN STEVENS, The Nurseries, Coventry.

BEGONIAS, Double and Single, for Bedding.
Extra superb in quality. Selected large tubers. Also for Conservatory and Exhibition. Descriptive CATALOGUE free.
B. R. DAVIS, Yeovil Nurseries, Somerset.

NARCISSUS.—Grand Monarque Narcissi, and the large-flowering Jonquil, Campernelli, exceptionally fine home-grown Bulbs, at very low prices.
T. GRELL, Week Farm, Ventnor, Isle of Wight.

Petroleum! Petroleum!! Petroleum!!!
BRILLIANT ILLUMINANT.
In casks, carriage paid, 5½d. per gallon.
ANDREW POTTER, Melbourne Works, Wolverhampton.
Maker to the Queen and Prince of Wales.

CHOICE FLOWER SEEDS.—Dicksons superb strains of Cinerarias, Gloxinias, Primulas, all saved from the most perfect flowers only. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s., free by post.
DICKSONS, Seed Growers, Nurserymen, &c., Chester.

PALMS, CORYPHAS and LATANIAS from Stores. 10s. per 100. Cash or exchange for Carnations, Dahlias, or Bedding Geraniums.
F. ROSS & CO., Merstham, Surrey.

ROSES.—About 25 extra strong plants of Maréchal Niel Roses, 10 to 12 feet high, price 3s. 6d. each, worth 10s. 6d.; 50 smaller ones, 3 to 4 ft. high, 10s. 6d. per doz. 50 Teas, in variety, in 4½-inch pots, 6s. per doz. For cash with order.—T. WALMESLEY, The City Seed Stores, Lichfield.

HUMEA ELEGANS.—Strong healthy plants.
Price on application.
B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

BOUVARDIAS.—Best Market varieties; Vreelandii, Mrs. R. Green, P. Cleveland, &c., our selection in eight or ten sorts, 2s. 6d. per doz., 12s. per 100; £5 per 1000. Well-rooted stuff fit for 60's. Cash with Order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

WANTED, Large and Small Plants of Ficus elastica variegata, Cuttings of Euonymus japonica variegata, Stock Plants of Pennsettia pulcherrima alba and P. p. plenissima; young Seedlings, in 60's, of Asparagus plumosus nanus, Cuttings of Hydrangea japonica and H. Thos. Hogg; also Cuttings of Geraniums Rospall and West Brighton Gem.—State quantity, and price for cash, to—
G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, near Uxbridge.

NOW is the TIME to PLANT PYRETHRUMS, GAILLARDIAS, DELPHINIUMS, and CANNAS. Catalogue of KELWAY AND SON, Langport, Somerset.

GRAPE VINES.—Colmar, Alicante, &c. Fine one-year 7-feet canes, now breaking. Would plant out of pots successfully. Low price.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

COLEUS "MRS. F. SANDER."—Fine plants of the above distinct variety, in 48-pots, 12s. per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, near Uxbridge.

IRISH IVIES IN POTS.
Fine strong plants, good foliage.
4 to 5 ft., 12s. ... 5 to 6 ft., 18s. ... 6 to 7 ft., 24s. per doz.
7 to 8 ft., 30s. ... 8 to 10 ft., 36s. ... 10 to 12 ft., 42s. ...
The large sizes are in 24's and 16's, smaller sizes in 32's pots.
Packing free for cash with order.
W. FROMOW AND SONS, Sutton Court Nurseries, Chiswick, London, W., also Acton Green, Hounslow and Bagshot.

CALADIUMS.—Laing's Gold Medal Collection of these beautiful foliage plants is the finest and best in the world. The collection is now worth inspection. Visitors cordially invited. Descriptive Catalogue post-free.
JOHN LAING AND SONS, Caladium Growers, Begonia and Clivia Specialists, Nurserymen, &c., Forest Hill, S.E.; and Catford, Kent.

GRAND CONTINENTAL ZONAL, MADAME JULES CHRETIEN.
The most distinct and beautiful continental variety yet in commerce. Centre of flower white, encircled with intense violet-blue, edged with very bright red. Dwarf compact habit, and very free. Excellent for winter blooming.
Strong plants, 1s. each, 10s. per dozen.
WILLIAM POTTEN, Camden Nurseries, Cranbrook, Kent.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 8s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

WREATH, CROSS, and BOUQUET BOXES, PROPAGATING TRAYS, &c.
HORTICULTURAL TIMBER MANUFACTURER.
Prices on application to—
EDWARD TAILBY, 76, Summer Row, Birmingham.

CARNATIONS! New Malmaisons!!—
MRS. EVERARD HAMBRO, deep carmine rose.
PRINCESS MAY, rich deep rose.
SIR CHARLES FREEMANTLE, rich deep rosy-pink.
SIR EVELYN WOOD, pale pink, freely striped deep rose.
The above 5s. each, now ready in fine plants.
THE CHURCHWARDEN, scarlet, will be ready in September 5s. each.
SEEDLING CARNATIONS, 3s. 6d. per doz.; 25s. per 100.
CARNATION and PICOTEE SEED, 2s. to 3s. 6d. per packet.
Catalogues, post-free, from—
JAS. DOUGLAS, Edenside, Great Bookham, Surrey.

BEESON'S MANURE,
Crushed Bones and all High-class Fertilisers,
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

GISHURST COMPOUND, used since 1850 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

FRIDAY NEXT.

IMPORTANT SALE

OF

POPAYAN TRIANÆS,
GARDNER'S OLD LABIATA,
ONCIDIUM TIGRINUM,
DENDROBIUM NOBILE, &c.

Every plant offered of a small but probably the finest consignment of this grand type of Cattleya Trianæ ever offered, including sixteen plants specially described by our collector. This is the gigas among Trianæs, both in the enormous petals and Tyrian purple of the broadly-fringed labellums. Also about 100 specially grand imported plants of—

GARDNER'S LABIATA.

This is, perhaps, the finest of all the geographical forms of the true old Labiata, and the only variety with the enormous Cattleya Warnerii-like flowers, often 9 inches across, and borne as many as six on a spike. Every plant is offered, together with a splendid lot of the true old large-flowered, free-blooming

ONCIDIUM TIGRINUM,

in superb condition, and fine masses. Also—

DENDROBIUM NOBILE,

From the Lang Tang Mountains.

ODONTOGLOSSUM CITROSMUM, O. GRANDE,

O. INSLEAYI VAR. SPLENDENS,

Leopardinum, &c., probably among those offered.

DENDROBIUM JOHNSONIÆ.

Fifty fine growing plants of the great white Laelia-like Dendrobe.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

500 plants of this superb free-flowering Dendrobe.

The above, together with numerous other fine ORCHIDS, will be SOLD by AUCTION by

MESSRS. PROTHEROE AND MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 14, at half-past 12 o'Clock.

Catalogues may be had, and the Plants viewed, on the morning of the Sale.

Friday Next. Another Property.

96 AËRIDES FIELDINGII, 31 SACCOLABIUM AMPULLACEUM, 61 CYPRIPEDIUM INSIGNE, 55 DENDROBIUM FREMANII, 50 D. FIMBRIATUM OCCULATUM, 1 D. NOBILE, and 53 D. JENKINSII, received direct from India; also some extra fine imported plants of

CATTLEYA GIGAS IMPERIALIS.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, June 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

THE BEECHCROFT COLLECTION

OF ORCHIDS.

UNRESERVED SALE of the important COLLECTION of ESTABLISHED ORCHIDS formed by the late H. HOLLIS, Esq., of Beechcroft, Edgbaston, near Birmingham. By order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY and THURSDAY NEXT, June 12 and 13, at half-past 12 o'Clock precisely each day, this important COLLECTION of ESTABLISHED ORCHIDS, remarkable for their splendid culture and fine health. The whole are in excellent condition, and comprise 1300 ODONTOGLOSSUM ALEXANDRÆ, from the principal importations of recent years, 100 DENDROBIUM NOBILE, 100 DENDROBIUMS of sorts, 80 DENDROBIUM PHALÆNOPSIS SCHRODERÆ. Also the following:—

Lælia anceps alba
" " Sanderiana
" " stella
" elegans, in variety
" purpurata, fine plants
" grandis tenebrosa
" autumnalis alba
" harpophylla
Dendrobium nobile nobilius
" " Cooksonii
" Leechianum
" Wardianum album
" rubens
" seedlings
Cypripedium nitidissimum
Cattleya labiata, fine variety
" Trianæi
" gigas Sanderiana
" Mendeli
Cattleya Warocqueana
" Mossiæ
" aurea
" Harrisoniæ
" Skinneri alba
" Rex
" Schroderæ Beechcroftense
Epidendrum vitellinum
Cymbidium Lowii
" giganteum
Odontoglossum citrosmum
" grande
" Pescatorei
" tentaculatum
Oncidium Rogersii
" crispum grandiflorum
Coelogyne Massangeana
" cristata alba

The plants may be viewed morning of each day's Sale, and catalogues obtained of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—Messrs. Protheroe & Morris having made a personal inspection of this Collection, can strongly recommend all Orchid Buyers to attend this Sale. It is seldom that such a well-conditioned lot of plants comes under the hammer.

The late Proprietor made a practice of weeding out all inferior forms, and although there may be but few plants of exceptional value, the varieties generally are of a superior kind, and their healthiness beyond question.

Pewsey, Wilts.

Re John Fletcher Mould in Bankruptcy.

CLEARANCE SALE of EXHIBITION PLANTS and OTHER STOCK IN TRADE, certain GREENHOUSES and EFFECTS, by order of the Official Receiver in Bankruptcy.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Pewsey, Wilts, on TUESDAY NEXT, June 11, at 1 o'Clock precisely, without reserve, the whole of the well-known

EXHIBITION PLANTS,

which have been so successfully shown at various shows in the country. They comprise fine Specimen and Half-specimen Ericas, 100 Azalea indica and A. mollis, Eucharis, Imantophyllums, Lapagerias, Palms, in variety; Cycas revoluta, Dipladenias, Allamandas, Clerodendrons, Bougainvilleas, Ixoras, Anthuriums, grand plants of Kalosanthes coccinea, about 50 Orchids, in variety; Specimen Rhododendrons, many thousands of young NURSERY STOCK, consisting of Laurels, Firs, Forest Trees, 40,000 Quick, Fruit Trees; also, 2 GREENHOUSES, 40 feet and 23 feet in length respectively, with Piping, Brickwork, and Boilers; EXHIBITION-VAN, 16 feet by 8 feet; FLOWER-POTS, Garden and other SEEDS, SCALES and WEIGHTS, and other Effects.

May be viewed the Saturday and Monday prior to Sale. Catalogues may be had on the Premises, of E. HOBBS, Esq. (Messrs. Hobbs, Ravenscroft & Co., Chartered Accountants); the Trustees, Jewry House, Old Jewry, E.C.; of CHARLES BUTCHER, Esq., Solicitor, 30, Wood Street, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Guildford, Surrey (near). The Normandy Manor Estate, occupying one of the most Charming Positions in the county, adjoining Wanborough Railway Station, five miles from Guildford, four from Aldershot, three from Bisley Camp, and one hour's journey from Waterloo.

MESSRS. PROTHEROE AND MORRIS (in conjunction with Messrs. MUMFORD AND BOND), will SELL by AUCTION, at their Cheapside Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, June 28, at Two o'Clock punctually, in 16 Lots, the exceedingly Valuable FREEHOLD ESTATE, embracing the Normandy Manor, Claygate, and Robinson's Farms, together with the Manor House, two Homesteads, the Manor Nurseries and Orchard, with 16 Modern Greenhouses, two Dwelling-houses and Outbuildings, several choice Building Sites, three Fruit Plantations, a capital Lake on Normandy Common, and a number of enclosures of very Fertile Arable and Rich Meadow Land, the whole containing about 270 Acres.

May be viewed by cards obtainable of the Auctioneers. Particulars, plan, and conditions of sale may be had at the principal Hotels in Guildford, of Messrs. PARROTT, Solicitors, Aylesbury, Messrs. PYKE AND PARROTT, Solicitors, 63, Lincoln's Inn Fields, W.C., Messrs. MUMFORD AND BOND, Auctioneers and Surveyors, Brill, Bucks, and Thame, Oxon, and of Messrs. PROTHEROE AND MORRIS, Auctioneers and Land Agents, 67 and 68, Cheapside, London, E.C.

Springfield, near Chelmsford.

UNRESERVED SALE of the Collection of ESTABLISHED ORCHIDS, STOVE and GREENHOUSE PLANTS, formed by the late Edward Jex, Esq., by order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Springfield Dukes, Springfield, near Chelmsford, about 1 mile from the town of Chelmsford, on TUESDAY, June 18, at 1 o'Clock precisely, the Collection of ESTABLISHED ORCHIDS, in all about 200 lots, including Cypripediums, Cattleyas, Dendrobiums, Lælias, Odontoglossums, Masdevallias, Oncidiums, Lycastes, many varieties of each species; also Vanda Sanderiana, and others, together with the STOVE and GREENHOUSE PLANTS, consisting of Eucharis, Hibiscus, Hoya carnosa, Allamandas, Clerodendrons, Davallias, Palms and Ferns in variety, Chrysanthemums, Lilies, &c.

May be viewed. Catalogues may be had on the Premises, of G. C. LEE, Esq., Solicitors, 13, Old Jewry Chambers, E.C., and of the Auctioneers, 67 and 68, Cheapside, London E.C.

SALE, near MANCHESTER.

THE BROOMFIELD COLLECTION

OF ESTABLISHED ORCHIDS.

By order of M. WELLS, Esq.

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Broomfield, Sale, near Manchester, on WEDNESDAY and THURSDAY, June 26 and 27, 1895, at 12 o'Clock precisely each day, the above Collection of ESTABLISHED ORCHIDS, remarkable for the large number of species of exceptional merit and rarity, some being unique. The whole of the plants are in the best possible health.

May be viewed the day prior to the Sale, or earlier by special card to be obtained of the Auctioneers. Catalogues may be had of Mr. Hind, the head gardener, on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Thursday Next.

IMPORTANT SALE OF ORCHIDS.

By order of Messrs. F. SANDER & Co.

A Collection of beautifully-grown Hybrid Cattleyas, DENDROBIUMS, and CYPRIPEDIUMS, comprising many varieties and fine specimens.

Also an Importation of Orchids from Borneo, and another from Central America, just received, in fine condition.

A Collection of Established Orchids, chiefly in Flower and Bud, from various private sources.

An Importation of the Rare Cyrtopera flava, just to hand, in fine order.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 13, at half-past 12 o'Clock precisely,

On view morning of Sale, and Catalogues had.

Thursday, June 20.

SHOREHAM PLACE, SHOREHAM, KENT.

MR. J. C. STEVENS will SELL by AUCTION on the Premises as above on THURSDAY, June 20, at half-past 12 o'clock precisely, the SHOREHAM PLACE COLLECTION of well-grown ORCHIDS and STOVE PLANTS, including many splendid varieties: comprising Cattleya Trianæ alba, and other certificated varieties, a grand plant of Odontoglossum Uro-Skinnerii, fine varieties of Lælia purpurata, Phalænopsis amabilis and Schilleriana, Oncidium macranthum, also a large number of Odontoglossums, including a special fine plant of Coronarium, O. Leucoglossum, special varieties, and 100 Crispums; a grand lot of Eucharis amazonica in splendid order, and the Stove and Greenhouse Plants.

May be viewed the day prior and morning of Sale, and Catalogues had on the Premises, and of the Auctioneer at his Great Rooms and Offices, 38, King Street, Covent Garden.

Park House, Edgbaston Park Road, Birmingham.

IMPORTANT SALE of SPECIMEN STOVE and GREENHOUSE PLANTS, ORCHIDS in FLOWER, CHRYSANTHEMUMS, &c.

MESSRS. POPE AND SONS have received instructions from Mrs. Marigold to SELL by AUCTION, on the Premises, as above, on WEDNESDAY NEXT, June 12, at half-past 11 o'Clock prompt, the whole of the very fine specimen STOVE and GREENHOUSE PLANTS, including a grand specimen Kentia Fosteriana, 12 feet high; 3 specimen Latanias, 8 to 10 feet across; a large specimen Cocos plumosus, 14 feet; Araucaria excelsa, 6 feet; 3 specimen Dicksonias, 3 specimen Allamandas, 2 specimen Bougainvilleas; also specimen Clerodendrons, Stephanotis, Crotons, Ericas, Phœnocomas, Adiantum, &c.; Ferns in variety, Ixoras in variety, 60 Crotons in variety; 25 Caladiums, in variety, Anthuriums, Aralias, Eulalias, Panconas, Asparagus, &c., 300 Maidenhair Ferns, 300 finest-named Chrysanthemums, &c.; also a Collection of ORCHIDS, chiefly in Flower or bud, including Cattleyas, Oncidiums, Cypripediums, Masdevallias, Dendrobiums, Epidendrums, Lycastes, &c.

On view day before and morning of Sale. Catalogues now ready, and may be had from the Auctioneers, at their Offices, 6, Phillips Street, Birmingham.

WANTED, to Rent, near Country Town, North of London preferred, a SMALL NURSERY, in good going order, with good Cottage of seven or eight rooms and outbuildings. Low rent and ingoing moderate. Partnership might be arranged. State full particulars to—
W. R. NORTHFIELD, Albury, Surrey.

FOR SALE, a small NURSERY, FLORISTS and JOBBING GARDENER'S BUSINESS. Five Greenhouses heated by Hot-water, &c. Stock and Trade. A reasonable offer accepted.—W. H., Park Row Nursery, Greenwich.

FOR SALE, an Old-established SEED and BULB BUSINESS, situated in a Northern Town, well known, good connection, present Proprietor retiring. Capital opening for an energetic man. Terms moderate.
H. X. H., 41, Wellington Street, Strand, W.C.

NURSERY GROUND.—26½ Acres, close to a station, only 11 miles from London. Long frontage to the Railway; good soil; away from the smoke. Price, Freehold, £100 per acre.
DEBENHAMS, Land Agents, 80, Cheapside, E.C.

FREEHOLD LAND, suitable for Nurseryman.—High, S.W. aspect; good water; two Cottages; Outbuildings. Thirty-nine Acres, £16 per acre. G.E.R. station, 2 miles.—B., Myrtle Villa, Hornchurch, Essex.

FOR SALE, a FREEHOLD NURSERY and BUSINESS.—This valuable Nursery to be Sold as a going concern, situated about 14 miles from Covent Garden, in the S.W. district. It contains over 5 acres of Land (gravel subsoil), 26,972 sq. ft. under Glass, comprising 2 large Vineries, with 400 Vines in full bearing; Tomato, Cucumber, Forcing, and other Houses; a Mushroom Shed, 240 ft. × 12 ft., with 2 tiers of beds; a large Potting and Store Shed, a Packing Shed, and Office, &c. The whole in thorough repair, and completely stocked with every convenience for largely extending the Business. Part of the Purchase-money can remain on mortgage. For further particulars, apply to—
J., 12, Claremont Road, Surbiton, Surrey.

FOR SALE or PARTNERSHIP, a valuable and promising FRUIT and VEGETABLE NURSERY, at Southend-on-Sea, Essex, held on favourable terms, and consisting of about 8 acres of excellent Land, of which 3 acres are Market Garden Ground, and containing 6000 yards of Asparagus beds, about 4000 Fruit Trees, 3000 Gooseberry and Currant Trees, well cropped; with Potatos, Peas, Onions, &c., 300 young Nursery Stock, ready for sale; and Glasshouses for Tomatos, Cucumbers, Grapes, Peaches, &c.

For further particulars, apply to Mr. A. A. TIMBRELL, Solicitor, 24, Martin's Lane, E.C., or to Mr. C. T. WILKINSON, Solicitor, Town Hall Chambers, Stratford, E.; or to Mr. HENRY TETHER, The Park Nurseries, Park Road, Southend-on-Sea, Essex.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Florists.—Good Opportunity.

DESIRABLE LEASE of extensive well-known Premises, covering about 2 Acres; 18 large Glasshouses, besides Pits, planted with Tomatos, Cucumbers, Beans, Chrysanthemums, Asters, &c.; also two large Houses fine Camellias. Price £150.—Apply to Mr. DELL, High Street, North Finchley.

CAPITAL OPPORTUNITY for a GARDENER with small capital and of temperate habits, £1 per week, with Cottage, Stable, and one or two Acres of Land, must invest £200, for which Interest and Security will be given.—Address A. R., Messrs. Willing's Advertisement Offices, 162, Piccadilly, W.

THE CELEBRATED

XL ALL VAPORISING FUMIGATOR.

The Cheapest, Most Simple, and Best Fumigator in existence. A Liquid Compound simply Evaporated from a Small Copper Cup by the Agency of a Spirit Lamp.

Prepared in Bond, from Duty-Free Tobacco, by Special Permission of the Hon. Board of H.M. Customs.

One Fumigation with this clears houses of insects for double the length of time that can be accomplished by the use of any other Fumigator. Note the remarkable saving of expense:—

Compound

For using in the Fumigators.

Bottle.	Enough for cubic feet.	s.	d.
No. 1	40,000 ..	24	0
No. 2	20,000 ..	13	0
No. 3	10,000 ..	6	6
No. 4	5,000 ..	3	3

PATENT.

Fumigators

(Will last for Years).

To do 5,000 cubic feet of space at a time, 2s. each.

To do 2,000 cubic feet, 1s. 9d. each.

*** *Showing a cost for fumigating of only 8d. per 1000 cubic feet of space.*

The following is a Specimen from hundreds of Testimonials:—

From Mr. A. P. WILLIAMS, Draycot Stow Park, Newport, Mon.

"I purchased, through Mr. Chambers, Florist, Isleworth, one of your XL ALL Vap. Fumigators, and found same exceeded my most sanguine anticipations. In fact, it excels your description of its merits. I would not be without it for anything."

Beware.—Inferior imitations of the Compound are reported to be in the Market.

Every label on the bottles and tins of the genuine article bears my Registered Trade Mark, No. 175,113, with Vine-leaf and Monogram. When this is not on the label the compound is not genuine. Don't be imposed upon, and probably have your plants destroyed or injured.

To be had from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or, direct from the Sole Proprietor.

PRICE LIST POST FREE.

G. H. RICHARDS, OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.

The "NEW EASY"

LAWN MOWER.

LIGHTEST RUNNING AND CHEAPEST ROLLER MACHINE.

THE LARGEST SIZE (24-INCH) EASILY WORKED BY ONE MAN.

Unexcelled Durability. *Made in all Sizes from* 10 *to* 24 *inches.*

UNSOLICITED TESTIMONIALS

Trelissick, Truro, March 4, 1895.

GENTLEMEN,—Twelve years ago I purchased the first "Easy" Lawn Mower. Since then I have had several machines from you, and it is only due to you that I should tell you how entirely satisfactory they have all proved. I have for several years worked two of your 24-inch machines fastened together, drawn by a mule, and worked by a man with long reins, and it is astonishing the amount of work they got over. In my opinion, the "New Easy" is the most easy draught, the simplest, and cheapest Lawn Mower extant.

WM. SANGWIN.

CUTS 24 INCH EASY.

UNSOLICITED TESTIMONIALS

The Gardens, Laleham House, Staines, June, 1894.

GENTLEMEN,—We have had "The Easy" now for six years, and it has done its work well, and easily worked by our man. I sharpen it once or twice a year, otherwise it has never been out of use, and never wanted repair.

THOS. ANDERSON.

The Gardens, Ravelston Black Hall, Midlothian, March 5, 1895.

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D. JARDINE.

Biggar, August 29, 1894.

GENTLEMEN,—The "Easy" Lawn Mower I got from you seven or eight years ago has been a splendid machine.

ROBERT BOA.

Churwell, Leeds, August, 1894.

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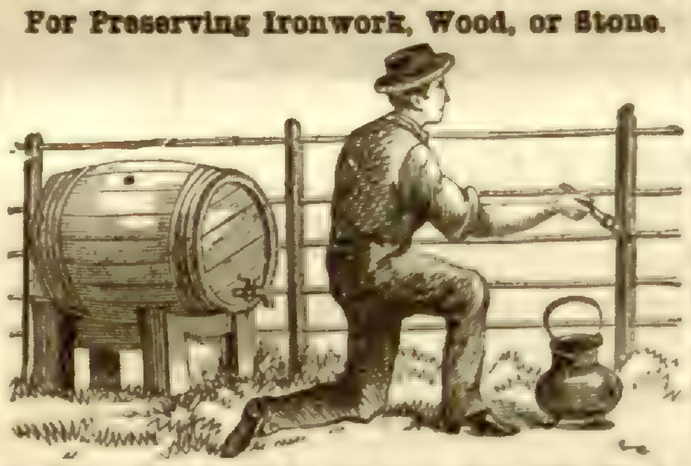

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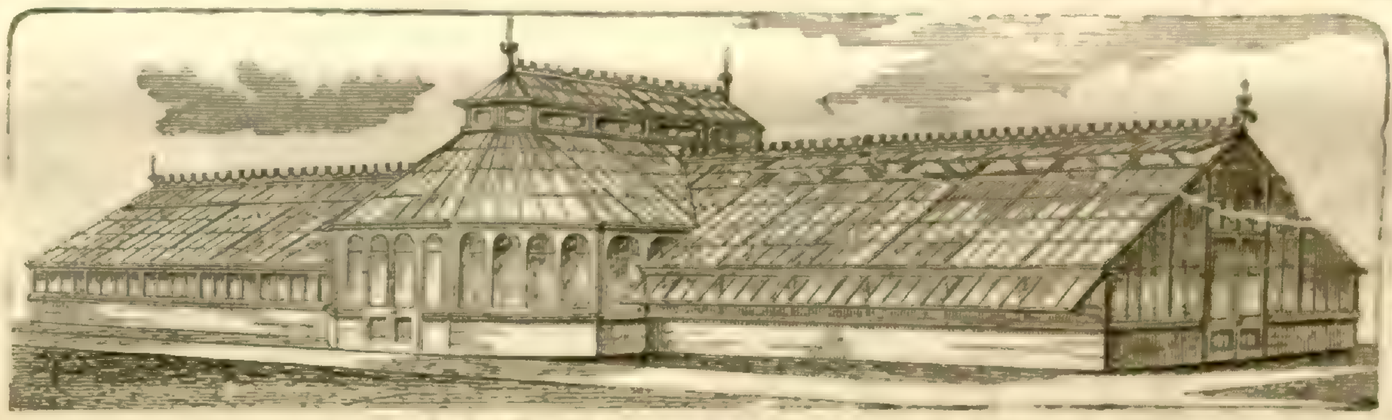

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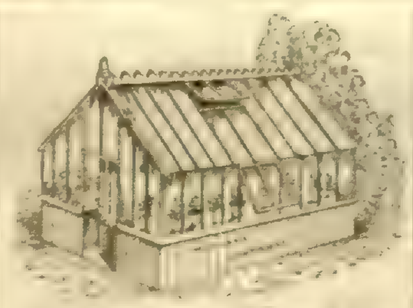

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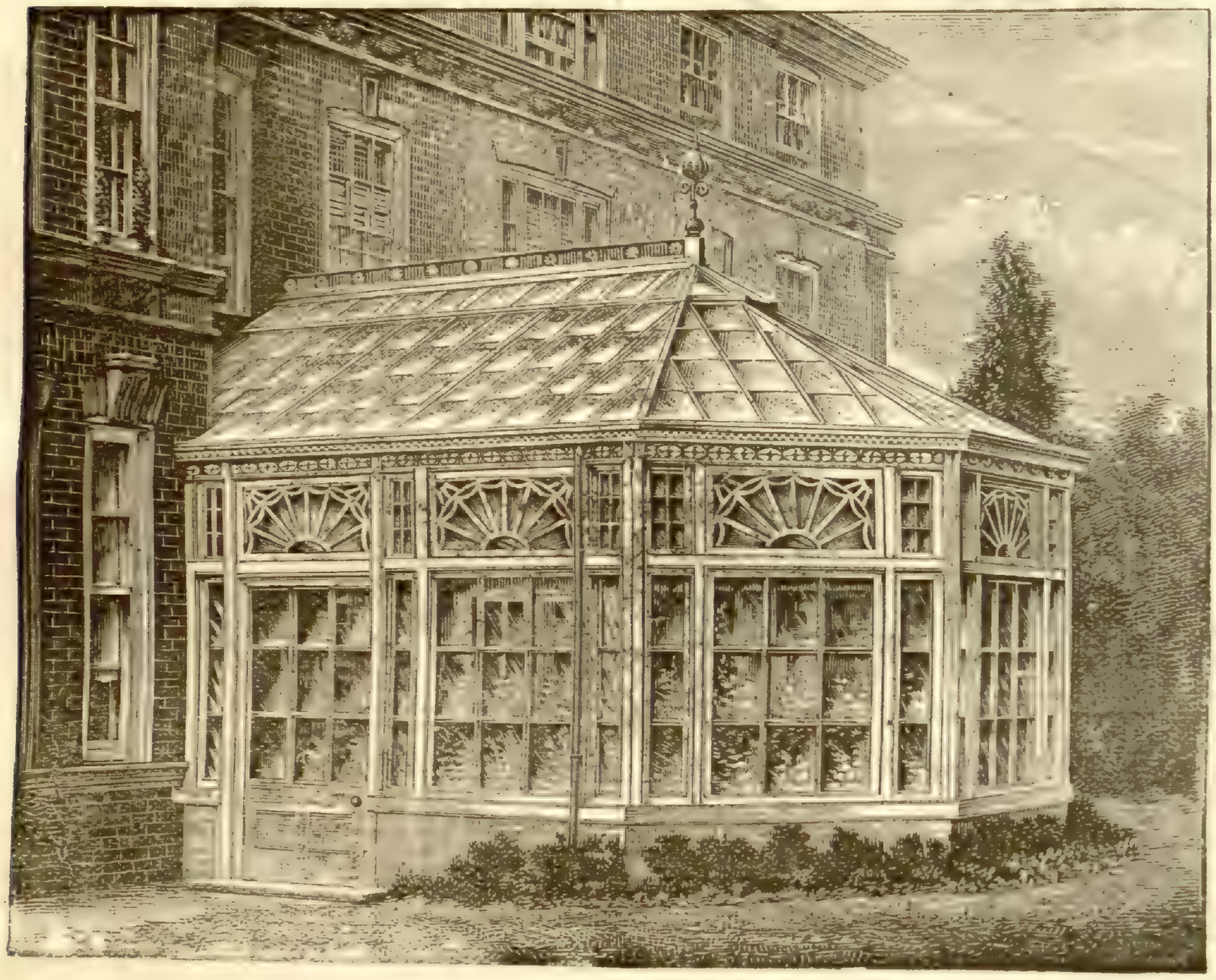

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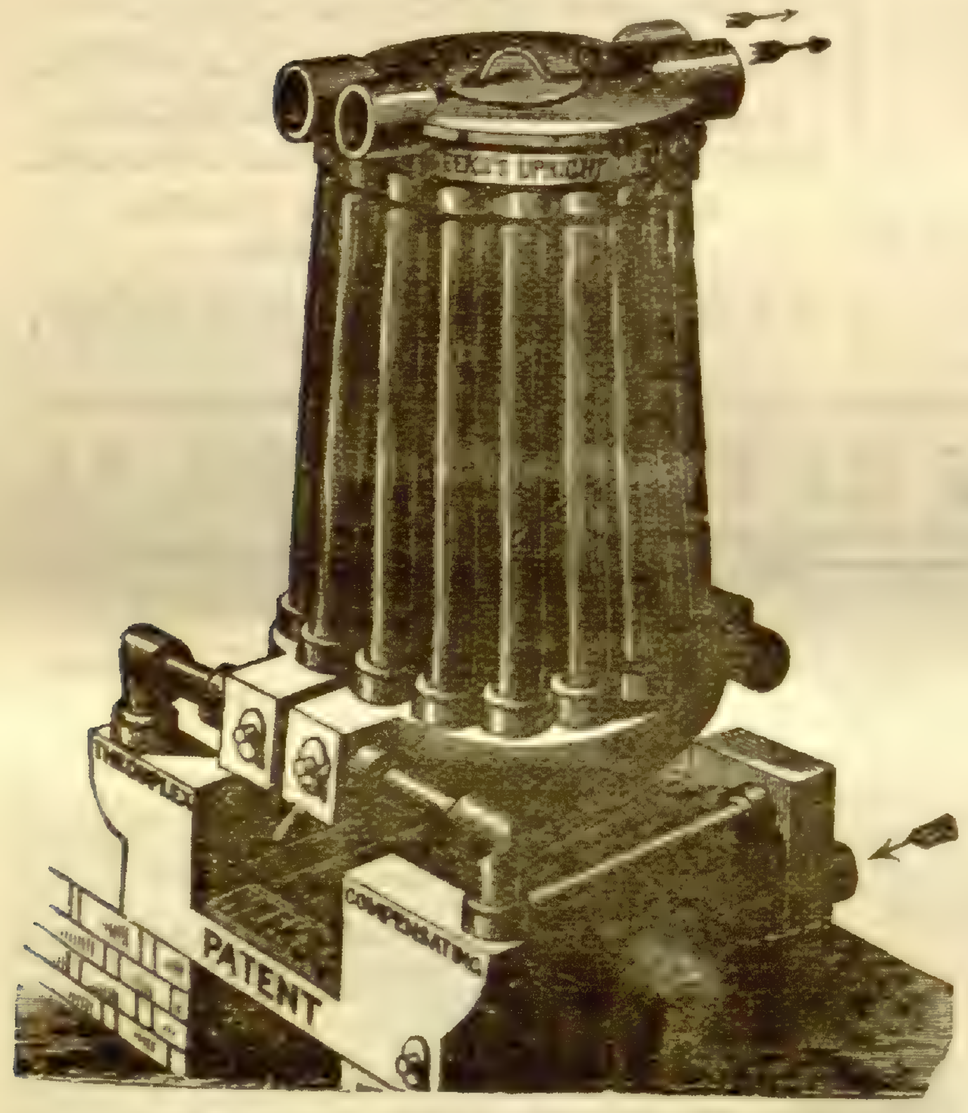

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THE
Gardeners' Chronicle.
SATURDAY, JUNE 8, 1895.

THE "SLEEPY DISEASE" OF TOMATOS.

DURING the past two or three seasons a Tomato disease, far more destructive than any of the many diseases previously known as attacking the Tomato, has been noted in widely-separated localities in Britain, although the head-quarters of the disease appear to be in Guernsey and the Isle of Wight. As a rule, the plants are attacked while quite young, but the outward evidence of the disease does not usually manifest itself until the plant is full grown, or even not before the fruit is set. The first indication that a plant is diseased is shown by the drooping of the leaves, which increases day by day, often accompanied by discoloration. If at this stage the root of the plant is split, the woody portion is seen to be of a dingy yellowish-brown colour, which becomes more marked after the root has been out open for half a day. The above characters are the sure signs of the presence of the disease, and all such plants should be removed and burnt at once, as they have reached the condition of being able to communicate the disease to adjacent, healthy plants. The disease is caused by a minute fungus—Fusarium Lycopersici, Sacc.—whose life-history is as follows. Certain resting-spores of the fungus, present in the soil in which the young Tomato roots are growing, germinate and give origin to very delicate hyphæ or threads of mycelium; these hyphæ, on coming in contact with the young Tomato rootlets, attack the outermost layers of living cells, and soon find their way into the vessels of the root, which they gradually fill with a weft of hyphæ which spreads to the adjoining elements of the vascular bundles, causing the discoloration already alluded to. By degrees, the hyphæ of the fungus gradually grow up the stem, following the course of the vascular system, ultimately passing into the leaves and the fruit. The progress of the fungus up the stem of the Tomato can be readily determined by the discoloration of the vascular system caused by the parasite. When a plant has been attacked for about three weeks, the lower portion of the stem is usually more or less covered with a very delicate white bloom; this appearance is due to the presence of numerous fruiting branches of the fungus which have pushed through the decaying tissues of the stem for the purpose of producing their conidia or reproductive bodies at the surface, where they are readily dispersed when mature by wind or rain, or artificially during the process of syringing or watering the plants. In structure the fruiting branches described above agree

with a genus of fungi called Diplocladium (fig. 103), and will, in future, be called the Diplocladium stage of the Tomato fungus, which produces three forms of fruit at least. The Diplocladium stage usually lasts for about a week, at the end of which period the Tomato stem has become very much decayed, especially near the root, and is then usually studded with more or less effused, subglutinous patches, which are at first whitish in colour, becoming pale dingy orange at maturity. If a portion of this gelatinous mass be examined under the microscope, it is seen to consist of myriads of crescent-shaped spores as shown in fig. 104; these represent the conidia of the second or Fusarium stage of the fungus.

Finally, the mycelium that has produced the Diplocladium and Fusarium stages of the fungus in succession at last bears numerous resting-spores (fig. 105), which tide the fungus over the winter, and until young Tomatos are again present, when the cycle of development of the fungus is renewed. The resting-spores, or chlamydospores, are produced on the hyphæ running in the tissues of the decaying stem, and not on its surface, as was the case with the two previous stages. Fig. 105, A, shows the formation of chlamydospores on the hyphæ; B, a mature free chlamydospore; C the same germinating, and producing the first or Diplocladium form of fruit. The resting-spores, as before stated, are present in the soil, and attack the roots of young Tomatos, hence the importance of removing all diseased plants before the resting-spores are formed, as these pass into the soil when the Tomato roots, where they are principally formed, decay. It is not sufficient to simply pull up the diseased plants, but all the rootlets should be removed, as these are the parts first attacked by the fungus, and consequently contain the most matured hyphæ, and being surrounded by soil, the usual conidial stages are not produced, consequently the resting-spores are developed in greater quantities than in the above-ground parts of the plant.

It is somewhat remarkable, and contrary to the general rule, that the conidia of the rapidly maturing summer phases of the fungus—Diplocladium and Fusarium—whose function is to effect the spread of the fungus, should be unable to attack the living tissues of the Tomato, but such is the case, the conidia of both forms germinate only as saprophytes, growing readily on rich humus, manure, &c., the conidia of the Diplocladium on germination, producing the Fusarium, the hyphæ finally forming resting spores in the soil, the Fusarium conidia giving origin to its like and resting-spores on the hyphæ; thus both stages, after extending their area during the summer months, agree in producing resting-spores in the soil, which renew the cycle of development by germinating and attacking young Tomatos during the spring following their formation.

Fusarium Lycopersici was first described by Saccardo in 1882, from Italian specimens, growing on decaying Tomatos, but was not at that time connected with a disease.

Summary.

From what has been said, it will have been gathered that the germinating resting-spore is the only condition of the fungus capable of attacking the Tomato; hence the characteristics of the disease—drooping of the leaves in succession from the base of the plant upwards, and the discoloration of the wood in the root—should be thoroughly grasped, and plants promptly removed and burnt, on presenting the first symptoms of the disease. By this means the formation of resting-spores in the soil would be prevented. On the removal of a diseased plant from a bed, the soil should be thoroughly mixed with quick-lime, which destroys any mycelium or resting-spores left in the earth.

Spraying with a fungicide is of no avail, as the roots are first attacked, and the parasite is internal.

As much lime as the plants will allow should be mixed with the soil in which Tomatos are grown, more especially if the plants are grown during successive seasons in the same beds. If the plants in a house are badly attacked, all the soil should be removed, and the walls, &c., sterilised by applying a wash of lime.

Finally, the infected soil removed from a bed should not be thrown out at random, but should be sterilised by mixing with quicklime, otherwise the resting-spores present might find some other suitable host-plant, and thus furnish a new and unexpected centre for the diffusion of the disease. All the figures are magnified 450 times. *G. Massee.*

KEW NOTES.

The Rockery in May.—To those interested in hardy species of plants suitable for planting on rockeries, a visit paid to the Royal Gardens during the month just passed cannot have been otherwise than instructive and of much interest. Mention of a few of the most striking features that I saw there recently may enable some readers of the *Gardeners' Chronicle* to add a few notable plants to their present collection of these plants, there is such an advantage in looking over the rockery at Kew as compared with so many other gardens in the matter of names, the plants being so correctly labelled.

As might be supposed, the Saxifrage family is fully represented, and many interesting species were in blossom. One of the best is S. lantoscana, of the ligulata type; the racemose-like flower-stems lie flat, the pure white flowers being turned upwards, and the plant very compact in growth—seen in a mass as there, it is a charming plant. Saxifraga Hostii is also of lowly growth, although the flower-spikes are fully 1 foot high; the petals are of a dull white, with minute pink spots on each of the five petals. S. Cotyledon, with its handsome curving raceme of white flowers on footstalks 1 to 1½ foot high, is a very effective plant; S. altissima is of tall growth, the bright and red spot on each of the petals add to its attractiveness; S. cuneifolia subintegra is interesting; S. hypnoides (Eve's cushion), where low dense growth is required, is worthy of attention; S. caryophylloides produces blooms that are large individually, with a yellow centre; the stems 9 inches high. It is a very conspicuous plant. Many more species might be named, but the above struck me as being the best then in flower. A mass of the pale golden-yellow foliage of Lamium maculatum aureum formed a striking object. Ranunculus aconitifolius, although generally regarded as a somewhat common plant, is, as seen here, well worthy of a place on a rockery. R. uniflorus, with straw-coloured petals, and anthers of a deeper shade of yellow, had a pleasing effect. R. grandifolius with its single flowers of a rich yellow colour, was 3 feet high. A mass of blood-red foliage, 1 foot in height, revealed Polygonum spærostachyum. Symphyandra Wanneri has much resemblance to Canterbury Bells in the shape of its flowers; its height is about 9 inches, and the mauve-purple coloured flowers are produced so as to form a mass. Mertensia sibirica, reaching 15 inches high, with its pale blue flowers, is a decidedly showy subject. Chrysogonum virginianum, with flowers of orange-yellow colour set on petioles 1 foot high, was extremely showy, as seen in a mass. Epimediums are capital subjects for the rockery, especially those with foliage richly tinted, as in the case of E. macranthum and E. rubrum, the former growing 6 inches high, and the latter a trifle higher, and very showy with its golden-blotched leaves edged with dull red. Spiræa Ulmaria aurea produces a rich patch of golden-yellow in the midst of its neighbours by its leaves alone. Geum miniatum, having orange-red flowers on stalks 1¼ foot high, is a telling plant. Especially varied in the colour of the flowers was a group of Primula japonica luxuriating in one of the damper parts of the rockery. P. involucrata, pure white, with flower-stems 1 foot in height, was likewise a conspicuous object. Silene melandriformis, a single-flowered, pure white form of the Catchfly. Noccæa alpina (Hutchinsia), with its pure white flowers, growing but 4 inches high, has the foliage of an Arenaria, a capital plant where low or dense growth is a desirable feature.

Anemone patens is the counterpart of A. fulgens in habit of growth and form of flowers, excepting in the colour of the latter, which is pure white; it forms a showy effective group. Helianthemum oelandicum is a low-growing rock Cistus, with yellow flowers. Campanula excisa is springing up in a thick mass, although at one time this species was thought not to be hardy. Cheiranthus mutabilis, with its bronze-yellow flowers, attracts attention, owing to their singular colour. It would be difficult to find a more striking plant than Alyssum saxatile when grown as here, in masses of about 3 feet square. Iberis sempervirens Garrexiana, a Candian species, is just the plant for suspending over a projecting rock, its dense evergreen leaves forming quite an effective setting for the pure white flowers. Amongst Symphytums, S. tuberosum, which grows from 2 to 3 feet in height, is one of the more showy, and the dull white drooping blossoms are produced with freedom. Phlox stellaris is a mass of mauve-like coloured flowers, and effective, as is Aubrietia Leichtlini, with its deep rose-coloured flowers and dense growth. Rubus sericeus, planted on the top of a high point in the rockery, was showing its lengthy, profusely-flowered branches, which at this season make a pretty display. Erodium macradenium, with its abundant Parsley-like foliage and small Geranium-like blooms, formed a showy mass. A delicate pink-coloured patch was made by plants of the best of the evergreen Candytufts, I. gibraltarica. Solomon's Seal is not a common plant upon rockeries, but there is no reason why more of it should not be planted; here it is effective when seen in masses of plants together. Thermopsis lanceolata growing nearly 3 feet high, its Lupine-like yellow flowers freely produced, was an effective plant. Polemonium reptans reminds one of P. Richardsoni, except that the habit of growth is dwarfer. Genista pilosa is one of the dwarfest species, and plants of it were literally smothered with rich yellow coloured blossoms, making it an effective plant for the rockery. *A Country Visitor.*

TREES AND SHRUBS.

ROSA SPINOSISSIMA Var. ALTAICA.

Although described by Lindley as a species, under the name of Rosa grandiflora, and still frequently grown in gardens under that name, this Rose is now looked upon by botanists as a variety merely of the Scotch Rose, R. spinosissima. From that species it differs chiefly in habit, being of much stronger growth, and instead of keeping to the neat bushy form of the ordinary Scotch Rose, it sends up stout sucker-growths to a height sometimes of 4 to 5 feet. Whatever it may lose in compactness, it gains in freedom and grace, and is, indeed, one of the most beautiful of all the earlier flowering single Roses. There is a group of plants in the Arboretum at Kew covering several square yards, all of which are now thickly crowded with flowers, and make a most charming picture. The blossoms are from 2 to 3 inches across, and of slightly cream-tinted white. The leaves, like those of the Scotch Rose, are cut into numerous leaflets, but are much larger, and being of a tender shade of green, they make an admirable background for the flowers. Like nearly all the wild single-flowered Roses, this only flowers once during the year, lasting about four weeks in beauty. It is a native of the Altai Mountains, and was introduced in 1818.

Spiræa Van Houttei ×.

From early spring until late in autumn, the genus Spiræa provides us with an uninterrupted succession of beautiful flowering shrubs. Two of the best of the earlier ones are S. arguta and S. Van Houttei ×, both of which are of hybrid origin. The former of these is now out of flower, but S. Van Houttei × is still in full beauty. It was raised on the continent by crossing S. media (confusa) with S. trilobata, and possessing as it does the best qualities of those species, whilst differing from both, it may be counted as one

of the happiest successes of the hybridiser among hardy trees and shrubs. The flowers, which are pure white, are produced in round, flattish corymbs that are about 2 inches in diameter. This shrub will grow to a height of 5 feet or more, but it is seen at its best in plants that are three or four years old, and produce strong wand-like shoots each season. The terminal portions of these shoots usually arch outwards, and it is on the upper side of them that the corymbs are so thickly crowded as to form continuous wreaths of pure white blossom. On old plants the growth becomes more twiggy, but by a judicious removal each season of the weaker wood, and by giving liberal treatment at the root, strong growths will be encouraged to push from the lower part of the plant, and thus enable the characteristic beauty of younger plants to be retained.

LONICERA ALBERTI.

This is one of the most recent additions made to cultivated Honeysuckles, and is at the same time one of the most distinct. A recent figure in the *Botanical Magazine* (t. 7394) has brought the species into notice. It is a shrub of low, semi-prostrate habit, spreading outwards rather than increasing in height, yet always retaining a neat, compact form. A plant in flower at Kew is 4 feet through, and about 18 inches high. The bush is made up of a dense, tangled mass of thin stems bearing linear leaves 1 inch long, with one or two teeth at the base; their glaucous colour renders the plant ornamental from the standpoint of foliage alone. The flowers are borne in pairs on short axillary stalks; they are of a bright rose, and have the strong, pleasant fragrance characteristic of the Honeysuckles. The species is named in honour of Dr. Albert Regel, to whom its discovery and introduction to cultivation has to be credited. It is a native of Eastern Turkestan. *W. J. B.*

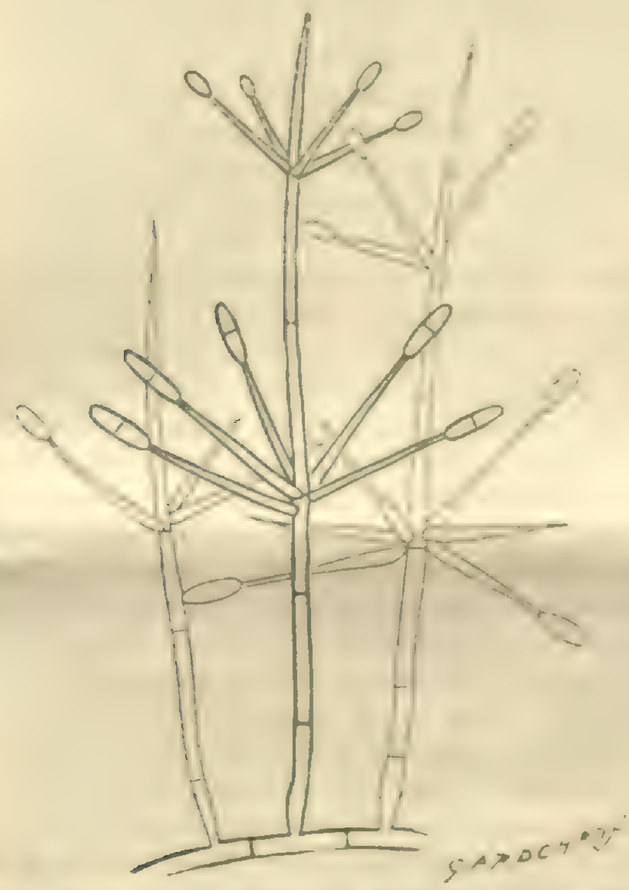

FIG. 103.—A TOMATO FUNGUS—DIPLOCLADIUM STAGE: SUPERFICIAL. (SEE P. 707.)

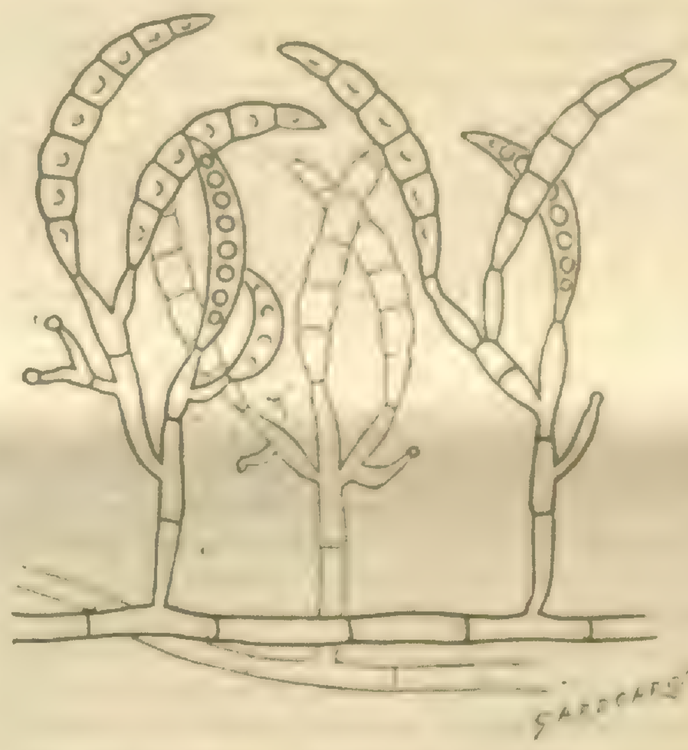

FIG. 104.—A TOMATO FUNGUS—FUSARIUM STAGE: SUPERFICIAL. (SEE P. 707.)

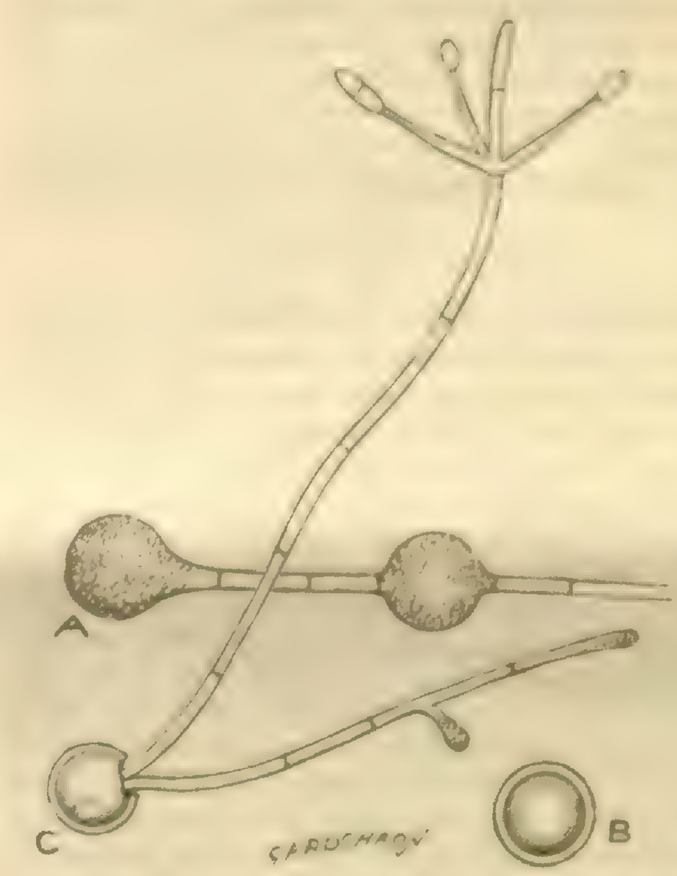

FIG. 105.—RESTING SPORES: IN THE ROOTS AND IN THE SOIL. (SEE P. 707.)

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT OAKWOOD, CRAYFORD.

THE property of Stephen White, Esq., situated in one of the pleasantest parts of Kent, is surrounded by woods, in which the common Oak is the principal tree, and beneath whose shelter large stretches of bright flowers of the Blue-bell have now succeeded those of the Primrose, which have been specially beautiful this year. On the walls of the residence the bronzy-green foliage and handsome blue racemes of Wistaria sinensis appear, and near by the large clumps of yellow Doronicums and other spring flowers make a fine display, while in the distance are noted the rich colours of the Rhododendrons. Near by the house is an ornamental conservatory, chiefly furnished with Tree Ferns, one of which, a Dicksonia squarrosa, with a slender stem some 15 feet in height, and bearing a fine head of fronds, is a beautiful object. Flowering plants fill the side-stages, and on the roof are Tacsonias and the pretty white-flowered Solanum jasminoides. An adjoining old-fashioned stove-house has the back wall prettily covered with Ficus stipularis, Hoya carnosa, and other plants, among which the prickly Euphorbia splendens has a fine show of bright red flowers. Here, at the base of the wall a row of Vanda teres is planted, and the plants are making a good start. It is hoped in time to be able to train them over the whole wall, at a little distance from its face. One part of this range is devoted to Dendrobiums, and there has been a fine display of bloom on most of the species. At present in flower are some good examples of D. Dalhousieanum, of which there are a number of very healthy plants; some D. Parishii, and the supposed hybrid with it, D. rhodopterygium with pretty rose-pink flowers with purple markings on the lip. In the culture of Dendrobiums and many other Orchids, especially in houses not specially designed for their culture, much care and discretion are required in selecting those which require to be grown in baskets or on blocks, and suspended near the glass of the roof, and those which will thrive in pots; and in these particulars Mr. A. Tomalin, who has now been head gardener at Oakwood for about twenty years, displays a thorough knowledge of the subject, and a thoughtful care for his charges.

In another division the back staging is filled with Maidenhair Ferns, mingled with Caladiums, and very effective they are. The front stage bears a goodly number of Cypripediums, which are vigorous of growth, and many of them are flowering well. Among them we noted several fine varieties of Cypripedium Chamberlainianum, a very large C. Curtisii, a strong specimen of C. philippinense with several spikes, and various forms of C. barbatum.

Of the newer houses at a greater distance from the dwelling, the first is a convenient structure, containing Cattleyas, Lælias, &c. Of the fine forms of Cattleya Trianæ we had occasion to remark in the season of their flowering, and now an equally bright show is being made by the Cattleya Mossiæ and a few other species. Extending the whole length of the house on one side is a splendid row of Lælia purpurata in full bloom. While all are good, scarcely two are exactly alike in colour and marking, the range being from the rosy-lilac petalled L. purpurata Bryaiana to the pure white L. purpurata alba; and which also has a large whitish area at the front of the lip. Considering their moderate size, the plants bear a remarkable quantity of flowers, some of them ranging from twelve to nineteen blooms. A small warm-house at the end has a quantity of very pretty table plants, another, an intermediate-house, is filled on the one side with healthy plants of Miltonia vexillaria, profusely displaying flower-spikes with blooms about to expand. Cattleya citrina, Masdevallia Veitchii, and a few other species are here also in bloom.

In the cool house was found a good collection of Odontoglossums, some of the plants of O. crispum, O. Pescatorei, &c., being in flower; and with them were good plants of Epidendrum vitellinum, Ada aurantiaca, Disa racemosa, &c.

In the late vinery one side is filled with a very handsome strain of Hippeastrum, chiefly seedlings raised by the gardener; and the Muscat Vines, the Peaches in the forcing-houses, and trees in other structures devoted to fruit culture are well cropped.

LÆLIO-CATTLEYA PHŒBE, *O'Brien*, in *Gardeners' Chronicle*, 1892, i., p. 791.

A cross from Cattleya Mossiæ by Lælia cinnabarina, combining the characters of the two parents. *Reichenbachia*, t. 93.

EPIDENDRUM ATRO-PURPUREUM, *Willd.* VAR. RANDII.

Venezuela, Brazil. Sepals and petals deep brownish-green, and the lip white with a bright rosy-crimson centre. *Reichenbachia*, t. 94.

DENDROBIUM IMPERATRIX, *Kränzlin.*

A new species from German New Guinea, where it grows on trees near the sea. Flowers in loose panicles, whitish; petals twisted; lip three-lobed, lateral lobes pale violet. *Reichenbachia*, t. 95.

VANDA PARISHII, *Rchb. f.*, VAR. MARRIOTTIANA, *Rchb f.*

Flowers wholly suffused with bright purple. It is one of the most remarkable colour variations known, not being connected with the type by a number of intermediate forms, as is usually the case. *Reichenbachia*, t. 96.

Orchids at the Manchester Royal Botanical Gardens.

Few private collections can boast of plants in better condition than are the Orchids cultivated at the Manchester Botanical Gardens. A general collection is not attempted, but the showy classes cultivated prove by their vigour that Mr. Bruce Findlay makes the best use of the rather poor accommodation provided for their cultivation. The Whitsun-week show gave one an opportunity of comparing the classes of plants cultivated in the gardens with those which figured in the exhibition building; and in the case of the Cypripedium, the comparison was much in favour of the plants in the gardens, where the fine bank of Cypripediums on one side of the warm-house embrace some grand examples of C. Spicerianum, C Chamberlainianum, C. Stonei, C. superciliare, C. bellatulum, and most of the other showy species; while even the smaller specimens were in fine health. On the other side of the house a large number of plants of Vanda are equally sturdy, and in fine condition; and in the lobby and end of the house was to be seen a good display of bloom on plants on Dendrobium Dalhousieanum, Cymbidium Lowianum, Vanda suavis, Lælia purpurata, Cattleya Mossiæ, C. Acklandiæ, C. Lawrenceana, C. Mendeli, Angræcum Leonis, Odontoglossum citrosmum, O. triumphans, O. crispum, Miltonia vexillaria, Lycaste Skinneri, and other pretty species. In the Orchid-house, as in the other houses at Old Trafford, the cleanness of the plants and their surroundings, and their excellent arrangement, is always a striking feature.

BELTON HOUSE, GRANTHAM.

All lovers of Violas and Pansies should see these gardens in spring when the beds on the lawn are filled with them. Large masses of Cloth of Gold, yellow; Cliveden Purple, Skylark, white with narrow edging of blue; Admiration, dark purple; Blue King, and Tory, dark bluish-purple, are the kinds chiefly used, one good reason for this being that they all flower at one time, a few dark Wallflowers, two kinds of Aubrietia, viz, A. Leichtlinii, and the ordinary form of A. græca, with a few Tulips for dotting, are the principal plants used, the whole forming a picture which is but seldom equalled, and is worth a long journey to see. I was fortunate in calling just at the proper time, May 8 to see them this season in full flower; one long border in front of the conservatory was especially pretty. This had a band of dark Wallflowers at the back, next came a broad row of Cloth of Gold Viola, in front of this a much broader piece of Cliveden Purple Viola scalloped out in half-circles at the front; between the half-circles were small patches of Skylark Viola, the margin and intervening space being filled with Aubrietia græca. To stand at one end and look along the whole length of this border was, perhaps, the best way to see it; but from whatever point it was viewed, the effect was remarkably charming—the whole of the plants had done well, and were full of flowers.

One advantage Violas possess is their adaptability for narrow beds, and this was seen in an intricate design in Box, Yew, grass, and coloured stones, which was well done with Violas alone. One seldom sees Yew employed for edging purposes in such a small state as here, where it has been growing for several years, and is now only 4 inches high. Other beds of a larger size planted in a variety of designs, with Pansies, Violas, and Aubrietias, and dotted with Tulips, gave a change to the other beds, although Violas were still the chief flowers employed. As Lord and Lady Brownlow are usually away during the summer months, ordinary bedding plants are not used here. The Violas remain until their flowering is past, they are then cut back, divided, and planted in reserve borders until the autumn, when they are again transferred to the beds ready to flower the following spring.

The pleasure-grounds are large and well kept, necessitating much mowing during the spring and summer. Large forest trees and conifers abound; among them I especially noticed a large specimen of Libocedrus decurrens. Many thousands of Polyanthus, double Daisies, &c., are planted around these trees, the grass being left among them when mowing, until after the flowering is over. The river Witham flows through one portion of the pleasure-grounds, and has been well treated at some time, forming some pretty waterfalls, &c., near to which it is crossed by a rustic bridge.

Many other interesting things may be seen here. The conservatory is lofty, and contains a good plant of Cantua dependens, also Acacia dealbata, some tall Lemons, Camellias, &c. There are some good plant-houses, in one of which was a plant of Ornithogalum lately received from abroad, carrying a very pretty bunch of white flowers, with black centres. Amaryllis had almost finished a fine lot of flowers, and a batch of Tuberoses nearly in flower were by far the best ever seen by myself or by a very successful gardener who accompanied me. Solanum jasminoides growing in this house is a very useful plant when in flower, and it is very seldom without bloom if grown in an intermediate temperature. In Surrey the plant succeeds well out-of-doors, surviving an ordinary winter if on a southern aspect.

A fine lot of Dracænas and Crotons were growing in another division, with some Pandanus Veitchii and Palms, &c., all clean and healthy. In another house Hexacentris mysorensis was full of its curious pendent racemes of flowers, which had grown to almost 3 feet in length, and were still developing. This is a stove climber, which delights in partial shade and a moist atmosphere, and if kept clean its curious brown-and-yellow flowers are freely produced, and are sure to prove interesting from the way in which the racemes continue to grow at the point, and furnish a long succession of blooms. Monstera deliciosa was doing well, and a nice lot of tender plants in a small state for room decoration. A small collection of Orchids looked well, and some very large pans of Cœlogyne cristata had flowered freely, the spikes being unusually large and strong. In the kitchen-gardens—which are some distance from the flower-garden—a large supply of fruit and flowers is grown for the family during the whole of the year. Strawberries were in excellent condition, the sort being Auguste Nicaise, a fine large fruit—perhaps the largest kind known, very strong in constitution, and a great favourite with Mr. Emmerton for forcing purposes. Two ladies tested its flavour, and pronounced it excellent, and as they have had much experience at this business, the verdict may be taken without hesitation. Strawberries get plenty of heat, light, and air, and not too much moisture in the houses at Belton, which suit this variety well. One plant, in a 6 inch pot, taken haphazard, bore thirteen fine fruits. Melons were carrying nearly full-sized fruits, and Cucumbers, French Beans, Sutton's Forcing, and many other kinds of forced vegetables, were plentiful, and in first-class order. Gardenias planted out looked remarkably well. Early Peaches—Amsden June—were ripe, and others coming on well. Early Grapes were colouring, and carried a heavy crop; some of the later vineries are being gradually renewed, as they have been badly managed many years ago, and will not recover. A houseful of Tree Carnations and Roses had borne a fine lot of flowers, as had Double Violets also, the latter being grown in frames, planted out in large quantities. Time and space fail me to tell of many other things seen, and I can only advise everyone to call next spring when the Pansies are in flower. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

RHODODENDRON FORMOSUM.

Our figure of this plant, see p. 711, represents a remarkable specimen, 21 feet in circumference, and with several thousands of blossoms upon it, growing in Mrs. Munn's gardens at Heath Hill, Stockstead, Manchester. R formosum, sometimes called Gibsoni, is a species from the Eastern Himalaya, and possessing a naturally branching habit it may readily be grown into a handsome specimen. The leaves are small, and the flowers large, white, tinged with blush The usual season of flowering is the month of May.

NURSERY NOTES.

WM. CLIBRAN AND SON, ALTRINCHAM.

This nursery once limited in extent, has increased from a few acres until now 120 acres, in different parts of Cheshire, are covered with forest and fruit trees, evergreens of every description, and a colony of herbaceous plants, besides four acres covered with glass, to supply the demand partly for the trade in cut flowers carried on in the shops at Manchester, and for a general trade.

It is pleasing to see the different tints of deciduous tree and bush life after the havoc that has been wrought upon Evergreens through one of the most trying winters ever experienced. While Cypress and Hollies, and Laurels, and Aucubas, are browned in many cases, some to a stick, hopeless and beyond recovery, scarcely anything of importance in the deciduous way has suffered, Limes, Chestnuts, Sycamores, Elms, Oaks, Ash, and the hardier of the Maples, all in variety, are fresh and beautiful. Fruit trees are covered with blossom, especially those grafted on dwarfing stocks; and such flowering plants as the Pyrus Malus floribunda, are one sheet of bloom. The Lilacs, too, now in infinite variety, in singles and doubles, are profuse. The Rubus are grand ornamental plants, suitable for any decoration, chief among them at the time of our visit being the Rocky Mountain Bramble (R. deliciosus). There were lines upon lines of this one sheet of snowy whiteness, and the flowers as large as the Wild Rose itself. Some of the Japanese Pyruses, too, were noteworthy—none better or brighter than Pyrus Maulei, which is doubly useful for general planting and for its fruit return in autumn.

There is a splendid collection of Hollies in all sizes. Those which have been recently transplanted have stood the best, owing of course to the check to root-action. The green forms of the aquifolium breed have suffered least, although in some situations even they have not escaped. Nothing seems so generally useful as Hodgins' Holly. There is a form of it here which individualises itself because of its sturdy pyramidal habit and its roundly-ovate leaves. Next in importance to this is the nigrescent form of Madeirense; this is a grand plant for general work, its leaves are so coriaceous, and its habit is denser than the type. Then, again, laurifolia is one of the most useful; although smaller in the leaves, it is of beautiful glistening colour, and is one of the hardiest. Rhododendrons have suffered severely, none more than the ponticum, although several of the hybrids are much browned, and some of them untouched. The Japanese Retinosporas have, upon the whole, stood out well; and the Box, although in some cases partly injured, is now recuperating putting on a fine sheen of gold in its newly-developed shoots. The Golden Yew is much hardier than the type, and promises to throw off any unsightliness as the season progresses.

Herbaceous plants are cultivated very largely, and seem upon the whole, barring some of the tenderer alpines, to have come through the late ice-bound times with impunity. The earlier Anemones are bright and pretty; the Aquilegias are captivating, both from form and colour points—none better than one named Stuarti, with its blue and white flowers of large size growing on plants of sturdy habit. Aubrietia Dr. Mules is a striking novelty, bearing rich violet flowers in profusion. Campanulas are springing up, and showing quantities of flowers in great variety, from the dwarf garganica and isophylla, to the grand flowered form of persicifolia alba, which is so much run after here. Dodecatheon makes a nice front-row plant, particularly integrifolium. There is no more stylish plant in the whole of the herbaceous arrangement than Doronicum plantagineum excelsum; this completely beats the type in size and breadth of segments, and is useful indoors for glasses. The Bavarian Gentians are looking up, and we noted a giant among them in G. lutea. The Rose of Sharon, Hypericum calycinum is pushing into flower. The rich yellow-flowered form of Helianthus

rigidus, under the name of Miss Mellish, is an improvement on the type. Lychnis are in variety, from the dwarf Viscaria to the giant chalcedonica.

The alpine plants are a goodly band, all suitable for rockery, the chief being Phlox nivalis, procumbens, and setacea. The Polygonums are good back-row plants. We have now brought prominently into notice the Polygonum sachalinense, which is held up as one of the most useful novelties as a forage plant; it grows grandly certainly, and if cattle take to it, it will be a cheap fodder plant. We noted the dwarf mountain Ranunculus amongst a good many others. Saxifragas are in lists, one very dwarf yellow flowering one, named Frederici Augusti, having obtained a First-class Certificate at the Royal. The Thalictrums make fine border plants, not only because of their flowers, but because of their Fern-like foliage, so useful for glasses, where Maidenhair Fern cannot be had. Trollius, particularly the double-flowering Fortunei, is most valuable.

The glass-houses are all in juxtaposition, and have been put up economically, nothing being cut to waste in the way of ornamentation. The heating is well cared for throughout, to meet the emergencies of untoward seasons. Like all business houses that are worked upon the one-season principle, plants disappear as orders come in, and relays are provided in the propagating pits to take their places. It is a question of here to-day, away to-morrow, so different from the routine of ordinary gardening, hence the difference of common garden training from nursery training, and the difficulty often existing of getting even first-rate young men to fall into it.

The stove-houses were bright with young Crotons, and no end of Anthuriums, including the best forms of A. Scherzerianum, A. Andréanum, and the singularly-marked and mottled A. Rothschildianum. Associated with these were the stylish-looking Cyanophyllum magnificum, the beautiful coral-thyrsed Medinilla magnifica, bits of Dieffenbachias and Dracænas, among which D. Sanderiana is conspicuous, and the novel green and white Smilax argyræa. The flowering plants comprised Eremurus, Eucharis in quantity, none of the forms of the latter equal to the useful amazonica. Among other bulbs we noticed Urceocharis Clibrani; it is a sort of Urceolina-like bulb, and is a hybrid between that and the Eucharis; it carries an umbel of about twelve flowers, which are white when fully expanded, and, unlike the Urceolina, expand much better, being, in fact, mid-way between the two parents. It is undoubtedly an acquisition among bulbs (see fig. in *Gard. Chron.*, p. 215, 1892). The Stephanotis here is a fine selected form, being free in producing umbels, and particularly short-jointed in the growth. My attention was called to a novelty in Dipladenias named D. atro-purpurea, which seems free and useful. One was glad to see a nice collection of Cacti, and doing well too, the Pilocereus senilis not being the least notable, and bearded like Father Christmas himself. Gloxinias, and bits of other stove plants, including a very fine set of seedling Amaryllis, are largely grown.

Roses, and particularly Tea Roses, are grown in very large quantities, both on the roof for cutting, and in pots for general distribution. Chrysanthemums are a big feature, the flowers being in great demand for shop purposes—in fact, it seems where there is anything like a business done, an establishment of this kind cannot be overstocked. Pelargoniums, too, and Fuchsias, and Dahlias, are grown on by the 10,000, making me wonder where all these little plants that will soon be into saleable size go. The same remark applies to Chinese Primroses and to Cyclamens. How charming those Siebold Primroses look in their captivating colours!

Among the hardier brood of plants there is nothing better managed in the way of propagating than the system adopted with Araucaria excelsa. Mr. Bailey, the manager, said that he puts each shoot cut off in a thumb-pot, places it in gentle bottom-heat, and with care he does not lose 5 per cent. The wonder is why plants reared from cuttings are so handsome, and up too in one quarter the time that seeds would take to attain equal dimensions. The plants used for propagation are kept in a warmish house, and when the shoot is severed it calluses readily. One was glad to see the old New Holland plants propagated and cared for; but where are the Heaths now? The Boronias seem to be popular, particularly megastigma, and the rose-coloured heterophylla; and what a pretty greenhouse plant Acacia Riceana makes! Chorozemas, although of trailing habit make striking specimens; Lowii seems the dwarfest of the lot. Correas, too, particularly cardinalis, are always attractive when well grown. Darwinia tulipifera and the various Pimeleas are grown here, and evidently find a market. Among clusters we noted the two Lapagerias, the pretty Myrsiphyllum asparagoides, several Passion-flowers, and Tacsonias; the distinct whitish-flowered Physianthus albens, and the bright orange Tecoma Smithii. *Viator.*

Fig. 106.—Rhododendron formosum (Gibsoni).

Flowers white: grown in the Gardens at Heath Hill, Stackstead, Manchester. (See p. 717.)

The Leeds Orchid Co., Roundhay, Leeds.

This is a modest establishment, with moderate, although laudable aspirations, viz., the popularising of Orchid culture, by placing as many species as possible within the reach of all, and by vending small plants at the price usually charged for any common stove or greenhouse plant. To this end, Mr. C. E. West, the manager, imports desirable species likely to be suited to his clients, and the Orchid-houses at Roundhay have an accumulation of such in the course of being established, as well as of small established plants.

In the first house entered we noted a number of plants of the rose-coloured Vanda Parishii Marriottiana, by no means a common plant; the pretty Saccolabium bellinum, Dendrobium crepidatum, D. Cologyne, a fine lot of D. cambridgeanum, showing extraordinary variation in the colour and form of its pseudobulbs; Dendrobium crassinode, D. Brymerianum, and most of the other Burmese Dendrobiums; and a healthy lot of plants of Broughtonia sanguinea. In another small house were good numbers of Dendrobium Falconeri, D. clavatum, D. densiflorum, D. chrysotoxum, D. crystallinum, &c., and hanging near to the roof was a specimen of D. chrysotis (Hookerianum) with extraordinary growths upon it, some 5 or 6 feet in length. This plant is trained along the roof, and its position may account for the vigour with which this, by no means a free-growing plant, is growing.

In the third house were noted a small lot of healthy Peristeria elata, good batches of Saccolabium giganteum and Aërides Lobbii, Vanda cœrulea, V. Amesiana, V. Kimballiana, &c.; a fresh importation of Thunia Marshalliana, about to flower well; a number of Cattleya citrina and Vanda teres, both of which seem to like the bright sunny position in which they are placed; and various Oncidiums of the O. Forbesii class.

In the Cypripedium-house, Cypripedium bellatulum thrives well, and a small lot of interesting hybrids are coming on; and in the cool-house there were in bloom some Cattleya Mossiæ, C. Mendeli, Epidendrum Parkinsonianum, a fine Oncidium crispum, the rare and curious O. monachicum, and beside it, its nearest ally, O. serratum; three particularly bright scarlet Cochlioda Noezliana, a few bright Masdevallias, some Odontoglossum crispum, O. Rossii majus, O. Cervantesii, O. Œrstedii, and scarlet Sophronitis.

PLANT NOTES.

PELARGONIUM RADULA MAJUS AT GUNNERSBURY HOUSE.

Those who remember the two large fan-shaped specimens of this scented-leaf species, which Mr. James Hudson exhibited in a collection last year at the Chiswick Gardens, will be interested in knowing that the plants are now getting into fine condition, and will be of greater dimensions than last year, as the fan-shaped trellis has been extended by 12 inches in the centre of the arch, tapering down to 6 inches at the base; the trellis now measures 8 feet in width by 5 feet in depth. The plants are becoming well clothed with foliage, and getting into fine bloom. The plants are in tubs, about 16 inches in diameter, and they were placed in these tubs in April, 1894. Mr. Hudson treats his scented-leaved Pelargoniums, and P. radula majus in particular, much as he would a hard-wooded plant; he does not prune, but lays the wood in, and in this way forms a dense area of foliage and flowers. One pretty variety in the collection with scented leaves, named Countess of Devon, with its pretty dark top petals, and its white lower ones having slight flakes of rosy-carmine, appears to approach very nearly to our fancy Pelargoniums, and it has to be treated as a fancy type. It would be interesting to know the origin of this form. It is a somewhat "miffy" grower, but by well ripening the wood and cutting it down in autumn Mr. Hudson is able to form fairly good specimens. Its foliage has a distinct and very pleasing fragrance. *R. D.*

Medinilla magnifica at Manchester.

What may doubtless be considered to be the finest specimen of Medinilla ever seen is now in bloom in the large stove-house at the Manchester Royal Botanical Gardens, Old Trafford, and numbers of visitors, even from distant parts, come to see the plant. The great globular head of the specimen bears over 260 large drooping branched panicles of its carmine-pink flowers, which are produced by the young and old wood alike, some of the spikes being in the middle of the head. Alpinia nutans is another remarkable plant now in flower at Old Trafford.

DROPMORE.

As many know, the glory of Dropmore consists in the magnificent array of choice Conifers, but in addition at this season are the hardy Azaleas, gorgeous in orange, yellow, pink, crimson, and white; Kalmias, and Rhododendrons. Planted in masses of all forms, and from 6 to 12 feet high, and very generally over the entire area surrounding the gardens proper, as well as within them, in sharply defined beds and groups, they have formed, and will continue to do so for a week or two, an extremely pleasing feature of the place. The old gardening genius of the place, the late Philip Frost, was undoubtedly a man who had a great insight into Nature's method of dealing with wild land, woods, and copses, and he knew how to plant shrubs and trees in irregular masses without apparent design, and yet with great skill. His efforts in this line will continue to afford pleasure to the beholder for several generations to come. In all this extensive pinetum we find one example only of a severe method of planting, and that is in the avenue of Cedars. Pity it is that he did not remove each alternate tree, to admit of fuller development to each one that was left. The Cedars in other parts of Dropmore are prodigally and indiscriminately planted; in one case, a giant specimen in true Frostian disregard of the rules of the landscape gardeners' art, stands about 5 feet from the edge of the carriage-road, which latter was made before the tree was planted, and not since, as might be suggested by the small space existing between the tree and the road. The branches encroached on the road at a very early date, and had to be removed on that side; nevertheless, one would be loth to cut down the tree that so pleasantly throws the shadow of its branches around. And so it is throughout. Fortunately, much common deciduous stuff was used for affording shelter, and for nurses, so that where space is found necessary for a fine Conifer, that which is removed is usually of but little value. Conifers always look their best at this season, their two shades of green, as seen in the new and old needles, being in agreeable contrast to one another. This was particularly remarked in Tsuga Mertensiana (Abies Albertiana), of which there is a specimen 60 feet high, besides smaller ones. Abies grandis likewise afforded a similar contrast. The weeping Picea Morinda, or Smithiana, looks well with its two shades of pale green, and its pendent branchlets. Of trees that the winter's cold punished somewhat are Pinus Jeffreyi, slightly browned in places. Sequoia sempervirens is another that shows a good deal of browning on the exterior, whilst Cryptomeria japonica is quite unharmed. The Himalayan Hemlock (Tsuga Brunoniana) was browned, but the trees are fast recovering. Pinus insignis is in magnificent form, without a spoiled needle visible. A grand feature of the flower garden is the rows of isolated plants of Pæonia herbacea in numerous varieties. These are generally full of flower, but some plants show the effects of the dry weather, their flower-buds refusing to develop, and falling off. Herbaceous plants abound, especially Irises of a variety of species, but mainly germanica and iberica, and these beds and borders make continuous display the whole season, helped out by Dahlias, Sunflowers, annuals, Gladiolus, &c. Wall-fruit is fairly abundant, Peaches and Nectarines especially so, although it is not the custom to afford any kind of protection to the trees at the flowering season, Mr. C. Herrin, the head gardener, finding that in that dry elevated spot it is seldom needed.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

CATERPILLARS, ETC., ON APPLES.—Caterpillars are this year more than usually abundant, and every possible means should be used to keep them in check. Fowls are useful in grass orchards, eagerly searching for, and devouring the caterpillars as they fall from the trees, which should be well shaken every day. Many may be caught by placing sheets under the trees before shaking. Small pyramidal bush or espalier trees may be hand-picked. Paris Green is a very effective insecticide against these pests, but being of a highly poisonous nature it requires to be used with considerable care. It should be applied in the proportion of 1 oz. to 20 gallons of water, and it must be kept constantly agitated during use, as it does not dissolve in water. It is best applied by a sprayer attached to the garden-engine, and the dressing repeated two or three times at intervals of about four days. Should American blight be detected, brush it over with a mixture of petroleum and hot soapy-water.

STRAWBERRIES. — Protect Strawberries with netting at the first sign of ripening fruit. A simple and effective way is to insert short stakes at intervals along the sides of the bed to be covered, and fasten straight sticks longitudinally to these. Then draw the nets tightly over, and fasten at the bottom with pegs. The nets will then be clear of the foliage, and except by removing the net, the fruit cannot be easily taken. Mice are, however, very destructive at times to the Strawberry crop, biting off the fruit, and carrying it into heaps to devour at leisure. As nets are of no avail against these marauders, means should be devised to trap them before they commence their depredations.

BLACKBERRIES. — Attend to Blackberry plantations by thinning the suckers to five or six of the strongest, and pinch the points as the top of the trellis or other support is reached, stopping laterals at the fourth joint. If grown in bush form, the young growths should be stopped when 3 or 4 feet in length, pinching the laterals at the sixth leaf. To obtain the best results in Blackberry culture, good feeding must be given, and the plants should have been well mulched early in the season, or preferably, last autumn. If this has been neglected, it should be done at once, and frequent waterings with liquid-manure applied.

PEACHES AND NECTARINES ON WALLS.—Continue to thin the growth and fruits on these as needful. Nail or tie-in extensions, and secure next year's fruiting-wood by the same means; or where possible, by means of small twigs laid under the branches, which can be done much more expeditiously. Do not thin the fruit too much at the commencement; it is better to go over the trees three or four times, making the final thinning before stoning commences. Remove and burn any blistered leaves and shoots. If the trees are badly affected, dust with flowers-of-sulphur; and syringe or spray for greenfly with quassia-water two or three times as required. This or other insecticides are more effectual if applied warm, and they should be used in the evening when the sun is off the trees.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

PEACHES AND NECTARINES.—As soon as the fruit is gathered, prune the trees, it being a mistake to delay doing such work until the autumn. If the trees were properly disbudded, most of last season's wood which has borne fruit may be cut back to the young growth, which will then become matured before the autumn. If the trees are pruned now, it can be seen what growth is required to furnish the tree with fruiting-wood for another season. Fire-heat should be dispensed with, and the foliage gradually hardened by increased ventilation day and night. The bright weather, together with the dry atmosphere, required in the house while the fruit was ripening, may have encouraged red-spider, in which case the spread of this insect should be checked by several syringings of a mixture consisting of soft-soap, flowers-of-sulphur, and rain-water, to be followed by abundant syringing morning and evening with clear water. Keep the roots well supplied with clear water, and encourage clean firm growth. The second house, in which fruit is approaching ripeness, may be freely ventilated, and the trees syringed as long as possible with clean rain-water. Keep the fruit well exposed to the sun, and see that the border is kept in a moist condition. A slight warmth may be kept in the hot-water pipes at night, if necessary, to hasten the crop; but during bright weather fire-heat should be discontinued as much as possible. Trees growing in later houses will benefit if the borders be slightly pricked over and mulched with farmyard manure, after the work of tying and thinning has been completed. Syringe the trees freely, and close the house early in the afternoon, to encourage the swelling of the fruit.

STRAWBERRIES.—Late batches of Strawberries should not be forced with other fruits at this season, there being a great danger of their introducing red-spider on more valuable crops; in fact, pot plants of all descriptions should be removed from fruit-houses where possible, as it is very difficult to grow both together properly in the same structure. Grand fruit of late Strawberries may be produced in cold pits and frames until those in the open are ready, standing the pots on a cool bottom, freely syringing and keeping them well supplied with moisture at the roots; the foliage will then be clean and healthy, and the fruit swell to a large size, and be of the best flavour. Plant out or destroy at once plants that have borne fruit. Now is a good time to plant out in pits and frames which have been used for Potatoes or French Beans, Strawberry-plants which have been forced, and they will then give a supply of fruit during September and later. Vicomtesse H. De Thury and Noble have been thus treated here with the best results, and during hot seasons have been found more reliable than late varieties growing behind north walls. Growth should be encouraged by syringing the plants morning and evening, and manure-water may be afforded as soon as the flower-trusses appear. The crops may be hastened after the plants are established by placing lights on them, which also protects the fruit, when ripe, from birds, but the plants grow much stronger when fully exposed. Soil and small pots should now be prepared in readiness to commence layering runners as soon as these are ready, so that plants required for early forcing may be well established in their fruiting-pots early in the autumn.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

EAST INDIA-HOUSE.—Owing to the tropical temperature which must now be allowed in the East India-house, there may be some few species therein which will require to be moved. For instance, if such plants as Chysis bractescens, C. aurea, C. Sedeni, C. Chelsoni, and C. Limminghei are allowed to remain in the great heat during summer the growths assume a yellowish hue, and insect pests are almost sure to attack them. It is well therefore to remove them to a warm shady corner of the Cattleya-house. For a

week after removal water the plants rather sparingly, afterwards if kept well supplied with water at the roots they will grow clean and strong. As growth approaches maturity it will be advisable to replace them in the hottest house, the heat of which will then assist to harden and swell up the bulbs. Bolleas, Pescatoreas, Huntleyas, Batemannias, and Warscewiczellas, should also be removed from the warm division into the intermediate-house. Give them a position where they may be protected from all sunshine. In addition to the ordinary shading, a good plan is either to paint the roof-glass immediately over them or to nail on some thin Archangel mats. These species all through the summer months should, in addition to the usual waterings, be syringed overhead once or twice every day. Newly-imported plants of these species should immediately on arrival be potted in crocks only, and placed in the East India-house, copiously watering them overhead every day. Then as growth and roots appear add a little fibrous peat and sphagnum moss for the plants to root in, and place them with the established plants in a lower temperature. The East Indian-house may be closed early enough to allow the sun to raise the temperature to between 80° and 90°; at the same time thoroughly damping the floors, especially under the hot-water pipes, also the stages, and between the pots. Afford the Dendrobiums a good syringing well up under the leaves, to keep the foliage free from red-spider and other insects. Slightly dew the majority of the Cypripediums overhead, but not so that the water runs down in the axils of the leaves, or much harm may ensue. There are many other species of Orchids which delight in having their foliage sprayed over with a fine syringe on warm sunny afternoons, a large number of which have been mentioned in previous Calendars as requiring this treatment. The blinds should be pulled up immediately after the damping is finished, but to suit in this respect all the various species in this division is often a great difficulty. It may be well to place the tender-leaved plants at one end of the house, and when the blinds are drawn up, protect these from strong sunshine with ordinary garden mats. The temperature should gradually fall during the evening, and in the early morning the thermometer should register about 70°. As soon as the glass commences to rise, the houses may again be well damped, and fresh air gradually admitted.

THE MEXICAN DIVISION.—This division should be freely ventilated through the hottest hours of the day, and only a very thin shading is necessary for them. The blinds should be drawn up soon after 3 P.M., and the house closed so as to allow the temperature to rise between 90° and 100°. At the same time give the plants a good syringing overhead, and when finishing up for the night, open the lower ventilators, and a slight amount of air may be put on at the top to allow any surplus of moisture to escape. The temperature should fall to 65° by morning.

CATTLEYA-HOUSE. — The occupants of the Cattleya and intermediate-houses should now have plenty of fresh air afforded them. When damping, the ventilators ought only to be partially closed, as Cattleyas are injured by a hot stifling atmosphere. The shading should be removed every afternoon immediately the sun commences to decline in strength.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

CHRYSANTHEMUMS.—These will now be ready to be put into their flowering-pots. The potting compost should consist of rich fibrous loam, leaf-mould, some half-inch bones, with as much sand as will keep the soil open. After repotting, the plants may be placed out-of-doors on a floor of coal-ashes, placing those which are intended to be cultivated for the production of large flowers by themselves, and affording a stout stake to each plant to prevent injury by wind. If the potting soil is in a moderately moist condition when used, no water will be necessary for a couple of days afterwards. Keep the plants well syringed evening and morning.

SOLANUMS.—Those plants which were cut back and afterwards placed in frames till they had broken, should now be removed to a sheltered position outside, where they may stay for a week or so before planting them in the open ground. Young plants raised from cuttings should be potted on into 48 and 32-sized pots in moderately rich loamy soil, and kept in cold frames for a time, keeping the frame somewhat close till the plants make new roots, when air should be freely admitted.

DEUTZIA GRACILIS.—Small stuff which was cut down to the soil may now be placed outside, but large plants that were merely pruned-in are better if kept indoors, supplying them with manure-water at intervals of a week whilst making growth. Small spring-struck plants should be re-potted, this time coming into 32's; or they may be planted out in a well-prepared bed in a sunny spot, and the soil kept moist.

CELOSIAS.—Those which were placed in their flowering pots may be removed from the stove if the pots are filled with roots, placing them in a house or pit having a cooler temperature and drier atmosphere; the use of manure-water being discontinued and clean water only afforded, and not too much of that, or the plants will decay at the base of the stem. Younger plants may be repotted and kept in a growing temperature. A pinch of seed may be sown, and the seedlings treated as previously advised.

BOUVARDIAS.—These that were started and have made an inch or so of growth should now be shaken out and re-potted, keeping them close and shaded for a time, syringing three or four times a day. Young plants should be re-potted into 48-sized pots, and placed in a cold frame.

DOUBLE FLOWERED PRIMULAS.—If this year's cuttings have filled their pots with roots, they may be re-potted into 48's. In doing this see that the soil is kept well up to the collar of the plants and pressed slightly so as to keep the plants securely in position. Place them in a frame which can be heated, so that during cold damp weather heat may be applied in moderate amount; afford a light shading over the plants during bright weather, and syringe the leaves lightly twice a day. The earliest seedlings will now be ready for potting; and after potting them place in a cold frame.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

ROSES.—Liberal waterings of weak liquid-manure should be frequently given during dry weather, and additional benefit will ensue if the beds are first mulched with short manure. When farmyard manure-water is not to be obtained, good liquid-manure may be made from Thomson's, Bentley's, Clay's, or other well-known chemical manure, used in proportion to the strength of each of them. Weak and frequent applications of manure-water are best at all times. Climbing and pillar Roses should be frequently looked over for aphides and other insect pests, which are very numerous and destructive this season. Briar stocks for budding Roses upon require to be watered during dry weather, and encouraged to push strong shoots previous to the budding operation, which should be commenced as soon as the stocks are in good condition, and plump buds are obtainable. Cuttings of the greenwood of H. P. Roses of the Victor Verdier class, also Teas and monthly Roses, may now be struck in pits or frames in which a temperature of about 70° can be maintained. The cutting may be made from one eye, and cut between the joint, or they may be cut with a heel. Insert the cuttings in sandy soil, surfaced also with a layer of sand, or they may be pricked out into 6 or 8 inch pots and plunged. The frame should be kept close, and the glass shaded until they have formed roots, when they may be gradually exposed to the full light and air, and be planted out or potted off in the autumn. [Slight bottom heat aids the rooting of these cuttings.—Ed.]

LILIUMS IN BORDERS will require to be carefully staked and tied against winds and heavy rains. A good mulching of manure should be placed round the stems. L. auratum is satisfactory in outside borders, where there is a shelter from rough winds, and the soil is not very cold. Some of the best varieties for borders are L. candidum, the old garden Lily; L. chalcedonicum, L. croceum, L. aurantiacum, L. Thunbergianum, L. dalmaticum, L. Martagon and varieties, L. testaceum, and L. tigrinum. Generally speaking, the Japan Liliums, L. speciosum, also L. longifolium, are not hardy enough for outside borders, and when planted in chalk or limestone soils a good quantity of peat and leaf-soil should be given them.

HERBACEOUS BORDERS.—Constant attention should be given to staking and securing the various plants against wind and rain. Many plants have grown very fast of late, and if the operation be postponed, much damage may be done.

CLIMBING PLANTS.—The training-in of young shoots of Clematis, Jasmine, Ampelopsis, Berberis, Lonicera, Bignonia, and other hardy plants, will now require attention; and any that have been lately planted against walls or pillars should have abundance of water given to the roots, to enable them to make a good growth.

BEDDING.—Tropæolums, Petunias, Heliotropes, Verbenas, &c., should be carefully pegged down as soon as planted, to keep them from being blown about by winds. Tropæolum peregrinum, Convolvulus major, the new climbing Tropæolums, Cibrian's Gem, and Annie Cibrian, and other tender climbing plants, require careful treatment when first planted. Small branches of dried Spruce without the needles are useful to them for shelter when they can be used without being unsightly; and slugs also must be carefully guarded against. Hollyhocks should be well mulched with short manure, and frequent waterings of weak liquid-manure given them, to enable them to make strong flowering stems. If large flowers are wished, thin out the buds early. Marigolds of the African or French varieties should have the side-shoots taken off, and about three shoots allowed to each plant, if large flowers are required.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

ONIONS should be thinned if they are very close, and the thinnings utilized for present use. If not exceptionally thick, however, Onions when unthinned, though smaller, ripen up well and keep a remarkably long time. Use the hoe frequently between the rows, and in the event of rain, afford a good dressing of soot. Make a sowing of one of the small white-skinned varieties for salad purposes.

FRENCH OR DWARF BEANS.—Continue to make fortnightly sowings of these on good land in an open part of the garden. Canadian Wonder is the best at this season. Thin out to 9 inches apart, and earth up previous sowings.

CELERY TRENCHES intended for the main crop should be made ready on the first opportunity, that the soil may improve and sweeten before the plants are put out. I prefer not to plant more than two rows at the most in a trench of from 20 to 24 inches wide, and I allow about 5 feet between the trenches. Every other space between these trenches at the least may be planted with Lettuce, early Cauliflower, or sown with Turnips. I do not recommend deep trenches for Celery, especially for late crops, but merely take out the soil to the depth of about 8 or 9 inches. I then dig in some good rotten manure, and give a dressing of salt and soot with a little spent Mushroom bed manure, which is forked in lightly.

PARSLEY.—Make the second and main-sowing of this. Gardeners have usually favourite parts of the garden where Parsley is known to do well, and where it is easy of access in all weathers. New stiff untried soil should be avoided if possible. Sow in drills from 12 to 14 inches apart, to allow of plenty of room for getting between the rows. If left too close and thick, it does not stand the winter so well. The first batch sown will now be ready for transplanting. Single plants among fruit trees, under walls, and in open warm spaces, prove the most useful for standing through the winter, being dwarf and well hardened. Frequent applications of soot and water should be given, if the weather continues very dry.

RIDGE CUCUMBERS.—Beds made up as previously recommended, will now be quite ready. This may soon be tested by thrusting a stick into the bed in the usual way. The temperature should be of about the same as that of newly drawn milk. Handlights over Marrows after being tilted, may be withdrawn altogether, the leading shoots should be stopped once or twice until sufficient leaders are obtained, but by no means should they be overcrowded, as is often the case. Some of the small kinds, such as Pen-y-byd, look well planted against a wall, and trained and nailed similar to a fruit tree.

CAPSICUMS AND CHILIES may profitably be grown outside in warm situations. Pots used for bedding plants may be spared in less favoured districts. Nice strong well-hardened plants should now be ready, and they require a light rich soil and close attention to syringing with soot-water in hot dry weather to keep red-spider in check.

ASPARAGUS.—Beds, if expected to produce good grass for many years, should not be cut after the first week in June.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 11 — Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster. Horticultural Club.

FRIDAY, JUNE 14—Royal Botanic Society, Lecture.

SHOWS.

WEDNESDAY, JUNE 12 — Royal Botanic Society, Special Floral Fête. Essex Agricultural, and Southend-on-Sea Horticultural (two days).

SALES.

MONDAY, JUNE 10 — Sale of 5 Tons of Mangel Seed, 1894 Crop, at Protheroe & Morris' Rooms.

TUESDAY, JUNE 11 — Clearance Sale of Exhibition Plants, Greenhouses, and Effects, at The Nurseries, Pewsey, Wilts, by Protheroe & Morris.

WEDNESDAY, JUNE 12 — Unreserved Sale of the Important Collection of Established Orchids, formed by H. Hollis, Esq., deceased, by Protheroe & Morris (two days).

FRIDAY, JUNE 14 — Orchids from Messrs. F. Sander & Co., by Protheroe & Morris.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS. AT CHISWICK.—60°.4.

Edinburgh School of Rural Economy.

Two years ago, at the request of the Board of Agriculture, the University of Edinburgh took steps to reorganise the various agencies in that city engaged in the teaching of agriculture and allied subjects. For this purpose a Joint Administrative Board was appointed in the end of 1893, and this body has now completed the organisation of the classes upon the lines indicated by the Board of Agriculture.

The Board of Management consists of four members appointed by the University Court, four by the Highland and Agricultural Society, four by the Town Council of Edinburgh, and one by the County Council of Midlothian, provision being made for the appointment of representatives of other County Councils that may contribute to the funds at the disposal of the Board. The following are at present the members of the Board:—

Appointed by the University Court.—The Right Hon. J. P. B. Robertson, Lord Justice-General, 19, Drumsheugh Gardens—Chairman; The Hon. Lord Stormonth Darling, LL.D., 10, Great Stuart Street; Principal Sir William Muir, K.C.S.I., LL.D., D.C.L., Dean Park House; Professor Sir William Turner, D.C.L., F.R.S., 6, Eton Terrace.

Appointed by the Highland and Agricultural Society.—Sir James H. Gibson-Craig of Riccarton, Bart., Currie; The Hon. The Master of Polwarth, Humbie House, Upper Keith; Rev. John Gillespie, M.A., Mouswald, Ruthwell, R.S.O.; James Macdonald, F.R.S.E., Secretary of the Highland and Agricultural Society, 3, George IV. Bridge.

Appointed by the Town Council of Edinburgh.—Bailie W. J. Kinloch Anderson, Cousland, Fountainhall Road; Councillor A. D. Mackenzie, 6, Hartington Gardens; Professor Bayley Balfour, Royal Botanic Garden; Principal Grant Ogilvie, Heriot-Watt College.

Appointed by Midlothian County Council.—Major R. G. Wardlaw Ramsay, Tillicoultry House, Tillicoultry.

Secretary.—Rev. Professor M. C. Taylor, the University.

The syllabus for the session 1895-96, which has just been issued, shows that the main features of the courses of study are as follows:—

(1) A two years' curriculum of day classes in agriculture and allied sciences.

(2) A course of day lectures on forestry in the University.

(3) An extensive series of evening classes on agriculture and allied sciences, embracing horticulture and forestry; and

(4) The usual summer vacation classes for schoolmasters.

The day classes, it is seen, extend over two sessions, each beginning in October and ending in March. It is expected that those entering for these classes will have previously completed a good general school training.

The work of the first session is principally mensuration, mechanics, elementary physics and chemistry, botany, drawing, handicraft. The instruction in each is largely practical, and is provided in the Heriot-Watt College and the Royal Botanic Garden.

The subjects embraced in the second session are agriculture; agricultural chemistry, botany, zoology, and entomology; veterinary science, and forestry—these classes being held in the University, Royal (Dick) Veterinary College, and Royal Botanic Garden.

The complete course aims at fitting a young man to enter with intelligence into his work as a farmer, a gardener, or a forester. It should enable him to understand the greater part of the work that he will see in practice, and to study for himself any special subject that he may afterwards find to be of importance to him. The course is also well adapted for those to be engaged or interested in the management of landed property.

Numerous and varied evening classes are provided in the Heriot-Watt College and the Royal Botanic Garden for those who are otherwise engaged during the day.

The schoolmaster vacation classes are to be held this year from July 29 till August 23. The attendance at these is free to selected schoolmasters. The subjects of study and lecturers this year are:—Geology—Dr. Flett, lecturer; chemistry—Dr. Dobbin, lecturer; poultry—Mr. E. Brown, lecturer; agricultural entomology—Dr. Somerville, lecturer; and botany—Mr. R. Stewart M'Dougall, lecturer.

A specially moderate scale of fees has been arranged. This will be indicated by the fact that the inclusive fee for the first year's entire course in agriculture is five guineas.

Copies of the syllabus are to be had from the Secretary of the University Court, Edinburgh.

Agricultural Returns.

THE Agricultural Returns for Great Britain, 1894, just published by the Board of Agriculture, show "the Acreage and Produce of Crops, Prices of Corn, and Number of Live-stock, together with Summaries of Agricultural Statistics for the United Kingdom, British Possessions, and Foreign Countries." The first part of the book is taken up with a general report on distribution, produce, and prices of crops and live-stock, both British, imported, Colonial, and Foreign. There are many elaborately worked-out statistical tables, with long explanatory comments. It may therefore well be believed that this report is the outcome of no small amount of labour, the reward for which should be found in the value of the book to all interested in cultural matters. No branch of this industry has been omitted, as our brief enumeration of the subjects treated of will show, and many of the results tabulated will be found important to small as well as to large growers. Take, for instance, in proof of the detailed and careful manner in which these returns are presented, the following particulars relating to small-fruit and orchards:—"Small-fruit of all kinds continues to claim larger areas, an advance of 2928 acres occurring in 1894, bringing the total up to 68,415 acres, of which 20,817 acres are in Kent alone. No other county approaches this area; Middlesex, with 3978 acres; and Worcester, Cambridge, Norfolk, and Lancaster, with 2508 acres, 2493 acres, 2411 acres, and 2396 acres respectively, come next in extent. The distribution of the small-fruit land in each county between orchards, market-gardens, and ordinary farm-land, is shown as usual in Table VIII. Small-fruit has only been distinguished in the returns since 1888, but on looking back to that year, it will be seen that only 36,724 acres were then recorded as being occupied in this manner. Orchards also are apparently still extending. The total for 1894 is given as over 214,000 acres, an increase of 2523 acres over 1893. The six counties of Devon, Hereford, Somerset, Kent, Worcester, and Gloucester, account between them for quite 137,000 acres, or nearly two-thirds of the orchards of Great Britain. It is to be remembered that the land carrying fruit trees, and returned under this category, also appears under other heads of the Returns in those numerous cases where small-fruit bushes, grass, or crops of various sorts, separately enumerated, occupy the soil along with the larger trees."

Among the too well-founded complaints made concerning the depressed condition of agriculture, it is encouraging to hear of one department of which a more favourable report may be made. had market-gardening and flower-growing been added the results would have been even more encouraging. It is to be hoped that, where practical, growers will follow the indications suggested, and turn their attention to those branches of industry which are not merely supposed, but proved to be, both profitable in the present, and promising for the future.

TODEA SUPERBA.—This is one of the most beautiful of Filmy Ferns, and one which experiment has proved is not so difficult to cultivate as was supposed at the time of its introduction from New Zealand, and when it was often placed in almost air-tight cases fixed in ferneries, which were themselves far too warm to suit the Todea. The fact is that under certain conditions Todea superba has been found to adapt itself to circumstances in a remarkable manner, and while in some gardens it is found to thrive in great beauty in a Wardian-case placed in some cool and tolerably shady situation, it may in other gardens be seen growing without other protection among the general collection of Ferns. But artificial heat is by no means necessary to grow Todea superba to perfection—indeed, its simplest and most uniformly successful culture is to be accomplished without it. The best example of the culture of Todea superba in unheated structure we saw some years ago, where accommodation was made for a large number of fresh imported crowns by

FIG. 107.—TODEA SUPERBA. (SEE P 714)

A plant grown in the Gardens of L. Watson, Esq., Blackrock, Dublin. From a photograph by Miss Armstrong.

placing open woodwork staging on each side of a narrow passage between two houses, and simply covering the top with old glazed lights, no means of heating artificially being provided. Here plenty of rain-water was given the plants overhead, and they soon became beautiful specimens, uniform throughout. In winter they were often frozen, and at that season water was discontinued; but in spring they regularly put forth fresh sets of beautiful fronds. In some gardens nooks are made for Todea superba in the rockeries in the open garden, and the fronts of these crevices are simply fitted with glass to prevent excessive aëration, and to ensure as even a temperature as possible, and in such situations, although frequently frozen, they thrive well. Drought is the one thing fatal to Todea superba, and it should be observed that it and allied species should be well supplied with water. The plant of Todea superba which we figure on p. 715 is in the possession of LANCELOT WATSON, Esq., Newstead, Avoca Avenue, Blackrock, Dublin (gr., Mr. FLYNN). It is grown in a house by itself, and in size it is only exceeded by some plants in the possession of the QUEEN.

THE ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, June 11, 1 to 5 P.M. At 3 P.M. a lecture will be given by Mr. FRANK CANT, on "Rose Culture under Glass." The President of the Society will also present the Veitch Memorial Medals to JAMES BATEMAN, Esq., F. W. MOORE, Esq., and Monsieur VICTOR LEMOINE of Nancy.

THE ROYAL GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place at the Horticultural Club on the 31st ult., Mr. WILLIAM MARSHALL presiding. The secretary announced that Mr. N. SHERWOOD desired that his benefaction should be known as the "Emma Sherwood Memorial," and that he had duly nominated a child to receive the benefit from it. The following special receipts were announced: from Mr. JOHN WILLS, 16, Onslow Crescent, the fifth of his birthday gifts of £10 10*s.*, with the expression of an intention on his part that during the next five years the annual gift shall be twenty guineas. A legacy from the late Mr. George Taber, senior partner in the firm of Messrs. Cooper, Taber & Co., Southwark Street, of four shares of £25 each in that company; from Messrs. J. Waterer & Sons, nurserymen, Bagshot, £10; proceeds of a concert at the Shackleford Institute, near Godalming, per Mr. G. P. Basket, £8; Mr. W. Evans, Wharfedale, Leeds, 5*s.* Some routine matters were disposed of, the chairman complimenting the committee upon the present satisfactory condition of the fund.

"IN A GLOUCESTERSHIRE GARDEN."—We are glad to learn that Canon ELLACOMBE's letters, published in the *Guardian* under the above title, are to be issued in book-form by Mr. EDWARD ARNOLD, 37, Bedford Street.

A HANDSOME BENEFACTION.—On the occasion of the recent Manchester Whitsun Horticultural Exhibition, Mr. BRUCE FINDLAY was highly gratified to receive from the Earl of DERBY a cheque for £100, in aid of the Royal Botanical Society of Manchester. Other friends of the Society have promised various amounts towards the same end.

POMOLOGICAL SOCIETY, BOSKOOP, HOLLAND.—At one of the conferences of this Society, held in the past winter, it was decided to establish a permanent Committee of Arboriculture and Pomology, to examine the new introductions or new plants and fruits raised from seed by the members of this Society. The committee meets on the first Monday of every month. In the meetings of March and April the following plants obtained a First-class Certificate:—1. Rhododendron Chevalier Felix de Sauvage, introduced by Mr. C. TIBBS, from Boskoop, as an excellent forcing plant, and for the fine shape and colour of the flowers; 2. Daphne Mezereum multiflorum rubrum; 3. Daphne Mezereum multiflorum album, raised from seed by Mr. K. WEZELENBURG, from Hazerswoude. These Daphnes are very different from the old sorts, in the great abundance and much larger size of the flowers. Cultivated from seeds these sorts have preserved constantly their excellent qualities. Mr. T. A. OTTOLANDER is the first Secretary of the Pomological Society, Boskoop, Holland.

A LIGHT PUMPING ENGINE.—Some very successful experiments in irrigation of plantations and gardens have just been carried out by Lord GIFFORD, at his country seat, The Old House, Betchworth. The apparatus used is a Merryweather light portable steam pump, delivering 100 gallons of water per minute, and capable of raising steam to working pressure in less than ten minutes. This pump will take its supply from a pond, stream or other source even 300 or 400 yards distant, and can be wheeled about by one man, like a water-barrow. Its superiority to the ordinary heavy pumping-engines for country use is undoubted, while its cost is low. It has also the advantage of being available for fire extinction in case of need.

A FINE GINKGO-TREE.—Probably one of the finest of Maidenhair trees in the county of Surrey is a specimen growing close beside the road leading from Reigate to Woodhatch, and within about 100 yards of Mr. HAYWOOD's house, and on the same side. It is a very robust one, and seems to be making luxuriant, indeed, almost Larch-like growth. The tree is on somewhat dry rising ground about 4 feet above the foot-path beneath, over which the branches spread, and is probably nearly 60 feet in height. Very likely passers-by take little notice of it, but all gardeners, if they look up, must be struck with the fine proportions of what is a very handsome specimen.

"WEBSTER'S PRACTICAL FORESTRY:" A Popular Handbook on the Rearing and Growth of Trees for Profit or Ornament. By A. D. WEBSTER. (London: WILLIAM RIDER & SON, Limited, 14, Bartholomew Close, E.C.).—It is always pleasant to meet with a reliable and hence valuable book, and that the volume before us may well be so termed is proved by the appearance of this, a second and enlarged edition. It includes directions for raising and cultivating trees and shrubs, tells when, how, and where they may best be planted and grown, which kinds are best for special localities, and, finally, gives hints as to measuring and preparing timber, and as to the best and most useful tools and appliances for use in forestry.

A WEEPING BEECH SCREEN.—About half-way up Mr. HAYWOOD's coach-road at Woodhatch, Reigate, is a fine Weeping Beech. It was a very happy idea which led to the carrying of a big branch across the carriage-way, where under it forms a sort of natural arch or screen. At the sides the lateral branches hang down about 10 feet, and in the centre about 6 feet. The bright glazed leafage which shows so effectively down the road, renders the arrangement very attractive. The idea is one that may be varied in many ways when planting is done, as there are other trees, the Elm, Ash, Birch, &c., or very hardy climbers, such as Ampelopsis, Wistarias, &c., that may be so arranged, as to easily form screens or arches in this way, and would be a great improvement on the external avenue of which too much is to be seen in many directions.

BIG ORCHARD.—The largest orchard in the world is said to be that belonging to ELWOOD COOPER, of Barbara, California. It is a tract of 1700 acres, and contains 10,000 Olive trees, 8100 in full bearing, the remainder being young trees set out during the past year and a half. Besides the Olive trees there are 3000 English Walnut trees, 4500 Japanese Persimmon trees, 10,000 Almond trees, and about 4000 other fruit and nut trees. The 10,000 Olive trees yielded 40,000 quart bottles of olive oil last year, which found a ready market at 4*s.* a bottle. The nut trees bore thousands of bushels of nuts, to say nothing of the Japanese Persimmons. Taken in all, it has been calculated that Mr. COOPER's orchard brings him in an income of not less than 750 dols. per acre every year. *The People.*

TROPICAL SEEDS AND PLANTS.—We have received a copy of Messrs. WILLIAMS BROTHERS' Catalogue of Tropical Seeds and Plants, which, on account of its special character, we mention in this place. It is devoted to economic and agricultural plants chiefly, and may be had from Messrs. J. P. WILLIAMS & BROTHERS, Heneratgoda, Ceylon.

"THE WILD RABBIT IN A NEW ASPECT: OR RABBIT WARRENS THAT PAY." A Record of Recent Experiments conducted on the Estate of the Right Hon. the Earl of WHARNCLIFFE, at Wortley Hall. By J. SIMPSON (WILLIAM BLACKWOOD & SONS: London and Edinburgh).—This book when first issued proved so successful that a second edition was called for, and is now before us. It is quite refreshing, at a time when the rabbit is considered as "vermin," and warred against in all ways, to meet with a reliable authority who proves, not merely that rabbits can easily be kept within due bounds, but that also, by devoting due attention to the warrens and feeding-grounds, they may be turned into useful and profitable stock. Well bred and fed rabbits have a value of their own, whether as food or for their skins, and it is said that in times to come distressed farmers may, if they will show but sufficient enterprise and freedom from prejudice, learn to encourage these little creatures as game, and to reap from them no despicable harvest. The experiment has already proved very successful at Wortley and other estates where a fair trial has been afforded to it.

SUMMER SCHOOL OF HORTICULTURE.—A short course of elementary instruction in horticulture will be given at the County Technical Laboratories, Chelmsford, during the first three weeks in July, 1895. The classes will be held daily from nine o'clock till five for lectures, laboratory practice and garden work. Twelve scholarships are offered by the committee for competition. Candidates must be residents in the county, be between the ages of fourteen and twenty-five, and be either already employed in a garden, or seeking such employment. Selected candidates working satisfactorily will receive free instruction, use of instruments, tools, &c., and a maintenance allowance of 15*s.* a week during the course. One railway fare to and from Chelmsford will also be allowed. A limited number of applications is invited from persons interested in the study of horticulture, and desirous of attending the course with a view of teaching the elements of horticulture in evening classes or continuation schools. These will be admitted to the classes free, upon conditions that may be ascertained by writing to the secretary. Applications must be made on printed forms, which may be had on application to the Secretary, County Offices, Chelmsford. The application forms must be filled up and sent in on or before Friday, June 14. The Staff-Lecturer on Biology (D. HOUSTON, County Technical Laboratories, Chelmsford), will be pleased to give intending candidates any information respecting the course. The proposed course of study is intended to give sound elementary instruction in the cultivation of plants, based upon a knowledge of plant physiology. The teaching throughout will be practical: every lecture will be abundantly illustrated and immediately followed by demonstrations and individual practical work by the students themselves. There will be weekly revision and tutorial classes at which questions may be asked and answered, and puzzling or obscure matters more fully discussed or explained. Students will be required to attend each class meeting, to keep a daily record of the work done, and will be expected to devote two hours beyond class time each day, to writing up notes, &c. The course will include:—1. Three lectures on Chemistry as applied to Horticulture, with demonstrations in the chemical laboratory. 2. Fifteen lectures on the Physiology of Plants, with garden demonstrations and individual practical work in the biological laboratory. 3. Nine lectures on

Horticultural Operations and Practices by Mr. J. FRASER (late of Kew gardens), editor of the *Gardening World*, accompanied by greenhouse and garden demonstrations and individual practical work by the students. 4. Two lectures and demonstrations on Diseases of Plants due to Fungi. 5. A lecture and demonstration on Injuries to Plants due to Insects. In our next we hope to give further details, for which we have not space on this occasion.

RICHMOND HORTICULTURAL SOCIETY.—This Society, which embraces as its field of operation, amongst other places, Richmond, Twickenham, Isleworth, Kew, Ham, Barnes, and Roehampton, has reason to be satisfied with the results accruing in 1894 from its labours. The balance-sheet is favourable, inasmuch as income balances expenditure, and its position generally is satisfactory. The exhibition was well maintained, both in the quantity and quality of the exhibits. The number of entries exceeded those of any previous year. The special prizes are numerous, and they are so subdivided as to encourage competition between equals. The exhibition this year will be held in the Old Deer Park, Richmond, on Wednesday, June 26.

ABUTILON VITIFOLIUM.—We have just received flowers of this exceedingly pretty shrub from Mr. BAYLOR HARTLAND, Ard Cairn, near Cork. The flowers are of the variety described by Mr. GUMBLETON in the *Gardeners' Chronicle* on p. 373, September 29, 1894, as the type-form which produces pale lilac flowers, and is quite distinct from the white-flowering form which was figured on the page just quoted, also from the garden of Mr. HARTLAND. The delicate colour of the flower, together with the free-flowering habit of the plant, and the ornamental character of its foliage, seem to make it unique among hardy shrubs. Mr. GUMBLETON has seen plants of it under 29° of frost, and quite uninjured; and Mr. HARTLAND says that it makes a trunk so large that birds frequently nest in the branches.

THE NATIONAL CO-OPERATIVE FLOWER SHOW.—We have received the schedule of the Tenth Show of the National Co-operative Society, which will be held simultaneously with the Eighth National Co-operative Festival at the Crystal Palace, on Friday, August 23, and following day. This show, as Mr. EDWARD OWEN GREENING, the Hon. Sec., informs us, is the only workmen's exhibition of national character, and is now the largest flower show held in the kingdom. The attendance attracted by it last year was the greatest ever known at the Crystal Palace with one or two exceptions.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—A meeting of the directors of this Society was held on Tuesday evening, 4th inst., in the office of the Secretary, Mr. A. M. BYRES, C.A., Aberdeen; Mr. A. LYON, jun., occupied the chair. On the motion of the chairman, it was unanimously resolved to thank the Aberdeen Town Council, on behalf of the Society, for generously granting the use of the Duthie Public Park, on the occasion of their floral *fête* to be held in August, and also for the donation of £10 to the prize fund. Judges were appointed for the *fête*. Owing to the Town Council affording the society the entire use of this large park for the three days from 12 noon, the directors considered it would be a wise proceeding to engage several bands to play during the continuance of the *fête*. A vote of thanks was cordially awarded the chairman, and the meeting then terminated.

THE WINDSOR ROSE SHOW.—By the permission of Her Majesty, the Windsor Rose Show, fixed for the 29th inst., is to be held this year in the private grounds of Windsor Castle, and as the Court will be in residence there at the time, it is hoped that the exhibition will be honoured with a visit from Royalty.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—A meeting of the Council of the Royal Horticultural Society of Ireland was held on Monday, May 27, at the offices of the Society, 61, Dawson Street; EDMUND D'OLIER, Esq., in the chair. The Rose show will be held by the kind permission of Lord IVEAGH in his grounds off Harcourt Street, on Thursday, July 4. A letter was read from Mr. R. OWEN, Castlehill Nurseries, Maidenhead, offering prizes to be competed for at the Society's Chrysanthemum show in November. It was decided to reduce the prices of admission to the Rose show to 1s., and to keep the show open until 7 o'clock.

EARLY OUT-OF-DOORS STRAWBERRIES.—The earliest fruits this year to the London market were, says *The Western Mercury*, sent by Mr. THOS. ADAMS, market gardener of Calstock, Cornwall, on Friday, May 24. He forwarded fourteen baskets of choice fruits.

USEFUL BOOKS.—Messrs. MACMILLAN & Co. have in the press two little manuals on horticulture, viz., *A Primer of Garden Flowers and Plants*, edited by Mr. J. WRIGHT, author of *A Primer of Horticulture*: and a practical handbook for amateur gardeners, by Mr. CHARLES COLLINS, entitled *Greenhouse and Window Plants: Hints on their Propagation and Management*. Both volumes will be illustrated.

FLOWERS IN SEASON.—Messrs. W. BALCHIN & SONS, Hassocks Nurseries, Sussex, send us some small plants in 72's of Leschenaultia biloba major, a species which they cultivate admirably. The single trusses of brilliant blue flowers, of a large size, borne by each, indicate many useful purposes to which such small plants can be put of a decorative nature.

FIG. 108.—STRIPED PEA-WEEVIL (SITONES LINEATUS). The lines show the exact size of the insect.

THE LATE MRS. CROWLEY.—Mr. P. CROWLEY, the Treasurer of the Royal Horticultural Society, will receive the deepest sympathy of his friends and associates on the loss of his wife, who died at Waddon House, Croydon, on June 2, aged fifty-eight.

MR. BUNYARD.—We learn with great concern that Mr. BUNYARD, of Maidstone, has sustained serious injury from a fall, but is happily progressing favourably.

FRUIT FROM THE ANTIPODES.—Since our last issue the Peninsular and Oriental Company's steamer *Australia* brought the following:—8752 cases and one half-case of Apples from Hobart; 197 cases from Melbourne, and 121 from Adelaide—a total of 9671 cases of Apples.

ESPARTO AT TRIPOLI.—The trade in Esparto fibre between Tripoli and this country is said to be gradually declining, in consequence of the extended use of wood-pulp, which is shipped both from Canada and Norway to England in increasing quantities. In 1893 the exports from Tripoli amounted to 36,500 tons, while in 1894 the quantity had fallen to 36 100 tons, but owing to the steady fall in prices, the value in 1894 was only £93,450, against £108 000 in the previous year. Should wood-pulp continue to find favour with paper manufacturers, it is estimated that the Esparto trade will continue to diminish considerably.

THE PEA AND BEAN WEEVIL
(SITONES LINEATUS).

THE Board of Agriculture have received complaints of damage having been done to Peas by a weevil, which feeds upon several leguminous plants. This insect is recognised as the Pea and Bean weevil, to which attention was drawn by the Board in 1892. Peas and Beans are very subject to attacks by this insect, but the injury is frequently attributed to slugs, because the weevil is not by any means easily seen. It is of a dull colour, and falls to the ground on the least alarm. The weevil itself eats the leaves and young shoots of the Pea and Bean plants, and its larvæ devour their roots. It is often most troublesome in market gardens and allotment grounds, and in some years an extensive reduction in the crops of Peas and Beans has resulted from its attacks. It has been known also to attack Sweet Peas in gardens. It sometimes seriously injures Red Clover in its early stages, and its small white maggots, or larvæ, also spoil "second cuts" of Clover by eating the roots of the plants and stopping their growth. Trifolium, too, suffers considerably, particularly in its early stages, from the attacks of this weevil, although the injury is generally attributed to slugs and other insects.

Description and Life History.—The Pea and Bean weevil is a quarter of an inch long. Its ground colour is dark, but the body is covered with greyish scales, which in some specimens are of a slightly greenish shade. There are three lines of this grey, or grey-green, hue on the thorax, and many lines on the wing cases. The antennæ are of a red colour, very slender, with club terminations. The legs are *ferruginous*. As Canon Fowler says, "the tibiæ of the male are curved and armed with a small hook." It is not known where the eggs are placed. Egg-laying begins in the early spring. The larvæ, or maggots, which are white, legless, nearly a quarter of an inch long, and somewhat curved, live in the roots of Clover, Pea, Beans, and other leguminous plants, and there change to pupæ. It is certain that some of the weevils pass the winter in weevil form. Probably, in other cases hibernation takes place in the pupal state, though this is not definitely known. NORDLINGER observes that many weevils come from the pupæ at the end of August, and without doubt hibernate in weevil shape. From observation, it is plain that these insects hibernate in the perfect, as well as in the pupal, state. Larvæ have also been found at all seasons of the year among the roots of Clover. A favourite resort of the hibernating weevils is in the straws of stubble. They are also carried in quantities with Peas and Beans into ricks and barns. These weevils feed by night as well as by day.

Methods of Prevention and Remedies.—Lime, soot, and lime and soot mixed, may be advantageously distributed over infested plants when the dew is upon them, or after rain. Finely-powdered guano also may be used in this way. Applications of weak solutions of paraffin, with a little soft soap, would make infested plants distasteful to these insects. Fine powdery materials can be easily applied, and well distributed with knapsack-machines. When Peas and Beans are attacked, it would be desirable to press the earth tightly and firmly close round the plants, in order to prevent the beetles from coming up from the earth. This might be done by men and boys walking with a foot on either side of each row of plants. Summer-fallowing of land after an attack would be very desirable. Wheat after Clover ley is often infested by swarms of weevils. In this case it would be dangerous to sow Trifolium at all. If it is sown the land should be "broad-shared," or cultivated and ploughed. The stubble should be burnt. The burning of stubble, weeds, roots, and rubbish, is comparatively seldom adopted in these days. It is believed that the infrequency of this practice is one cause of the more frequent and more destructive visitations of insects injurious to crops. Infested Clover leys should be deeply ploughed, with a "skim" coulter on the plough, and thoroughly well pressed. Roots on the top should be removed and burnt, not carted to the outsides and left in lumps. 4, *Whitehall Place, S.W., May*, 1895. [Our illustration, fig. 108, shows the appearance of the beetle.]

PARIS INTERNATIONAL EXHIBITION.

SOME OF THE MORE REMARKABLE HORTICULTURAL EXHIBITS.—We have already noted the more important exhibits, and now under this head we will note, in no special sequence, but as they came under our notice when passing along, the plants which, for various reasons, seemed to us to be the most deserving of special mention.

The group of Phyllocactus from M. Ch. Simon comprised at least a hundred plants, bearing most beautiful flowers of the brightest, warmest, and most dazzling hues, but, alas, very transient. We would mention Miss Evans, flame-red, edged with lilac-purple; Rose unique, Blanc pur, Incomparable, Vogeli, pale rose; Rosa Bonheur, dark flesh pink; Schlimmi, salmon, nasturtium, red; Triomphe de Guebviller, very fragrant, carmine-rose, centre violet; Rose Perfection, Madame Halphin, and Aurora borealis, &c.

M. Boucher staged a Clematis coccinea from Texas, a well-known perennial, but worth mention for its value; it shoots up like a climbing Asparagus, and bears an abundance of flowers. Many species of Clematis are valued for the same reason; one of the most beautiful varieties is certainly Coloradensis, which bears tubular flowers.

M. A. Truffaut, in his two magnificent collections of a hundred and of fifty mixed greenhouse plants, showed some choice varieties:—Hippeastrum splendens from Brazil, whence it arrived last April. This interesting novelty won a First-class Award from the Société Nationale d'Horticulture de France. It differs much from other known species, the habit is more spreading, the colouring dull red; the plant is free flowering, and bears from three to six flower-stems, each with three or four blossoms—it grows from a bulb. Pandanus Baptisti, a pretty plant, introduced by Messrs. Veitch. Kentia Belmoreana elegans (1895), a pretty seedling, from M. Truffaut; Encholirion purpureum glaucum. Arisæma fimbriatum (1895) is blooming for the first time in France; the spadix is garnished above and below with reddish-brown hairs, 2 centimètres long. Phœnix Roebelini, the very rare Anthurium dentatum (syn. A. Kellermanni), Asparagus deflexus, a very beautiful Philodendron corsianum, Anthurium Veitchi, and Philodendron imperiale, splendidly cultivated; Costus maximus, very seldom seen of such a size, a splendid specimen of Davallia Fijensis plumosa, Rhapis Sierotsik, Anthurium podophyllum, a remarkable specimen of Livistona rotundifolia, Asparagus Sprengeri, Dracæna australis variegata, Hydrangea japonica, a well-cultivated specimen; a very fine example of Pandanus Kerchovei, a magnificent Anthurium Scherzerianum roseum, Begonia Rajah, Dracæna Jamesii (1895), red in colouring, Adiantum macrophyllum albo-striatum (1895), Begonia decora, a Croton Countess, over 6 feet (2 mètres) in diameter, a very fine Cocoloba pubescens, and other plants.

Among the many beautiful plants from Madame Vve. et Enfants Antoine Chantin, the following deserve especial mention:—Phœnicophorium sechellarum, Zamia Van Geerti, Bilbergia Chantini, with its white streakings, was very marked; Wallichia caryotoides, a very elegant specimen of Phœnix ceroxylon niveum, a very sturdy Dasylirion reflexum, an equally strong Doryanthes Palmeri, Strelitzia reginæ, with six blooms; Philodendron Schottianum, a very fine Chamærops hystrix, and Katakidozamia McLeayi, a unique plant, because of its exceptional strength.

M. Auguste Chantin staged a new Rose, Madame René Berger, of wonderful vigour, a seedling from Merveille de Lyon; this Rose blooms until the end of autumn, the very pretty flowers are of a beautiful flesh-pink colour.

M. Bleu exhibited Coffea mocha and C. arabica in full fruit; and his Cattleya Parthenia nobilissima, already described in the *Gardeners' Chronicle*, and very worthy of note. Incomparably fine are the Bertolonias of that skilful hybridiser Baronne Adolphe de Rothschild, foliage very bright salmon with a metallic gloss; Baronne Adolphe de Rothschild, foliage much undulated, colouring very bright, warm, and vivid—quite a novelty; Ville de Paris, leaves attaining a length of from 6¼ to 7½ inches by 4¼ inches in width, the ground olive-green with a metallic, rainbow sheen upon it, and very large blotches of vivid red, and tinged with carmine.

The Sonerilas of M. Bleu from Parisiensis × Hendersoni marmorata, have prettily-marked leaves; we would specify La France and Voie lactée, both with very large leaves. M. Bleu also staged a rather rare Saccolabium retusum, and some splendid Caladiums, notably C. Princesse Olga, shining red in colour; Gaspard Creyer, and others not yet named.

The exhibits from the firm, Vilmorin-Andrieux, were as numerous as remarkable, and would require a special number to describe them. We pick out as specially noteworthy the various Japanese Primroses, where shades of crimson, red, pure white, and mottled are splendid and persistent; Digitalis with Campanula-like flowers, in which the clusters end always in an erect flower, standing straight up; Pentstemon coccineus, Statice Armeria rosea, very pretty Papaver glaucum, not new, but much to be recommended; Iberis gibraltarica, with large umbels of pretty flowers; and Gilia dichotoma, which likes a sunny place.

Among the very numerous alpines from Messrs. Vilmorin-Andrieux, we would commend to plant-lovers Corydalis tomentella, of Franchet, flowering for the first time in France; the fine plants of Edelweiss growing as freely as Chickweed; Heuchera sanguinea from California, as free-flowering as charming; Corydalis ophiocarpa, from M. H. de Vilmorin, brought by himself from the Rocky Mountains; Saxifraga peltata, Erinus alpinus, a very decorative plant when massed; Dianthus cæsius, Alsine verna, Leiophyllum buxifolium, Dianthus neglectus, from the Alps, Saxifraga Wallacei and Haberlea Rhodopensis, from Greece.

Very pretty, of distinct and delicate hues, are the Columbines; hybrids of cœrulea. The novel colouring of Poppy-red, crimson-chestnut, red, scarlet, vermilion and orange, win much favour for this genus.

Among the vegetables from the same establishment, we would notice the Milan Turnip, white, which develops fully in from fifty to sixty days; the Radishes for forcing, with close, finely-cut, compact, puckered foliage, which will be brought out next autumn; several varieties of Turnips, &c.

M. Parl Chapelier, a Paris plant-lover, exhibited a curiously-grown Chinese Yam. The pots are sunk nearly 4 inches into the soil; the principal root rises in the pot, and is obliged to turn about in the manner most favourable for its development, the other roots grow round the pot. The former grows in a more or less distinctly spiral form, according to the size which the Yam attains.

In full beauty were the seedling Lilacs, from MM. Lemoine et fils of Nancy, the colours white, clear lilac, dark, &c., and the flowers quite double. MM. Chantrier frères staged some remarkable Nepenthes, such as Burkei excellens and Mastersi rubra, of which the pitchers were of unusual size.

MM. Hugh Low & Co. showed, under a bell-glass, a superb hybrid Cypripedium, which we will describe more fully later. *Ch. De B.*

A PLAN FOR LAYING-OUT A LONDON SQUARE.

MOST persons who happen to be acquainted with the private squares in different parts of London, admit that the designs of the planting and laying-out seldom show much art. The trees and shrubs planted are usually of very common species, disposed in the most tasteless manner. We are inclined to the belief that the smaller the area to be dealt with the greater the call on the resources of the landscape gardener. One of the best examples that we know is Onslow Square, South Kensington, where beds of shrubs—deciduous and evergreen, the former chiefly—and trees of no great height or size of crown give diversity to the perfectly level area. If it have a fault, it is in the lack of variety of trees and shrubs, and the sinuosity of the paths. Of turf, there is enough. In our illustration (fig. 109, p. 719), we have a design in which walks are but few, and these skirt the boundary generally, leaving the middle area as a playing-place for children. There is considerable variety shown in the decorations, as a reference to the following list will show.

1. Herbaceous border.
2. Rhododendrons.
3. Standard Hollies, &c.
4. Planes, Poplars, Elm, &c.
5. Pleached walk of Planes.
6. Aucubas.
7. Standard Evergreens in tubs.
8. Bedding-out plants.
9. Climbers on poles and chains.
10. Standards in tubs.
11. Thorns, &c.
12. Almonds, &c.
13. Iron fence.
14. Large Planes on Pavement.

There is one matter to which attention should be directed, and that is the rather close proximity of the large Planes to each other, and to the beds of shrubs in the interior of the garden. We should prefer to use, instead of these, either columnar habited trees, such as the pyramidal Acacias, Poplars, Corylus Colurna, Cupressus Lawsoniana and Arbor-vitæ, or the Hollies of larger growth; and besides these, Weeping Willows, Birch, Pavias, and the like, which do not grow very tall or broad. The plan was kindly furnished by Hudson Gurney, Esq., Norwich, who contributed a short note on the subject at p. 456.

HOME CORRESPONDENCE.

EARLY PEACHES.—Your correspondent, Mr. Wythes (p. 680), condemns Early Alexander Peach for early forcing. I admit it is subject to bud-dropping, but apart from that no other Peach is equal to it. I begin forcing this variety every year on January 1, and always have it ripe about April 18, or fifteen weeks after starting. I have never yet failed to obtain a fair and most remunerative crop for market. This year nearly every fruit on the trees, which are standards, fetched 2*s.* each, the very best 2*s.* 6*d.* each. Hale's Early with me follows three weeks later, and is the grandest of all early Peaches. Mr. Wythes says it is not a large fruit. Perhaps not, compared with late fruit weighing from 12 to 16 oz.; but I have gathered a good many this year weighing 9 oz., and considering it is a light-weighing sort, as all early ones are, the size cannot be called small, nor would small fruit realise from 1*s.* 6*d.* to 2*s.* 6*d.* each, and I have averaged quite 2*s.* each. Early Victoria, nearly as early as Hale's, is a good-coloured but not a handsome fruit. Condor I am gathering; it is nothing like so large and handsome as Hale's. Dagmar, now ripe, is small: both are good in colour. Royal George, Dr. Hogg, Violette Hâtive, Early York, and a few others, all grown in the same house, and started January 1, are all ripening. Dr. Hogg is a grand Peach, both for colour and size. Violette Hâtive is large, but deficient in colour. Crimson Galande is a much later fruit, just colouring; but when well done, it is the grandest Peach I know—splendid in colour, and weighing up to 12 oz. To sum up: I would I had but two sorts, i.e., for market, and those would be Alexander and Hale's Early. *Wm. Armstrong, Toddington Orchard Co. Limited, Winchcombe, Glos.*

PINUS EXCELSA.—There is a very fine specimen of this on the lawn at Gunnersbury Park, and it just now presents a striking appearance. It is a large and handsome tree, and, as is usual with this species, is well furnished with regularly whorled spreading branches, with the extremities upturned. Round each young growth of these extremities there is a cluster of eight or so miniature catkins, which are creamy, and tinted with red, which presents to view the appearance of numberless buds about to burst into bloom. The tree stands upon a gentle slope facing the south, and the subsoil, being gravel, it appears to suit it exactly. *R. D.*

WHAT IS AN AMATEUR?—This is a question constantly cropping up in connection with small horticultural societies, where the amateur proper has to be classified apart from the professional gardener. What is a cottager? is a question equally difficult of strict answer; but perhaps of the two, the definition of an amateur is the harder nut to crack. An amateur may be said to be one who, not being a gardener by occupation, grows flowers for the love of them, devoting to their culture what spare time

he can give when he is free from his ordinary avocation. There are thousands such up and down the country, and they give a great impetus to gardening. But some of these amateur gardeners are ambitious to excel as exhibitors, and this necessitates the annual addition of some novelties to the class or classes of plants they cultivate. To obtain the means, many of them sell their surplus stock, and they advertise themselves in the papers specially devoted to the furtherance of amateur gardening. In doing this they come perilously near to being traders [they become traders. ED]; and the latter make complaints of this rivalry on the part of those who class themselves as *bonâ fide* amateurs. The National Amateur Gardeners' Association has drafted a very drastic rule to meet the case, which has been adopted in some part by the National Chrysanthemum Society, whose definition of an amateur runs as follows:—"No person can compete in the classes for amateurs who employs paid assistance of any kind in the culture of the Chrysanthemum, or who is employed in a nursery or private garden, or who sells cuttings, plants, and blooms." This precludes an amateur from publicly advertising plants, cuttings, or blooms for sale; but yet a good deal of private selling might still go on without its being known. It is those who are found out who eventually have to pay the penalty for selling; those who sell privately may go on their own way with impunity until suspicion is aroused, and then it is easy to set a trap to snare the offender, though it may not be a very dignified proceeding. But what is the position of the gardener who, leaving his former occupation, embarks upon another, and putting up a small greenhouse, grows a few favourite plants in his leisure hours, and essays to exhibit as an amateur? I lately received a letter from the secretary of a provincial horticultural society, who makes this statement:—"We have two members classed as amateurs, and from their antecedents it is thought they should be classed as gardeners. Both have been gardeners for some years, but force of circumstances have compelled them to resort to other occupations. They each have a little greenhouse, and thus by our rules they cannot be cottagers." While a gardener, one of the foregoing used to compete with gardeners with a fair amount of success; the other was second man to an exhibitor who grew so well that he formerly carried all before him at the local show. It is thought that their knowledge and skill should still place them among the exhibitors who are gardeners, and not among the amateurs. Here I join issue. I think the two individuals mentioned can put in a just claim to be classed as amateurs. It is true they were once gardeners, and thereby made a livelihood, but they no longer get their living in this way. There is no doubt but that much of their success as cultivators was dependent upon the fact that their employers furnished them with proper conveniences for growing plants successfully, and they were able to give considerable attention to them; practically they were always among their plants. The conditions under which they grow have materially changed; they have a greenhouse, it is true, but it may be assumed they give only a comparatively small portion of time to what they grow. To compel these men to compete with gardeners having ample conveniences, and who can give their whole time to their work because it is their means of livelihood, is placing them at a serious disadvantage. I think, therefore, having ceased to be professional gardeners they are fully entitled to exhibit as amateurs. *R. D.*

PRECOCIOUS ROSES.—The pretty little Rose figured at p. 653 of the *Gardeners' Chronicle* I bought seed of from Mr. Thompson of Ipswich, under the name of Rosa polyantha hybrida nana; it was sown March 15, 1894 and flowered the same year. Our strongest plant in a rock bank at Oakwood was cut down by the severe frost; it has come up again strongly, and is covered with buds. *George F. Wilson.*

HYBRID POPPIES.—On p. 688, I observe mention of a hybrid Poppy, raised by M. Vilmorin, between a perennial and an annual species. Until this year I have never met with more than one hybrid Poppy, of which the seed-parent is P. reptifragum, and the pollen-parent P. orientale (syn. P. bracteatum). It came originally in the garden of Mr. Carrington Ley, near Maidstone, where the same cross was repeated on the same plants during several successive years. I raised about a hundred plants from seed sent by him; all are uniform, but all absolutely barren. They are perennial, but divide with difficulty. I sent a specimen to Kew, where it is now flowering in the Poppy-bed at the end of the herbaceous garden labelled P. orientale. This year I have now in flower a new race of hybrid annual Poppies raised from seed of P. caucasicum. The pollen-parent is evidently P. Rhœas, which they resemble in stature and leaf, but they vary much. They have little merit as ornamental plants, all the flowers having free petals, that is, not overlapping or imbricated. The plants could not be mistaken for P. caucasicum, or any kindred species, though I myself collected the seed from a plant of typical P. caucasicum. I feel sure the plants will prove barren, as hybrids of *Papaver* have generally done. *C. W. Dod.*

PLANTING OUT VIOLAS.—A correspondent signing himself "A. D." in an article on Violas in the *Gardeners' Chronicle* of June 1, writes as follows:—"Let those who want fine masses of Violas in the summer cram a big frame full of cuttings in the autumn to root and winter for planting out in May." Surely "A. D." meant to say for planting out in March. There was nothing the late Mr. W. Dean so strongly advocated as the early planting-out of Violas. If good results are wanted they must be planted out in March at the latest. Why! they ought to be in fine bloom in May. To plant out in May very often means planting out the majority of them to die. Possibly, however, a printer's error

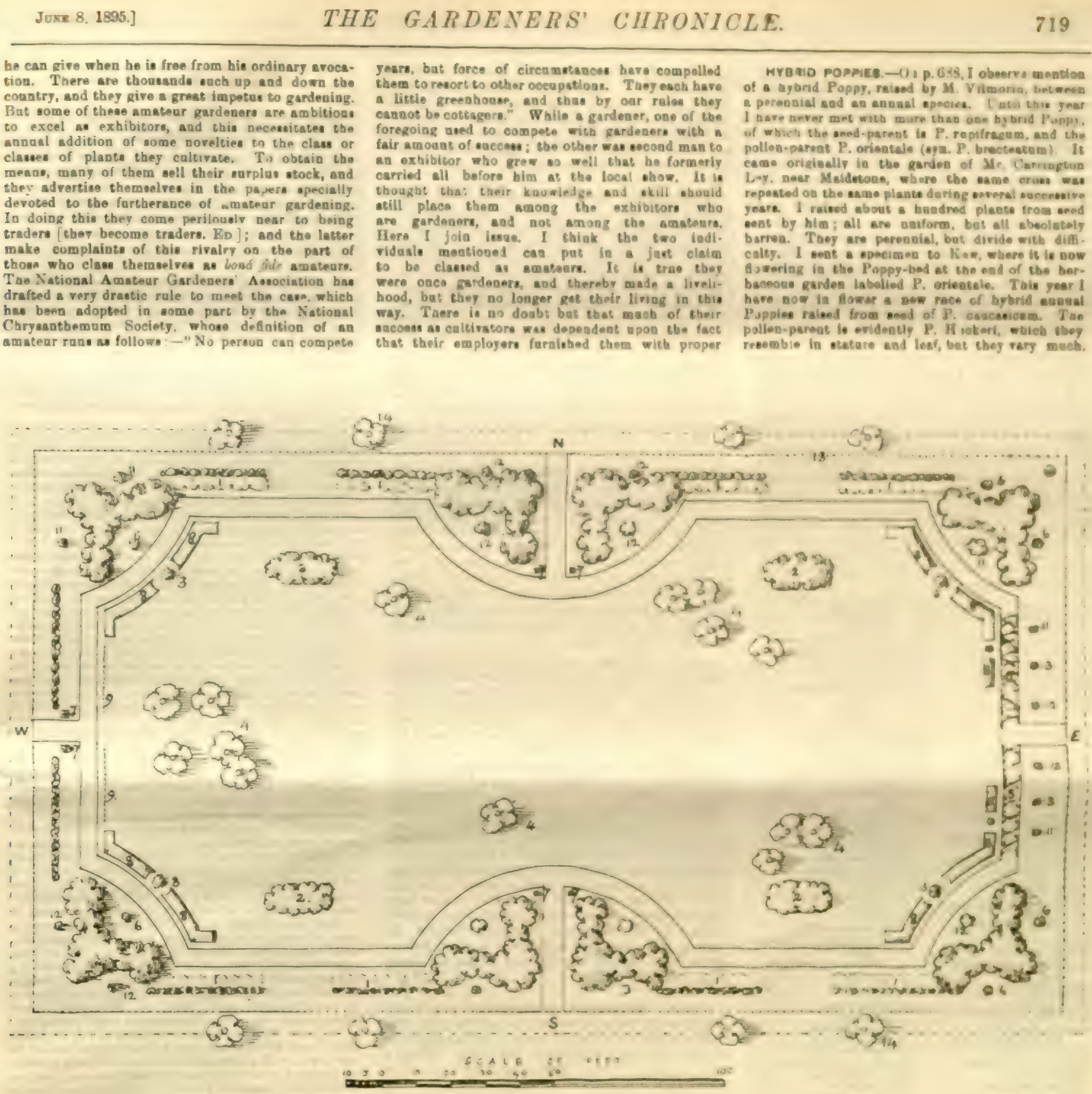

FIG. 109.—PLAN OF TOWN GARDEN. (SEE P. 718)

may be responsible for the instructions. [The month of May was probably a misprint for March, our correspondent's writing not being very legible. Ed.] *Wm. Cuthbertson.*

THE EFFECTS OF THE WINTER (p. 687).—The list of plants unhurt, injured, and killed at Castlewellan is very interesting. But Castlewellan has such exceptional horticultural advantages that the effects produced by the winter there will be very different to those experienced in most gardens. One remarkable result of the winter is the really small amount of permanent injury that has been produced by it; many plants have been disfigured, and have lost several years' growth, but the complete deaths have been much fewer than might have been expected, for the wonder is not that particular plants have escaped or been killed, but that any except the very hardiest have escaped. I should like to send a list of my survivals, and will take the Castlewellan list for my guide. I shall, however, confine myself to actual survivals, whether injured or not; and I shall take no notice of deaths, because they may arise from many causes besides cold; and many plants have survived in one part of the garden and been killed in another, and it is hard to give any reason for the difference. For instance, of three plants of Senecio Greyi, the one in the most exposed part is alive and well—the two others in more sheltered places are dead; and of four plants of Lavatera Olbia under almost precisely the same conditions, one is entirely unhurt, one is struggling back into life, and two are dead. The following, then, is the list of my survivals, taking first the names in the Castlewellan list:—

Acanthopanax ricinifolia
Actinidia volubilis
Akebia quinata
Astragalus Tragacantha
Azara microphylla
Baccaris patagonica
Bambusa, not injured
Benthamia fragifera
Berberis aristata
,, buxifolia
,, dulcis
,, heteropoda
,, japonica
,, stenophylla ×
,, Neubertii ×
Bignonia grandiflora
Caragana Chamlagu
Carmichaelia flagelliformis
Caryopteris Mastacanthus
Cassinia fulvida
Cercidophyllum japonicum
Choisya ternata
Clerodendron trichotomum
Coriaria myrtifolia
Cytisus capitatus
Daphne Mazelii
Daphniphyllum glaucescens
,, Jessoensis
Desmodium penduliflorum
Elæagnus edulis
Ephedra altissima
Escallonia virgata (Phillipiana)
Garrya elliptica
Genista ætnensis
,, Andreana
,, sagittalis
Hedysarum multijugum
Hymenanthera crassifolia
Indigofera floribunda
Kadsura japonica
Kolreuteria paniculata
Olea fragrans
Olearia Haastii
,, macrodonta
Osmanthus ilicifolius
Phillyrea Vilmoriniana
Photinia serrulata
Piptanthus nepalensis
Pittosporum undulatum
Rhyncospermum japonicum var.
Rubus japonicus
,, odoratus
Smilax aspera
,, latifolia
Stephanandra flexuosa
Trachycarpus excelsus
Veronica Traversi
Viburnum macrocephalum
,, plicatum
,, Tinus
Xanthoceras sorbifolia
Yucca filamentosa and variegata
,, gloriosa and variegata
,, recurva

Abelia rupestris
Aristotelia racemosa
Ceanothus azureus
,, Gloire de Versailles
Colletia cruciata
Edwardsia grandiflora
Laurus nobilis
Maclura aurantiaca
Myrtles
Nandina domestica
Phormium tenax
,, variegata
Phygelius capensis
Veronica Hulkeana
Viburnum Awafurkii
Escallonia coquimbensis
Rhaphiolepis ovata
Rubus australis
,, phœnicolasius

The above are all in the Castlewellan list. To these I should add the following, which have survived here. Probably they have survived at Castlewellan, but may have been considered so certainly hardy as not to need noting:—

Abutilon vitifolium
Tetranthera californica
Tropæolum tuberosum
Ilex cornuta
Senecio Greyi
Lavatera Olbia
Coprosma acerosa
Juglans rupestris
Castanopsis chrysophylla
Berberis concinna, and many others
Genista virgata
Rhus cotinoides
Vitis Coignettiæ
,, Davidiana
Hydrangea rosalba
Millettia japonica
Enkianthus japonicus
Clematis Stanleyi
,, Sieboldii
Discaria longispina
Asparagus aphyllus
Asparagus verticillatus
Pentstemon cordifolium
Buddleia paniculata
,, Colvillei
Dicentra chrysantha
Rhynchospermum jasminoides
Erinacea pungens
Bignonia capreolata
Stauntonia hexaphylla
Corokia Cotoneaster
Ehretia acuminata
Daphne Genkwa
Fuchsia excorticata
Pueraria Thunbergiana
Heterosmilax japonica
Olearia nummulariafolia
Pourthiæa villosa
Mutisia decurrens
Metaplexis Stauntoni
Pistacia atlantica
Shrubby Veronicas, several

Considering the very severe fight we have had with the frost, followed by a second fight with the drought, I think we may congratulate ourselves on the large list of survivors, and the small list of killed and wounded. To some of the following shrubs the winter seems to have been a help, the Weigelas, Deutzias, and Honeysuckles are masses of bloom, and the Citrus trifoliata was a sheet of white flowers, and is now forming good fruit. *Henry N. Ellacombe, Bitton Vicarage, Gloucestershire.*

HARDINESS OF AZALEA INDICA ALBA.—We have growing near one of the ponds at this place two plants of white Azalea which, at the present time, are in full flower. The aspect is due south, well sheltered on the north side by trees and shrubs, and the soil is sandy peat. They were planted some years ago, and would have been large bushes had not other shrubs been allowed to overhang them, but these having been removed, they will now have an opportunity of growing freely. Last year they flowered more profusely than this one, and the severe weather of the past winter has uninjured them, thus proving the adaptability of the variety for planting out-of-doors. With some plants of Rhododendron Charles Dickens behind it, the Azalea has a telling effect from the opposite side of the water. *T. H. Slade, Lea Park.*

LARGE TREES OF LEBANON CEDAR. — *Re* "F. G. M.'s" enquiry in *Gardeners' Chronicle*, dated June 1, it may be interesting to point out that at p. 569 of the *Conifer Conference Report* (Royal Horticultural Society), two large specimens of Cedrus Libani are recorded by Mr. Malcolm Dunn, viz., one at Methven, Perth, height 90 feet, girth at 5 feet up, 9 feet 10 inches; and one at Bretby, Derby, height 82 feet, girth at 5 feet up, 16 feet 2 inches. It would be valuable as a record to have the dimensions of the Lebanon Cedar in Addington Park, Croydon. *John Weathers.*

—— In your last week's paper a correspondent wishes to have the dimensions of some large Cedars of Lebanon. The *Pinetum Britannicum*, vol. iii., p. 251, says:—"The *Gardeners' Chronicle*, September 25, 1880, notices a very large—indeed, gigantic—specimen, growing in the gardens of W. Jones Loyd (not Lloyd, as stated), Esq., Langleybury, Herts, its huge and massive branches spreading far and wide. The tree measures, at 4 feet from the ground, 22 feet 4 inches in girth; the spreading branches extend over a space of 105 feet, and its height is 107 feet. The great weight of its branches, after heavy rains or snowstorms, is such as to have caused each limb to be tied by iron rods to the main stem to prevent their splitting off, whereby upwards of 1½ ton of iron has been used to secure it, forming quite a network among the branches." I have been told that there are some fine trees at Cherleywood, Herts. In the *Gardeners' Chronicle*, October 30, 1886, p. 553, you gave a figure of a large tree at Bayfordbury, Herts. *Charles Palmer, District Bank, King Street, Manchester.*

ROYAL SOVEREIGN STRAWBERRY.—A hasty look through the kitchen-gardens at Burghley this week enabled me to see the above new Strawberry in a novel and very satisfactory condition. About a score of plants in small 60-sized pots were placed on a shelf in March, in a house chiefly occupied by young Tomato plants. Many people would have ridiculed the notion that these small pots and plants at that time would fruit well, but the results are really good. One plant which I examined bore eight nice fruits, one of which weighed about one ounce, and there were other small fruits on it besides. This plant was by no means an exception, there were plenty as good, and some, perhaps, better. The fruit proved to be of very good flavour, flesh solid, colour bright and penetrating to the centre. I did not ask Mr. Gilbert what he had fed them with, but his Strawberry plants are always his especial favourites. The plants were placed on pieces of turf, which had doubtless helped them considerably, and at the time I saw them, the green grass, which had been allowed to grow at will, looked very pretty among the rich-coloured fruit. *W. H. Divers, Belvoir Castle Gardens, Grantham.* [We can speak favourably of the size, flavour, and general appearance of these fruits. Ed.]

THE BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY.—The Society's show, which this year was held at Taunton, had its usual horticultural exhibition, which was of a particularly attractive character. The report of the same is being held over, owing to pressure on our space, till next week.

SOCIETIES.

VIOLA CONFERENCE AT BIRMINGHAM.

May 30.—This took place on the afternoon of the first day of the recent Pansy and Viola Show at Birmingham, and was held in the library of the Botanical Gardens. The chairman was Mr. William Cuthbertson (Messrs. Dobbie & Co.), and Mr. R. Dean was requested to take the place of his deceased brother, William Dean, and act as secretary of the Conference.

In opening the proceedings, the Chairman alluded to the great loss sustained by Viola growers and exhibitors through the lamented death of Mr. W. Dean, and thought they ought not to allow the opportunity to pass without placing on the minutes of the proceedings of that day the following resolution of condolence with his widow and family; he therefore proposed:—

"That this meeting of the Viola Conference expresses its deepest sympathy with the widow and family of the late Mr. William Dean, and deplores the loss sustained by floriculture through his death."

This was seconded by Mr. A. J. Rowberry, the Treasurer, and supported by Professor Hillhouse, F.L.S., Mr. John Wright (*Journal of Horticulture*), and others, and carried unanimously.

In continuing, the Chairman said that they could not record any new development in the Viola, as they could not often expect to produce such varieties as Countess of Kintore and Duchess of Fife, which may be said to have marked epochs in the development of this popular flower. But there has been a great expansion of the culture of the Viola, which last year's conference did much to bring about, as it commanded great attention, and placed upon an unquestionable basis the best bedding Violas. Nothing can assist the advancement of any flower so much as placing before cultivators and admirers reliable information as to the best varieties obtainable by young beginners; and a consensus of opinion from experts is always to be preferred to the selections of an individual. When conferences such as that they were holding that day were properly organised—where trade growers, gentlemen's gardeners, and amateurs were properly represented, and can freely discuss the merits and demerits of certain flowers—such opportunities could not be otherwise than productive of an immense deal of good; and he trusted such gatherings would be continued, not only in relation to the Viola, but other popular flowers.

Professor Hillhouse, F.L.S., then read a valuable paper on the genus Viola, illustrating the subject by a reference to some coloured diagrams. He said that according to various botanical methods of demarcation, there were from 100 to 200 species, not much more than a tithe of which were personally known to him in a living condition. What he understood as being required from him by the Conference was an account of such species as were horticulturally interesting, or had played an important part in the genealogy of the Pansies and Violas of to-day, and not an account of all the species included in the genus. It is a genus of wide-spread distribution, especially in the northern temperate hemisphere, and of no little botanical and horticultural interest, and forms a group of dwarf herbs, sometimes annual, often perennial, rarely shrubby, characterised by flowers, of often striking appearance, and within certain limits of great variability; in essentials the flowers are very much alike, and the changes induced from the wild types, though striking in appearance, are in fundamentals, small. There are two types of flower, differing from one another in relatively small points, e.g., in the sweet Violet, V. odorata, the upper of the five petals project well forward, and give a characteristic hooded or funnel-shape to the flowers; while in the Pansy type to which the bedding Violas belong, the upper petals are erect, and the flower is flat. Two other features appertain to these types, in the former (V. odorata), the stipules at the base of the leaf-stalks are small; while in the latter (Pansy type), they are leaf-like in development. In the former the spring flowers, which often do not seed, are commonly supplemented late in summer by small bud-like "cleistogamic" flowers which never unfold, and in which the ovules are fertilised by the pollen of the same flowers; flowers, indeed, which are developed for this very purpose, while in the latter seeding is often profuse, and the cleistogamic flowers are either wholly or in the main absent. Of both types the normal flower is specially constructed for insect fertilisation. Taking V. tricolor as a most pronounced type, the front petal is curved behind into a spur, straight or hooked, and in the gutter-like transition portion, two rows of hairs project across the middle of the gutter, and no doubt serve to guide the proboscis of a visiting insect straight into the spur where the nectar awaits it; the anthers closely surround the rounded or bluntly conical ovary, while projecting above their top is a round stigma, the stigmatic or receptive surface of which is a hollow overhanging the entrance to the gutter; under this hollow the stigma has a flexible projecting lip, viscid on its upper surface. If an insect's proboscis be inserted into the spur, the insect's eye having perhaps been guided thereto by the radiating lines so common in the wilding Pansies, the surface of the proboscis will be licked, so to speak, by the projecting lip, and pollen, if any, brought from a previous Pansy flower, will be left upon its viscid surface; when withdrawn powdered with pollen from the anthers below, the flexible lip is pushed up, only its dry under-surface being presented to the proboscis, and in the same action the pollen upon the upper surface of the lip is transferred to the still more viscid hollow surface of

the stigma, there to develop and fertilise the ovules. There is, therefore, a simple and efficient mechanism for at one and the same time facilitating a cross, and at the same time hindering, if not preventing, self fertilisation or pollination. The genus includes a number of species, such as the Dog-Violet, V. canina, the pretty little marsh Violet, V. palustris, and the yellow alpine Violet, V. biflora. The protean V. tricolor type offers certain points of great interest, inasmuch as it has originated in some fashion or other the present races of Pansies and bedding Violas, once distinguishable by definite characters, which they have now apparently quite lost. Horticulturists are hard-working, clear-headed men, but with some rare and brilliant exceptions they have not been remarkable in England, at least, for a superabundance of scientific botanical knowledge, and much which has been done by them has been effected in a haphazard fashion, and accurate records are well-nigh wanting. Grown by Evelyn in 1687, it was not till the early part of the present century that much attention was given to it, and the confusion now in limiting its parentage is extreme. Some would have it to be a racial descendant from V. tricolor; others that it is the mixed result of the intercrossing of V. tricolor, lutea, grandiflora, and altaica. So indefatigable a worker and keen observer as the late Mr. Darwin gave the question up in despair. Lady Mary Bennet and her gardener Richardson, Lady Monck with the nurseryman Lee, Lord Gambier and his gardener Thompson, are alike credited with the introduction of the modern Pansy. The variability of V. lutea is remarkable, varying, as it does, from pure blue to pure yellow, with every possible transition between. It also is a perennial, while the Viola tricolor of our fields is an annual. A striking Pansy is V. Rothomagensis, the Rouen Heart's-ease, which, according to the *Botanical Magazine* of 1817, had been long cultivated in the Botanical Garden at Paris; and this may have played an important part in the early history of the cultivated plant. I may point out that the natural result of insect fertilisation, should species be grown together which are capable of interaction, is to produce what, for want of a better expression, may be called natural hybrids; and it is by no means impossible that the cultivated Pansies of the early part of this century had their origin in some such fashion, and that such a botanical garden as that of Paris might well enough have given existence to one at least of the garden races. In this, as in so many cases, historical evidence is valueless, on account of its vagueness, and there are but three courses open to anyone who wishes to enter upon such work; one is to institute morphological and anatomical comparisons between the result and its supposed parents; another is to work backwards; and as the modern plant has presumably been produced by a synthesis, so to try to resolve its parentage by an analysis—to select, that is, various seedlings as widely removed from the cultivated form as possible, and so with their seedlings in their turn, and thus bring into play the scientific principle involved in that limited tendency to reversion which all cultivated plants possess. The third method is to endeavour to build up the Pansy again, as indeed M. Carrière is said to have done, and to have thus produced from the wild V. tricolor (whatever that may be) plants very like those of the cultivated Pansy.

I have spoken of the V. tricolor as a protean plant, and which of its various forms, if any, actually originated the Pansy, may never come to light, but the results might throw a bright light upon the genetic relationships of various wild Pansy forms, which are now spoken of as separate species.

Amongst the awards made on the first day of the Conference, and omitted in our report last week, was a Silver Medal to Messrs. J. Backhouse & Sons, York, for an arrangement of Alpine Plants on a Rockery, and a special Award of Merit for a Case filled with species of Trichomanes.

(To be continued.)

THE ROYAL BOTANICAL OF MANCHESTER.

MAY 31 TO JUNE 4.—The Whitsun show of the above was held on these dates. This show at Old Trafford has steadily increased in popularity, and especially is this to be seen in the number of the Orchid classes.

THE ORCHIDS.

This year's show surpasses that of any previous year in the number of Orchids brought together, and the display of new and rare species was extraordinary. Glancing from the head of the steps at the entrance of the great exhibition building in which the Orchids were placed, the eye took in the whole of the skilfully-planned arrangements made by Mr. BRUCE FINDLAY, the Secretary, who is also the sustaining power of these great Manchester shows. Along the centre runs, the raised staging bearing tall graceful Palms, with Tree Ferns between them at intervals, and beneath these were the well-arranged Orchids.

The staging at the sides of the building and the set groups were backed by the climber-clad pillars of the building, Palms, and foliage plants. The right side was chiefly devoted to ornamental groups, the left to the classes of Orchids as scheduled, and the central portion was arranged with groups and classes alternating, the whole forming a beautiful display, and one that was not marred by any glaring show-cards, or disproportionately large plant-tickets, such as are usually to be seen at plant shows.

At the entrance, on the right-hand side, Messrs. F. SANDER & Co., of St. Albans, had arranged a brilliant display of the rare species of Orchids and of new plants, the group having a frontage of over 80 feet, being certainly one of the finest and most interesting group of plants ever seen at Manchester. The Large Gold Medal of the Society was awarded it. Arranged with charming new foliage plants were superb Orchids, as bright and fresh-looking as when they left the nursery. Their number was so great, that it will suffice to name only a few of the best. Of these, perhaps, the fine specimen of the white Lælia-like Dendrobium Johnsoniæ, the first-fruits of a recent importation by the firm, obtained the greatest amount of attention, its ten many-flowered spikes of bloom, like white Lælia anceps, being very remarkable. Miltonia vexillaria Memoria G. D. Owen, a fine form, with dark purple mark on the lip, was also a favourite with visitors, as was Sobralia × Amesiæ, a noble-looking flower, yellow with a lilac tinge, and rose-coloured lip. Sobralia × Veitchii rosea was an equally charming novelty. S. macrantha alba, a pure white; Miltonia vexillaria leucoglossa, M. v. picturata, and M. v. splendens, three beautiful forms of the Banner Orchid; Odontoglossum crispum giganteum, O. præmorpetalum album, and the singular-looking hybrid, O. Ruckerianum; Anguloa Ruckeri, and a fine white form of it; Cattleya Mendeli Sanderæ, and various hybrid Orchids, including a pretty blush-white Disa, were novel and beautiful species and varieties.

Continuing the groups staged not for competition, and which form the backbone of most modern flower-shows, we noted a grand group staged by Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., prominent among whose good things were a new white form of Zygopetalum (Pescatorea) Roezlii, the rich ruby-red tipped Zygopetalum (Pescatorea) Klabochorum atro-rubens, some grand plants of Oncidium Marshallianum, Vanda teres Andersonii, and other Vandas; Calanthe veratrifolia, the singular Brassia Keiliana tristis, Maxillaria Sanderiana atro-purpurea, Epidendrum nemorale majus, E. Imperator, and other pretty Epidendrums; further, some grand plants of Cattleya, Cypripedium, &c.

Messrs. HUGH LOW & Co. had also arranged on the centre stage a fine group, to which their famous strain of Cattleya Mossiæ gave a distinction. The best of their other plants were Lælio-Cattleya × Schilleriana, Cœlogyne pandurata, a variety of Cattleya Mendeli having petals of a rose colour, a throat of orange, and lip brilliant crimson; a plant of Cypripedium caudatum Wallisii, with six flowers, a new light-coloured form of their superb C. × Gertrude Hollington (the most remarkable Cypripedium in the show) were conspicuous; and a Cattleya Mossiæ Arnoldiana, with slate-blue tints.

On the same side of the stage Messrs. CHARLESWORTH & Co., of Heaton, Bradford, had a very attractive group, very well arranged. It included their introduction of a compact flowering variety of Oncidium macranthum, the plants appearing here and there to advantage. Their most telling plants were Lælia tenebrosa Charlesworthii, a very dark and richly-coloured form; Cypripedium Rothschildianum superbum, large, finely coloured, and distinct; some very fine C. bellatulum, Ornithocephalus grandiflorus; Cattleya Mendelii, Meteor, with large flowers, the broad circular lip being of a carmine-crimson colour in the front, and yellow-and-white at the base; C. Mossiæ versicolor, with petals striped with rose-and-purple tints, Lælia purpurata, Odontoglossums, &c.

On the other side of the stage, Messrs. W. L. LEWIS & Co., Chase Side, Southgate, N., staged a pretty group, in which forms of Miltonia vexillaria were conspicuous, one of which had a lip singularly spotted. The group contained some fine Cattleya Mendelii, C. Mossiæ, C. M. Reineckiana, C. M. gigantea, and other Cattleyas and Lælias, the pretty Odontoglossum Pescatorei Lewisii, C. citrosmum varieties, and other showy Odontoglossums, &c.

Beside it Messrs. JOHN COWAN & Co., Garston, Liverpool, had a tastefully arranged stand, a specimen of Brassia verrucosa making an effective central object. Beside this last-named were placed grand specimens of Cattleya labiata Warneri, Lælia purpurata L. p. Brysianum, Epidendrum vitellinum majus, Dendrobium crystallinum, and other Dendrobes, &c. Of the Odontoglossums, the most singular one was O. Poyntzianum ×, a hybrid of the O. Andersonianum class, with creamy-white flowers having cinnamon-coloured spots.

Other fine exhibits, not for competition, were the noble Cattleya "Her Majesty," with many superbly-coloured flowers, shown by F. C. JACOMB, Esq., of Cheam Park, Surrey, and which was perhaps the finest Orchid in the show; an interesting little group of rare Orchids from W. THOMPSON, Esq., Stone, Staffordshire (gr., Mr. Stevens), which included the new Cœlogyne Micholitzii, a large-growing, promising species, some good Lælia majalis, Cattleya Schilleriana, Cochlioda Noezliana, Dendrobium formosum giganteum, &c.; and a small group from M. WELLS, Esq., Broomfield, Sale (gr., Mr. Hindal), chiefly Lælias and Cattleyas, including the white C. Mossiæ Wagneri.

COMPETITIVE CLASSES.

In the scheduled classes great interest was felt respecting the best miscellaneous collection of Orchids in bloom (amateurs). The 1st prize was taken in this class by ELIJAH ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook), with a very fine and extensive display, replete with good things. The Cattleyas in the group were remarkable for their fine quality, several whites appearing among the C. Mossiæ; and an albino of C. superba, named C. superba Ashworthii, a very fine and remarkable variation. Skilfully grouped among the showy Lælias, Cattleyas, &c., were masses of Dendrobium Bensoniæ, D. Dearei, Epidendrum radicans, Miltonia vexillaria, brilliantly-coloured Masdevallias, and other fine subjects; and among the hybrids appeared Cattleya × calummata. The plants throughout were well grown and flowered, and the group was creditable in every respect. The 2nd prize fell to F. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), whose plants occupied the entire end of the building. His more striking plants were a richly-coloured Lælia purpurata Hardyana, Sobralia macrantha alba, Dendrobium Hildebrandii, several fine Anguloa Ruckeri, a large specimen of Dendrobium infundibulum, a white Cattleya Mossiæ, C. Lawrenceana, Lælia tenebrosa, and some good Odontoglossum crispum.

In the corresponding class (best collection of Orchids in bloom), for nurserymen, 1st, Mr. JAS. CYPHER, Cheltenham. This group was set out with the magnificent varieties of Lælia purpurata which he knows so well how to cultivate, arranged with them being plants of Miltonia vexillaria, Masdevallias, Dendrobium Phalænopsis Schroderianum, Epidendrum radicans and E. × O'Brienianum, and other elegant species. Messrs. HEATH & SON, Cheltenham, 2nd, with a collection in which the Phalænopsis were represented better than in any other collection, which contained a specimen of Sobralia macrantha alba, a fine series of varieties of Odontoglossum citrosmum, Aerides crassifolium, &c. Mr. JOHN ROBSON, The Downs, Altrincham, was 3rd.

For the best collection of Cattleyas and Lælias, THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), was 1st, with a splendidly grown lot of plants, one of the best examples seen at the show for good culture. E. ASHWORTH, Esq., Harefield Hall, Wilmslow, was 2nd, his plants being principally Cattleyas, among which were two good white C. Mossiæ; and Mr. JAS. CYPHER was 3rd, with a collection in which Lælias predominated.

For the best collection of Cypripediums, W. R. LEE, Esq., Beech Lawn, Audenshaw, Manchester (gr., Mr. Rollington), was 1st, the central figure in a good collection being C. × Winifred Hollington; the C. × grande, C. Stonei, C. × macropterum, C. Elliottianum, and others were very fine. FRED. HARDY, Esq., Tyntesfield, Ashton-on-Mersey, was 2nd, with a group consisting of a number of species, including C. × Gowerii magnificum, C. × grande atratum, C. × albo-purpureum, &c.; THOS. STATTER, Esq. (gr., Mr. R. Johnson), was 3rd, with a smaller number of plants, but some of which were very fine examples, viz., C. Sargentianum, C. caudatum Wallisii, C. philippinense, C. Rothschildianum, and C. Stonei. E. ASHWORTH, Esq., Wilmslow, took extra prize for plants of Cypripedium.

For the best collection of Dendrobiums, Mr. J. CYPHER was 1st; E. ASHWORTH, Esq., Wilmslow, was 2nd; and F. HARDY, Esq., Ashton-on-Mersey, 3rd; the exhibits being good throughout.

The Silver Cup, value £10, presented by JOSEPH BROOME, Esq., J.P., for the best collection of Odontoglossums in bloom, brought at least one grand exhibit, that of W. THOMPSON, Esq., Walton Grange, Stone, Stafford (gr., Mr. Stevens), which seemed to contain all the good species that bloom at this season, as well as some remarkable new forms. The large and well-arranged group embraced a fine series of Odontoglossum crispum, of which the most noteworthy were the blotched O. c. Alfred, the large pure white O. c. "The Bride," the fine O. c. Thompsoni, some large masses of O. Harryanum, a superb form of O. Boweanum, O. Cro...[illegible], O. sceptrum aureum, O. Cervantesii decorum, and O. C. roseum; O. Ruckerianum, and other hybrids. FRED. HARDY, Esq., Ashton-on-Mersey (gr., Mr. Stafford), 2nd, with a collection consisting principally of O. crispum, O. nebulosum, O. Pescatorei, O. Andersonianum, &c.; Mr. E. HINCHCLIFFE was 3rd.

For the ten best specimen Orchids (made-up plants excluded), the Silver Cup presented by THOS. STATTER, Esq., was taken by E. ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. T. Stafford), with a good collection, among which were a grand Dendrobium Dalhousieanum, Cymbidium Lowianum, Lælia purpurata, Dendrobium Phalænopsis Schroderianum, Cattleya superba, &c.; the 2nd prize going to Messrs. HEATH & SON, Cheltenham; and the 3rd to Mrs. HODGKINSON, Haigh Lawn, Bowdon.

Considering the great stir made about hybrid Orchids, it is remarkable that special prizes offered for them in London and elsewhere have not as yet brought forth competition of any great interest, and the Manchester show was no exception, the prize offered for the best lot of crosses bringing but three entries, only one of which, viz., the Lælio-Cattleya × Aphrodite (C. Mendelii × L. purpurata), with which W. R. LEE, Esq., of Audenshaw, took the 1st prize, which resembles a pale C. eximia, was of any consequence; the 2nd prize was awarded to the C. × Lawrenceanum Curtisii of Mr. Statter; and nothing being stated as to whether it should be new or old, the 3rd prize went to C. × oenanthum superbum of Mr. F. Hardy.

The 1st prize for the best collection of Cypripedium seedlings went to THOS. STATTER, Esq.; and the 2nd prize to E. ASHWORTH, Esq., neither collection being remarkable, although Mr. Statter's plants showed the excellent cultivation which characterises his exhibits.

Awards.

The following Plants received First-Class Certificates:—

Cattleya superba, Ashworth's White, from E. Ashworth, Esq.
Cattleya Mossiæ "John Ashworth," from E. Ashworth, Esq.
Cattleya Mendelii "Her Majesty," from F. C. Jacomb, Esq.
Pescatorea Roezlii alba, from B. S. Williams & Son.
Pescatorea Klabochorum atrorubens, from B. S. Williams & Son.
Miltonia vexillaria "Memoria G. D. Owen," from F. Sander & Co.
Dendrobium Johnsoniæ, from F. Sander & Co.
Sobralia × Amesiæ, from F. Sander & Co.
Sobralia × Veitchii rosea, from F. Sander & Co.
Heliconia illustris rubricaulis, from F. Sander & Co.
Dracæna Godseffiana, from F. Sander & Co.
Ludovia crenifolia, from F. Sander & Co.
Alocasia atropurpurea, from F. Sander & Co.
Begonia Princess Mary, from F. Sander & Co.
Begonia Sander's Masterpiece, from F. Sander & Co.
Sonerila Diadem, from F. Sander & Co.
Eriocnema Sanderæ, from F. Sander & Co.
Bertolonia nicobarica, from F. Sander & Co.
Cypripedium × Gertrude Hollington, from Messrs. Hugh Low & Co.
Lælia purpurata Princess May, from Mr. Jas. Cypher.
Lælia purpurata alba, from Mr. Jas. Cypher.
Miltonia vexillaria splendens, from Mr. Jas. Cypher.

Awards of Merit.

Odontoglossum Roeblingianum, from Messrs. F. Sander & Co.

Odontoglossum prionopetalon albens, from Messrs. F. Sander & Co.

Masdevallia Sander's Red, from Messrs. F. Sander & Co.

Coleus Fascinator, from Messrs. F. Sander & Co.

Asparagus albanensis, from Messrs. F. Sander & Co.

Begonia Duchess of York, from Messrs. F. Sander & Co.

Begonia Duke of Cambridge, from Messrs. F. Sander & Co.

Begonia Rajah, from Messrs. F Sander & Co.

Sonerila Mrs. H. P. Walters, from Messrs. Sander & Co.

Cattleya Mossiæ Beatrice Ashworth, from Mr. E. Ashworth.

A large Gold Medal was awarded to Messrs. F. SANDER & Co., of St. Albans, for new and rare plants, Orchids. Gold Medals were awarded to Messrs. JOHN LAING & SONS, London, for Caladiums; Messrs. SUTTON & SONS, of Reading, for Gloxinias, Calceolarias, &c.; Messrs. THOMAS RIVERS & SONS, of Sawbridgeworth, for Nectarines; and Messrs. JONES & SONS, of Shrewsbury, for bouquets and floral decoration.

OTHER EXHIBITS.

The large glass-covered space, called the annexe, presented a scene of more than usual brilliancy. There was not the congregation of first-class specimens, such as we have seen in other years, but there were Gloxinias, Calceolarias in their many hues, the multi-coloured Caladiums, with leaves more captivating and more diverse in colour than many flowers. And then the bright hues of the cut specimens of herbaceous plants, particularly the Pyrethrums, were very dazzling. The Rhododendrons, in all their varying colours, were the chief features, covering a large portion of the space. We missed the collections of Roses from the south, and of Pelargoniums, and even the miscellaneous groups, which were wont to play a very conspicuous part at Whitsuntide, were less prominent than usual. The Azaleas were poor, and there was a want of Heaths and New Holland plants of the hardwood tribe, which seem to be fast disappearing in the general collections of the country. Taking the whole, both in the show-house and in the annexe, it is clear that the aim of cultivators is to go for plants of the best quality practicable in small portable pots. For general purposes this is a move in the right direction, although old exhibitors shake their heads, and lament over the disappearance of the "elephants" of bygone times.

The whole of the Rhododendrons came from JOHN WATERER & SON, the lights predominating over the reds in so far as the flowers were developed. We noticed Duchess of Connaught, the still useful album elegans, Kate Waterer, Princess Mary of Cambridge, the striking Everestianum, William Ewart Gladstone, Lady Eleanor Cathcart, George Hardy, and many others.

Messrs. SUTTON & SONS, Reading, had a choice assortment of Gloxinias and herbaceous Calceolarias. The strain in these was excellent, and the habit so dwarf and the leaves so large as to command attention. There is no white Gloxinia that can rival Her Majesty, and the leaves are so broad and succulent, quite draping the sides of the pots. The footstalks of the flowers are short and the flowers themselves large and full of substance. Reading Scarlet is very striking, and so is Adoration. The same remarks apply to the Calceolarias, which for density of habit and profusion of bloom and form and spotting of flowers we have not seen surpassed. In this exhibit was a fine set of Tomatos in crimson and yellow. Perfection was the best of the crimsons, Princess of Wales is good, and Golden Nugget, as its name implies, is like ropes of Onions, so thickly set is the fruit on the plants; Earliest of All seems a good form. One is more struck, however, with the Peas exhibited in 8-inch pots by this firm; they are positively as fine as the best grown "strain" in the open garden, and the pods as full and large, and beautiful sea-green; Empress of India and Favourite are two striking varieties.

Messrs. JOHN LAING & SON, of Forest Hill, London, S.E., had a beautiful group of Caladiums set in one of the grass circles in the centre of the design. The improvement in the seedlings of this genus is very marked. Baron C. de Hirsch, Rose Laing, and Ibis Rouge, the latter particularly brilliant red with the white ground shining through it, very pleasing to the eye. Another one with a very large leaf of the lighter kind is Cajabi. Golden Queen is a misnomer—the leaf is too like a decaying Aristolochia. James de Rothschild, Fairy Queen, and Queen of Portugal were conspicuous. There was also a fine little group of variegated Aaron's Beard (Saxifraga sarmentosa variegata), the white here is very pronounced, and the colouring generally distinct and good. A number of Saintpaulia ionantha, Streptocarpus, and Begonias of the older forms were represented.

Messrs. DICKSON & Co., Chester, had an effective group of cut herbaceous plants in much variety, consisting of Papaver nudicaule, Pyrethrums in quantity, the pretty yellowish Cypripedium pubescens, Thalictrums, Camassia esculenta, a nice effective blue, as well as the Cœrulean Campanula, the double scarlet Geum, Armerias, Centaureas in varied colour, &c.

Mr. THOS. WARE, Tottenham, had a fine lot of the naked-stemmed Poppy, quantities of Pyrethrums, Heuchera sanguinea, Aster Alpinus, Lychnis flos-cuculi flore-pleno, the roseate form of this is beautiful and well worthy of general cultivation, and a large lot of the pink Souvenir de la Malmaison Carnation in pots. CUTBUSH & SON, Highgate, had a very nice lot of Pinks and Carnations, and some charming plants of Lechenaultia biloba—which for an indigo tint has never been surpassed in flowers.

Mr. J. FORBES, Hawick, had the only group of Violas and Pansies. The hot weather has a tendency to curl up the flowers of Violas; still, those shown were wonderfully fresh-looking. We liked for distinctness the bronze and yellow Jack-a-nape Viola, and the variety Pilrig Park still holds its own among whites. The fancies were a good assortment.

Messrs. HARKNESS & SON, Bedale, had a nice assortment of cut herbaceous and other flowers, in which Poppies and Pyrethrums predominated, one ruby and gold form being shown in quantities were much admired.

Messrs. JONES & SONS, Shrewsbury, exhibited some excellent wreaths, crosses, and chaplets, and a few Goodyear bouquets, which, when well arranged with good flowers, from their neatness and drapery of Asparagus and Smilax and ribbons, tell well. The Cypripeds as grouped here in this way looked surprisingly good.

Mrs. HODGKINS, Wellington, who has taken many gold medals for skeletonised leaves and flowers, had an excellent assortment. Her manipulation of the appendages and pitchers of Nepenthes, as represented in the group, are very notable.

Groups.—In the groups, Miss LORD, Ashton-on-Mersey, made up by far the most artistic, and best in every way. A very good use was made of pieces of rockwork abutting here and there, now rising, now falling, effectively covered with sphagnum, making it look realistic. It was made up of Palms, Kentias predominating, with Alocasia Veitchi, Anthuriums in variety, the telling Gladiolus-flowered Cannas, several good pieces abundantly-flowered of Dendrobium densiflorum, with undulations filled up with Caladium argyrites, Calceolarias, Crotons, Coleus, all easy-like, but yet too crowded. In the group which took the 2nd prize, that shown by Mrs. AGNEW, Eccles, there were some notable things, particularly Strobilanthes Dyerianus, a brilliant ovate-leaf plant, as lustrous as an Alocasia, but as soft as a Nettle. The Crotons here were well-coloured and effective, and the Ferns, Isolepis, and Palms, and mixed flowering-plants grouped well together. Mr. BLAIR, gr., Whallee House, had also a showy group.

NEW AND RARE PLANTS.

Messrs. SANDER had by far the best. Their chief novelties were in Sonerilas, with multitudinous spots, varying in formation of leaf from oblong-ovate to round. They had also a pretty Coleus with roundish golden and green leaves, named Golden Hyes. Among the best novelties was Begonia Rajah, noticed in our report of the Temple Show. Cyrtanthus obliquus produces a stout spike, with large orange-scarlet and green flowers, better inflated than most of its compeers.

FRUIT.

Messrs. T. RIVERS & SON, Sawbridgeworth, exhibited the variety of Nectarine which pleased so much in the south the other week, and commanded the attention of the few people who visited the show on the first day. The quantities of finely-swelled well-coloured fruit, on trees clad with good leaves, showed first-class cultivation, and also made people mark the varieties as showing the cross-breeder's skill. Early Rivers is undoubtedly the largest and best Nectarine, but Cardinal is also excellent. The exhibit well merited the Gold Medal awarded to it.

JAS. WATTS, Esq., Cheadle, showed Black Hamburgh and Foster's Seedling Grapes in fairly good condition; Brown Turkey Figs, the scarlet-fleshed May Queen Melon, a good dish of Tomatos, and samples of the fruit of Cycas revoluta.

The Society, according to the Chairman at dinner, is about to raise £2000, to help £100 of which was subscribed by Lord DERBY, as stated on p. 716; another £100 by a donor whose name is not given, and Mr. STATTER also promises a subscription.

SOUTHAMPTON HORTICULTURAL.

JUNE 3.—As usual, the Royal Southampton Horticultural Society held its annual Whit-Monday Exhibition in Westwood Park, bringing together so great a variety of exhibits as to form one of the best shows held at this season. Non-competitive exhibits formed a marked feature, as did the groups of mixed plants which competing gardeners had arranged with regard to general effect.

The principal group-class was that in which a space, 98 square feet had to be covered. In this competition Mr. WILLS, Florist, Winchester Road, Shirley; and Miss TODDS (gr., Mr. Peel), Sidford Lodge, of the same place, were awarded equal 1st prizes. The former had excellent specimen Palms, Crotons, Caladiums, with coloured leaves; Orchids in flower, and Gloxinias, &c., all of which he had lightly and harmoniously disposed over a carpet of dwarf-growing species of Ferns. Mr. Peel's plants were beautifully flowered, and included fine Oncidium sphacelatum and Cattleya Mossiæ.

For smaller groups, Mr. T. Hall, gr. to Sir S. MONTAGUE, Bart., M.P., South Stoneham House, Southampton, was easily 1st, with a group whose arrangement did him much credit. Mrs. KINGSBURY, Bevois Valley Nurseries, was 2nd.

PLANTS.

Mr. E. Carr, gr. to W. A. GILLETT, Esq., Fair Oak Lodge, Bishopstoke, was 1st for six specimen Caladiums, six Begonias, and six Gloxinias. Pelargoniums, Roses, Spiræas, and Palms were well shown in their respective classes.

Orchids in a cut state were a distinct feature, and especially fine were those shown by Mr. CARR, especially the plants of Millonia vexillaria, Odontoglossum citrosmum, O. cordatum, O. crispum, and O. Pescatorei, Oncidium sphacelatum, Lælia purpurata, Epidendrum vitellinum majus, Cattleya Mendeli, and Cypripedium Rothschildiana.

The BELMONT NURSERY CO. and Mr. WILLS showed plants, both foliage and flowering, suitable for decorative purposes.

CUT FLOWERS.

Dr. SEATON, Rutland Lodge, Bitterne, was the winner of the 1st prize for twelve cut blooms of Roses, the quality being extra, although they were not distinguished for large size. Mr. West, gr. to — WYGRAM, Esq., Northlands, Salisbury, was 2nd in this class. Herbaceous flowers made a magnificent display. For twelve bunches, distinct, Mr. LADHAMS, florist, Shirley, was an easy 1st, with a very fine lot, lightly set up in vases; 2nd, Mr. WEST. Miss KATE GOLDING, Portswood, had the best dressed epergne; and she was closely followed by Miss WILLS.

VEGETABLES.

Vegetables were remarkably good. For six kinds, 1st, Mr. Hall, with, amongst others, capital Webber's White Beauty Potatos, Early Milan Turnips, and Duke of York Tomatos. Of non-competitive objects, which were numerous, mention should be made of a magnificent collection of Rhododendrons and shrubs in pots, as well as a quantity of cut blooms sent by Mr. W. H. ROGERS, Red Lodge Nurseries; of Mr. LADHAMS' grand display of herbaceous and alpine plants in bloom, the latter being disposed about an extemporised rockery; a fine bank of Aquilegias, Pinks, including Ernest Ladham, Cytisus Andreanus, profusely flowered in pots, shown by the nurseryman, greatly added to the beauty of the general display.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Above (+) or below (—) the Mean for the week ending June 1.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1895.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1895.	Rainfall: More (+) or less (—) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1895.	Rainfall: Total Fall since Jan. 1, 1895.	Rainfall: Percentage of possible duration for the Week.	Rainfall: Percentage of possible duration since Jan. 1, 1895.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.				
0	5 +	88	0	+ 58	+ 266	5 —	93	15·4	40	30		
1	6 +	101	0	— 12	+ 415	4 —	74	9·0	56	34		
2	6 +	106	0	+ 24	+ 278	2 +	80	10·2	46	32		
3	4 +	106	0	+ 5	+ 284	1 +	72	8·0	60	37		
4	6 +	121	0	+ 11	+ 372	2 —	62	8·3	57	34		
5	4 +	113	0	— 55	+ 333	2 —	70	7·1	54	36		
6	5 +	103	0	+ 12	+ 364	6 —	78	10·3	48	31		
7	6 +	116	0	+ 8	+ 302	1 —	76	10·0	48	35		
8	4 +	107	0	— 43	+ 337	1 —	66	11·4	66	43		
9	5 +	107	0	— 39	+ 275	4 —	85	10·7	48	33		
10	3 +	102	0	— 91	+ 195	0 aver	74	12·7	47	34		
*	4 +	114	0	— 68	+ 248	4 +	78	10·2	64	47		

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending June 1, is furnished from the Meteorological Office:—

"The *weather* was generally fine and dry during the greater part of the week, but towards its close it became unsettled, and thunderstorms were experienced in many localities, accompanied by very heavy rain at Cambridge on Thursday and at York on Saturday. Thick fog again prevailed on our east and south-east coasts during the earlier part of the period.

"The *temperature* was much above the mean, the excess ranging from 3° in 'Ireland, S.,' to 6° in 'Scotland, E., England, N.E. and N.W., and in the Midland Counties.' The highest of the maxima were recorded on May 30, when the thermometer rose to 87° in 'England, E.' (at Cambridge), to 85° in 'England, S.,' and to between 80° and 84° in most other parts of the Kingdom. The lowest of the minima occurred as a rule, during the earlier part of the period, and varied from 35° in 'England, S.W.,' and 36° in 'Scotland, E. and the Midland Counties,' to 42° in 'England, N.E.,' and 45° in the 'Channel Islands.' The range of temperature during the week was very large, especially at the inland stations.

"The *rainfall* exceeded the mean in 'England, N.E. and the Channel Islands,' and just equalled it in 'Ireland, S.;' in all other districts, however, there was again a deficiency.

"The *bright sunshine* was much more prevalent than during the preceding week, and exceeded the mean in all districts. The percentage of the possible duration ranged from 65 in 'England, S.W.,' and 64 in the 'Channel Islands,' to 46 in 'England, N.E.,' and to 40 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, June 6.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	4 0	6 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	3 6	4 0
Lilies of the Valley, doz. sprays	0 9	1 6
Lilium Harrisii, per dozen	3 0	4 0
Maidenhair Fern, per 12 bunches	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays	0 8	1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	2 0	6 0
— red, per dozen	2 0	6 0
— (French), red, per dozen	2 0	3 0
Iris, per doz. buns.	9 0	20 0
Stephanotis, dozen sprays	2 0	4 0
Tuberoses, 12 blms.	0 4	0 6

ORCHID-BLOOM in variety

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Azaleas, per doz.	18 0	24 0
Calceolaria, per doz.	6 0	9 0
Coleus, per dozen	6 0	9 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica Cavendishii, per dozen	36 0	42 0
— various, doz.	12 0	24 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz.	6 0	10 0
Heliotrope, per doz.	4 0	6 0
Hydrangeas, p. doz.	12 0	18 0
Ivy Geraniums, doz.	4 0	8 0
Lobelia, per doz	4 0	6 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	4 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, doz.	9 0	15 0
Rhodanthe, per doz.	5 0	7 0
Spiræas, per doz.	8 0	10 0
Stocks, per doz.	4 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Figs, per dozen	3 0	6 0
Grapes, 1st quality, black, English, per lb.	2 6	3 0
— Muscats	3 0	4 0
— Guernsey	1 0	2 0
Melons, each	2 0	3 0
Peaches, per dozen.	10 0	12 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	1 6	2 6
" " 2nds., lb.	0 6	1 0

VEGETABLES.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0
Beans, per lb.	0 6	0 8
Cauliflowers, p. doz.	2 6	3 6
Cucumbers, per doz.	2 0	3 0
Mint, per doz. bun.	2 0	3 0
Mushrooms, per lb.	0 6	0 8
Peas, per bushel	6 0	7 0
Tomatos, Home-grown, per lb.	0 6	0 8
— Guernsey, p. lb.		0 6

OLD POTATOS.

Trade slow. Imperators, 80s. to 90s.; Bruces, 70s. to 100s.

NEW POTATOS.

Malta kidneys 16s. to 18s.; do., rounds, 14s.; Lisbons, supplies short, 10s.; Canaries, good demand; best samples, 16s. to 18s.; small, 9s. to 12s.; Jersey Kidneys, 18s. to 20s. *J. B. Thomas.*

SEEDS.

LONDON: *June* 5.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market as quite of a holiday character, with but few transactions passing. Quotations in the absence of business are consequently unchanged. Haricot Beans have met an improved inquiry. Peas steady. Mustard and Rape seed realise full prices. As regards Canary seed, holders exhibit great firmness.

FRUITS AND VEGETABLES

BOROUGH: *June* 4.—Quotations:—Carrots, 1s. 9d. to 2s. per bag; Spring Onions, 1s. per dozen bunches; Horseradish, 1s. to 1s. 3d. per bundle; Foreign Onions, 2s. to 4s. per bag; Apples, Tasmanian, 6s. to 10s. per case.

STRATFORD: *June* 4.—The supply to this market during the past week has been excellent, and with a good attendance of buyers a brisk trade has been done as under. Quotations: Cabbages, 4s. to 6s. per tally; Greens, 2s. 6d. to 3s. 6d. per bag, loose; Cauliflowers, 1s. 6d. to 2s. per dozen; ditto, 6s. to 10s. per tally; Cucumbers, 2s. to 4s. 6d. per dozen; Horseradish, 9d. to 1s. per bundle.

FARRINGDON: *June* 6.—Quotations: Apricots, 1s. per box; Apples, Tasmanian, 10s. to 12s. per box; Cherries, 6s. to 8s. per box (24 lb.); Gooseberries, 3s. 6d. to 4s. per bushel; Tomatos (English), 10d. per lb.; Cucumbers, 3s. per dozen; Lettuces, 1s. per score; Leeks, 1s. 6d. per dozen; Horseradish, 9d. per bundle; Radishes, 1s. per dozen bunches; Carrots, 1s. per bunch; Turnips, 4s. per dozen bunches.

POTATOS.

BOROUGH: *June* 4.—Quotations for old ranged from 70s. to 80s. per ton; new, from 9s. to 24s. per cwt.

STRATFORD: *June* 4.—Quotations:—Old: Dark land Magnums, 50s. to 60s.; upland do., 65s. to 80s.; Bruces, 65s. to 85s.; York Bruces, 90s. to 105s.; Scotch Magnums, 80s. to 100s.; Main Crop, 90s. to 110s. per ton. New: Jersey, £13 per ton; Bordeaux, 7s. to 7s. 6d. per cwt.; Lisbon, do., £9 to £10 per ton.

FARRINGDON: *June* 6.—Quotations:—Main Crop, 100s. to 110s.; Bruces, 90s. to 10s.; Magnums, 70s. to 80s.; Imperators, 85s. to 90s. per ton. New: Jersey, 14s. per cwt.

LONDON AVERAGES: *June* 5.—New: Maltese, 16s. to 18s.; Jersey, 14s. to 16s.; Lisbons, 9s. to 11s. per cwt. Old: Maincrop, 120s. to 130s.; do. Grey, 90s. to 100s.; Magnums, 55s. to 75s. per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 110s.; do., inferior, 60s. to 90s.; hay, best, 60s. to 90s.; do., inferior, 36s. to 80s.; mixture, 70s. to 90s.; and straw, 18s. to 24s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending June 1, and for the corresponding period last year:—1895: Wheat, 24s. 5d.; Barley, 19s. 4d.; Oats, 18s. 10d.; 1894: Wheat, 23s. 11d.; Barley, 23s. 11d.; Oats, 18s. 9d.

VARIORUM.

TRICKS PLAYED BY PLANTS.—Dr. Lundström has recently described some cases of alleged plant mimicry. The cultivated plant known as Calendula may in different conditions produce at least three different kinds of fruit. Some have sails, and are suited for transportation by the wind; while others have hooks, and catch hold of passing animals; but the third kind exhibits a more desperate dodge, for it becomes like a caterpillar! Not that the fruit knows anything about it, but if it be sufficiently like a caterpillar, a bird may eat it by mistake, the indigestible seeds will be subsequently sown, and so the trick succeeds. The next case is more marvellous. There is a more graceful wild plant, with beautiful delicate flowers, known to many as the Cow-wheat. Ants are fond of visiting the Cow-wheat to feast on a sweet banquet spread out upon the leaves. Dr. Lundström has observed one of these ants, and was surprised to see it making off with one of the seeds from an open fruit. The ant took the seed home with it. On exploring some ant-nests, the explorer soon saw that this was not the first Cow-wheat seed which had been similarly treated. Many seeds were found in the ant nurseries. The ants did not eat them or destroy them; in fact, when the nest was disturbed the ants saved the seeds along with their brood, for in size, form, colour, and weight, even in minute particulars, the seeds in question resemble ant-cocoons. Once placed among the cocoons, it requires a better eye than an ant has to distinguish the tares from the wheat. In the excitement of flitting, when the nest is disturbed, the mistake is repeated, and the seeds are also saved. The trick is found out some day; for the seeds, like the cocoons, awake out of sleep. The awakening displays the fraud. The seeds are thus supposed to be scattered; they germinate and seem to thrive in the ant-nests. *Pearson's Weekly, May* 18, 1895.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who will know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot as a rule be named.*

ADMISSION TO THE ROYAL GARDENS, KEW: *W. S. S.* You should make written application to the Director, stating at the time your amount of gardening experience, &c.

APPLE: *W. T.* We suspect frost has caused the death of the shoots, and there was canker visible in some of the shoots. Have you examined the stem for the stem borer?

BOOKS. *R. Creighton The Orchid Review*, an illustrated monthly journal, treating of Orchids only, price 1*s*. Communications should be sent to Editor, Lawn Crescent, Kew.

CABBAGES DISEASED. *Rowley*. The plants are attacked by Peronospora parasitica. Spray with solution of permanganate of potash twice a week. Get rid of as many of the dead or fallen leaves as possible, as the fungus is most abundant on these.

CHERRIES INJURED BY INSECTS: *W. B.* The larvæ damaging the Cherries were those of a small moth of the genus Tortrix, akin to that which ravages Oak trees in the same way. Spraying with paraffin emulsion is the best remedy, but it should have been done earlier. *R. McL.*

CORRECTION: In our notice of Epidendrum Stamfordianum last week (see p. 687), for "C. Fayne," *read* "C. Payne."

GALL ON OAK: *Lymington.* What you send is the twig and male flowers of an Oak bearing a gall in the shape of a ball of cotton-wool. The wool conceals and protects the small fleshy, rounded galls. These galls are produced by a fly named Andricus ramuli, which emerges in July.

GARDENERS' ORPHAN FUND: *A. F.* Thanks for postal order, value 2*s*., sent to the Secretary. The Pines shall be named next week.

INJURY TO PLANTS OF STRAWBERRY: *G. N.* The larva destroying the Strawberry plants is part of a saw-fly analogous to that which infests Gooseberry, but of course distinct. We cannot give precise name without seeing the perfect insect. Another season it might be well to spray with paraffin emulsion so soon as the leaves show signs of attack. *R. McL.*

INSECTS: *W. B.* Otiorhynchus sulcatus, the Vine-weevil: very destructive. Catch them at night by spreading a sheet on the floor before twilight sets in. They will fall to the ground if you go into the house, and suddenly turn a bright light on to them. Quickly gather up the sheet, and destroy the insects caught in it.

JUDGING ALLOTMENT GARDENS: *J. R. M.* If there are two judges, and only one visit is practicable, we think a good plan would be for the two judges to go over the garden together, and inspect the whole, then the judges should go over the ground again, this time noting the number of points for each crop, and for general tidiness, &c. The younger judge should call out so many points for this or that, and the second judge should enter the numbers, or if he saw reason to differ should discuss and the point at once be settled. At the close the figures should be added up. Of course, the number of points for each subject should be arranged beforehand. ED.

MUSCAT VINE LEAVES INJURED. *C. H.* The decay of the leaves is due to having been chilled, and not scalded. Probably sufficient attention has not been paid to temperature when watering during the past spell of cold weather. *G. M.*

MUSHROOMS AND MAGGOTS: *G. Masson.* You must clear out the whole of the materials of which the beds consist, and char them, or trench them into the land two spits deep. The larva of the Mushroom-fly bores through the stems of the Mushrooms before they are fully grown. The chief preventive is to keep the temperature of the place where Mushrooms are grown below 60°, and to abandon Mushroom growing indoors in the warm weather.

NAMES OF PLANTS: *A. A.* Cattleya Forbesii.—*Major B.* A, Saxifraga rotundifolia, L.; B, S. hypnoides, L.; C, S. cuneifolia, L.; D, S. Geum, L.; E and F, Forms of S. Aizoon, Jacq.—*East Anglia.* Phyllocactus crenatus.—*F. M.* Nothoscordum fragrans.—*W. J. P.* 2 Vaccinium corymbosum; 3, Robinia hispida.—*C. H. J.* Selaginella viticulosa; Adiantum concinnum.—*E. M. C.* Oncidium leucochilum, so far as can be judged by the specimen sent.—*J. J. & Son.* Apparently the Loquat, Eriobotrya japonica.—*Truffle? Mrs. M.* Certainly not a truffle, but a growth from the root, probably due to insect puncture.—*W. J.* Senecio (Cineraria) Heritieri.—*C. G.* 1, Aubrietia deltoidea; 2, not recognised; 3 Hesperis matronalis.—*W. D. H.* Cynoglossum officinale.—*C. H. S.* We found only a potato tuber and a leaf withered beyond determination.—*M. K. G.* 1, Pyrus Aria; 2, Funckia ovata, var.; 3, Asphodelus ramosus.—*H. B.* Apparently a Galium, but it was so withered as to be beyond recognition.—*H. P.* 1, Asphodelus ramosus; 2, Geum species, send in flower; 3, Saxifraga rotundifolia.—*W. P., Lostwithiel.* 1. Pyrus Aria; 2, Cotoneaster frigida.—*K. S. L.* Inula glandulosa.—*Flora.* 1, Phlox subulata; 2, Meum athamanticum; 3, Anthericum Liliastrum; 4, Mertensia sibirica; 5, Saxifraga Geum; 6, Saxifraga rotundifolia; 7, Saxifraga hypnoides, var. The damp moss had obliterated your figures, so that we are not quite sure as to your numbers.—*H. Tranter.* Dendrobium mesochlorum.—*J. H. S.* Mother of Thousands is Saxifraga sarmentosa.—*W. T.* Basella alba.—*F. W. W.* Salix pentandra.—*G. M.* The well-known Adam's Laburnum, a graft hybrid between the Laburnum and Cytisus purpureus.

NEWSPAPER: *J. H. S.* No. 1, Clement's Inn, Strand, W.C.

PEAS DISEASED: *J. Elworthy.* Peronospora viciæ is causing the trouble. Spray with solution of permanganate of potash, or Bordeaux Mixture, taking care to wet the under-surface of the leaves.

PLUMS: *G. H.* Probably the effects of frost.

RASPBERRY PLANTS FRUITLESS FOR THREE YEARS: *Raspberry.* The injury is caused by insects, the young shoots being bored and eaten. It is now too late to apply a remedy this season, but in future the young shoots can be saved from attack by dusting them with powdered hellebore.

COMMUNICATIONS RECEIVED.—G. N. (next week).—H. & C. A.—C. L. P.—D. T. F.—T. H. C.—H. N. E.—A. M., Vienna.—C. P., Sydney.—W. E. B, Grenada.—J. L. & Sons, Treves.—C. P.—P. A. Ottolander Bookoop.—W. E. G.—Commendatore Hanbury.—W. B. H.—W. T. T.—W. H.—H. N. E.—H. C. F.—Siebrecht and Wadley.—Colonist.—J. D.—C. S. Fuidge, with thanks.—C. Sowerby.—Q. R.—G. S. H.—R. D.—A. D. J. O'B.—A. H.—J. U.—R. L. H.—Thos. Smith.—T. D.—P. B. & Sons.—C. P.

PHOTOGRAPHS, SPECIMENS, &c. RECEIVED WITH THANKS.—C. L. P.—C. M., Sydney.—C. J. L.

DIED.—Mr. EDWARD RUSH, a well-known seedsman, of Chester, on June 6.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

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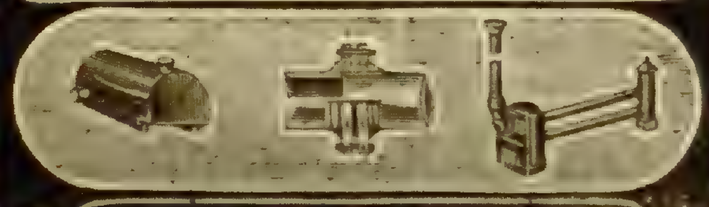

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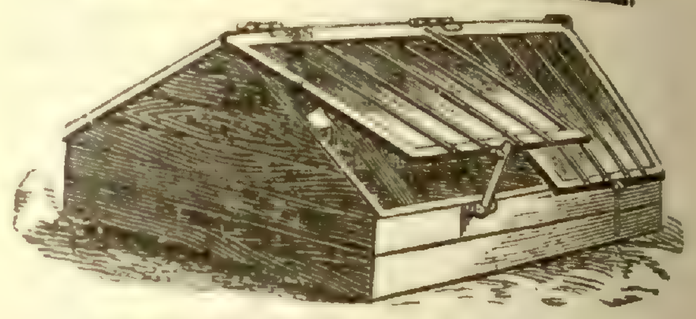

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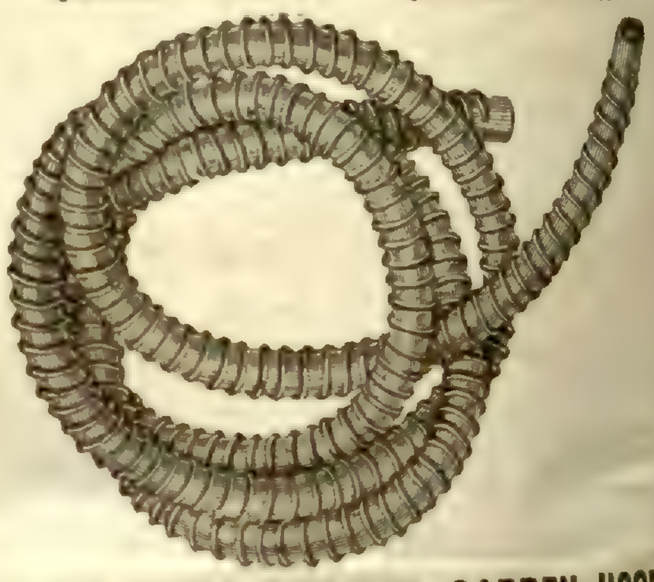

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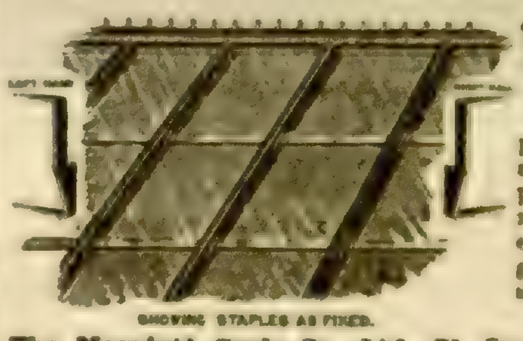

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10	„ ..	0	6	0	21	„ ..	0	11	6
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WANTED, a GARDENER. — Single or married, no family; must be good worker, and obliging. Help given. Grounds 2 acres, 5 Glass Houses.—Apply, DAY DAWN, 7, Netherhall Gardens, London, N.W.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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GARDENER (UNDER), wants situation as above.—Age 22; good knowledge of Gardening. Two years good character.—H. H., 39, Woolwich Road, Belvedere, Kent.

GARDENER (KITCHEN, or LAWN MAN).—Age 27; married. Good Scythe-hand; could take duty. Good references.—G. HAYLOCK, Tilgate Gardens, Crawley.

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GARDENER (UNDER), Inside, or Inside and Out.—Age 20; seven years' good character.—J. NICHOLSON, Elkington Hall, Louth, Lincolnshire.

GARDENER (UNDER); age 19.—RECTOR recommends the above. Two years' experience; good character.—RECTOR, Binegar, Bath.

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JOURNEYMAN.—Mr. HARMAN, Newnham Paddox Gardens, Lutterworth, can recommend a young man as above.

JOURNEYMAN, Inside.—Age 22; nine years' experience in the general routine. Good character.—J. FAIRCLOUGH, Mill Hill, London, N.W.

JOURNEYMAN (SECOND), in Houses.—Age 22; eight years' experience. Can be highly recommended.—J. SHEPPARD, Caversham Park Gardens, Reading.

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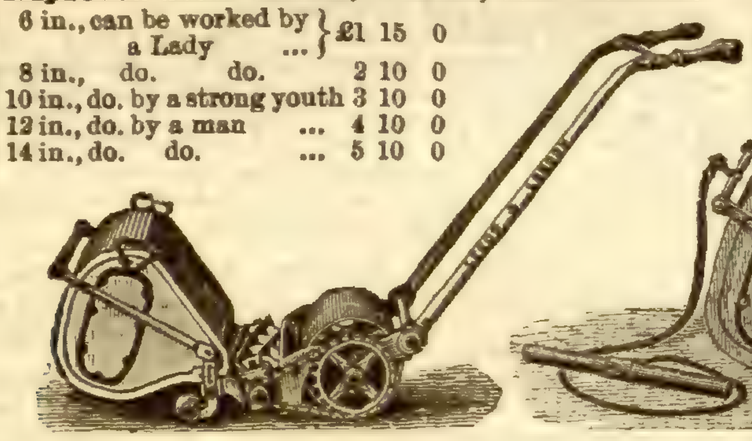

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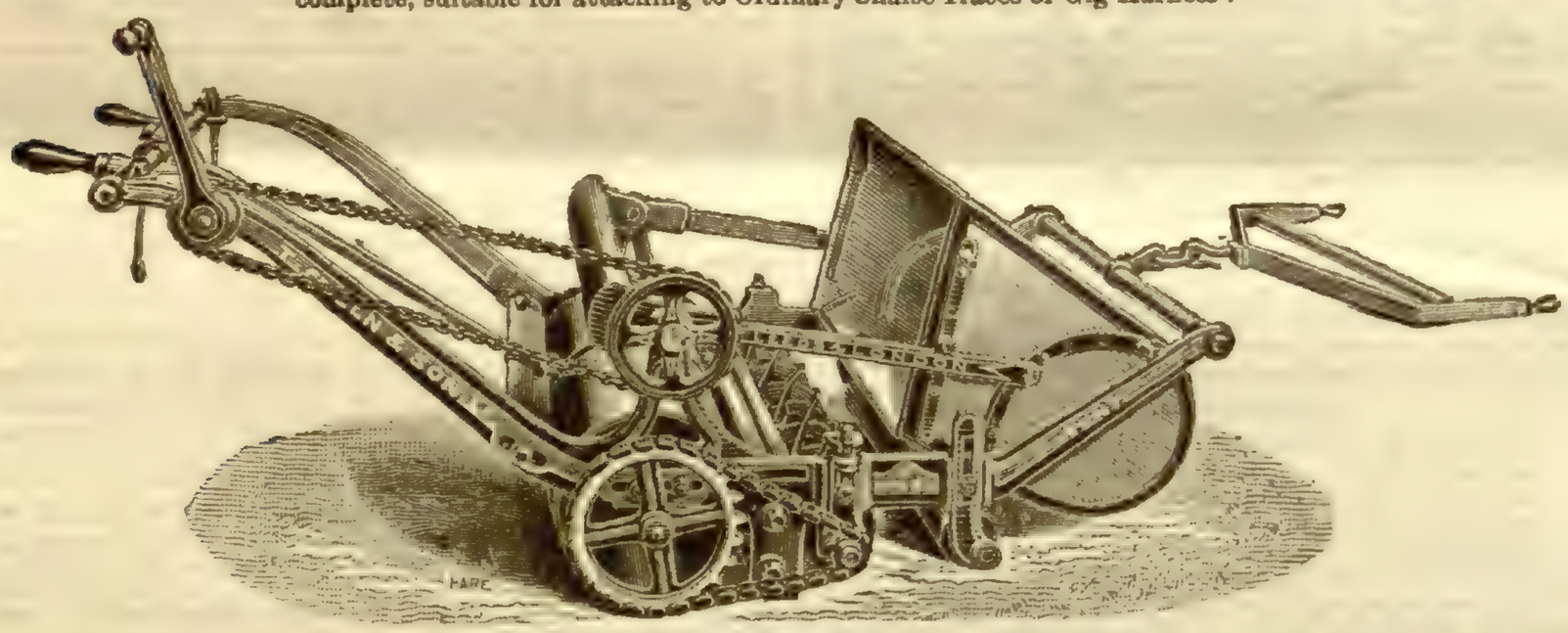

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Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 8 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.

PRICES, *With Grassbox.*

To cut 6 in.	£1	5	0
To cut 7 in.	1	13	0
To cut 8 in.	2	5	0
To cut 10 in.	3	0	0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.

1st size, with 3 wheels, 14s.

Large size for Clubs and Large Grounds, price 17s.

Small Bag of Marking Composition, 9d.

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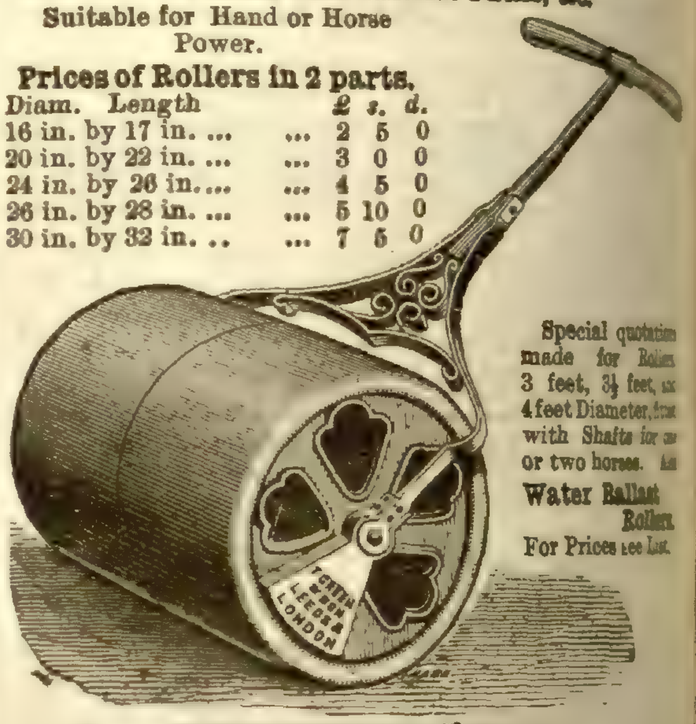
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.
16 in.	by 17 in.	2	5	0
20 in.	by 22 in.	3	0	0
24 in.	by 26 in.	4	5	0
26 in.	by 28 in.	5	10	0
30 in.	by 32 in.	7	5	0



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It is superior to any Mower of this class yet brought out.

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PRICE, 30s.

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Descriptive Illustrated PRICE LISTS Free on application to

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

STRAWBERRIES.—All the best varieties in cultivation are grown extensively in separate large breadths, and are now in full fruit. All those interested in their various characteristics are cordially invited to come and partake, and make minute examination. Well rooted runners will shortly be ready. For particulars, send for a Catalogue.
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The most complete and exhaustive Treatise on Grapes and their Culture ever published.
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1,000,000 DRUMHEAD CABBAGE PLANTS, 2s. 6d. per 1000; Myatt's Offenham, 2s. 6d.; Drumhead SAVOY, 2s. 6d.; Covent Garden BRUSSEL, 2s. 6d.; Veitch's Autumn Giant CAULIFLOWER, 4s.; Early London, 4s.
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H. B. MAY'S ANNUAL TRADE OFFER of FERNS, PALMS, CARNATIONS, ROSES, &c., is now ready, and will be sent post-free on application.
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The most distinct and beautiful continental variety yet in commerce. Centre of flower white, encircled with intense violet-blue, edged with very bright red. Dwarf compact habit, and very free. Excellent for winter blooming
Strong plants, 1s each, 10s. per dozen.
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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

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To H.R.H. THE PRINCE OF WALES.
MACKENZIE AND MONCUR, Limited, Horticultural Builders & Heating Engineers, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.
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SALES BY AUCTION.

Thursday Next.

SHOREHAM PLACE, SHOREHAM, KENT.

MR. J. C. STEVENS will SELL by AUCTION on the Premises as above on THURSDAY NEXT, June 20, at 1 o'clock precisely, the SHOREHAM PLACE COLLECTION of well-grown ORCHIDS and STOVE PLANTS, including many splendid varieties: comprising Cattleya Trianæ alba, and other certificated varieties, a grand plant of Odontoglossum Uro-Skinnerii, fine varieties of Lælia purpurata, Phalænopsis amabilis and Schilleriana, Oncidium macranthum; also a large number of Odontoglossums, including a specially fine plant of Coronarium, O. Leucoglossum, special varieties, and 100 Crispums; a grand lot of Eucharis amazonica in splendid order, and the Stove and Greenhouse Plants.

May be viewed the day prior and morning of Sale, and Catalogues had on the Premises, and of the Auctioneer at his Great Rooms and Offices, 38, King Street, Covent Garden.

Thursday, June 27.

SPECIAL SALE of ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Steet, Covent Garden, W.C., on THURSDAY, June 27, at half-past 12 o'Clock precisely, a choice Collection of ESTABLISHED ORCHIDS, chiefly in Flower; also Rare IMPORTED ORCHIDS. Gentlemen wishing to include Plants can send Lists till the 24th inst.

Springfield, near Chelmsford.

UNRESERVED SALE of the Collection of ESTABLISHED ORCHIDS, STOVE and GREENHOUSE PLANTS, formed by the late Edward Jex, Esq., by order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Springfield Dukes, Springfield, near Chelmsford, about 1 mile from the town of Chelmsford, on TUESDAY NEXT, June 18, at 1 o'Clock precisely, the Collection of ESTABLISHED ORCHIDS, in all about 200 lots, including Cypripediums, Cattleyas, Dendrobiums, Lælias, Odontoglossums, Masdevallias, Oncidiums, Lycastes, many varieties of each species; also Vanda Sanderiana, and others, together with the STOVE and GREENHOUSE PLANTS, consisting of Eucharis, Hibiscus, Hoya carnosa, Allamandas, Clerodendrons, Davallias, Palms and Ferns in variety, Chrysanthemums, Lilies, &c.

May be viewed. Catalogues may be had on the Premises, of G. C. LEE, Esq., Solicitors, 13, Old Jewry Chambers, E.C., and of the Auctioneers, 67 and 68, Cheapside, London E.C.

Friday Next.

An IMPORTATION of ORCHIDS comprising :—

300 ONCIDIUM SPLENDIDUM
200 CATTLEYA GASKELLIANA
50 „ NOBILIOR
25 ONCIDIUM LANCEANUM
5 ANGRÆCUM LIONETE
20 CYNOCHES CHLOROCHILUM
5 ONCIDIUM ZEBRINUM

Also established plants of CYPRIPEDIUM LUCIE, CALANTHE SANDHURSTANIA, CYPRIPEDIUM PRÆSTANS, &c., together with 200 lots of ORCHIDS from Messrs. F. Horsman & Co.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C. on FRIDAY next, June 21, at half-past Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Guildford, Surrey (near). **The Normandy Manor** Estate, occupying one of the most Charming Positions in the county, adjoining Wanborough Railway Station, five miles from Guildford, four from Aldershot, three from Bisley Camp, and one hour's journey from Waterloo.

MESSRS. PROTHEROE AND MORRIS (in conjunction with Messrs. MUMFORD AND BOND), will SELL by AUCTION, at their Cheapside Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, June 28, at Two o'Clock punctually, in 16 Lots, the exceedingly Valuable FREEHOLD ESTATE, embracing the Normandy Manor, Claygate, and Robinson's Farms, together with the Manor House, two Homesteads, the Manor Nurseries and Orchard, with 16 Modern Greenhouses, two Dwelling-houses and Outbuildings, several choice Building Sites, three Fruit Plantations, a capital Lake on Normandy Common, and a number of enclosures of very Fertile Arable and Rich Meadow Land, the whole containing about 270 Acres.

May be viewed by cards obtainable of the Auctioneers. Particulars, plan, and conditions of sale may be had at the principal Hotels in Guildford, of Messrs. PARROTT, Solicitors, Aylesbury, Messrs. PYKE AND PARROTT, Solicitors, 63, Lincoln's Inn Fields, W.C., Messrs. MUMFORD AND BOND, Auctioneers and Surveyors, Brill, Bucks, and Thame, Oxon, and of Messrs. PROTHEROE AND MORRIS, Auctioneers and Land Agents, 67 and 68, Cheapside, London, E.C.

SALE, near MANCHESTER.

THE BROOMFIELD COLLECTION

OF ESTABLISHED ORCHIDS.

By order of M. WELLS, Esq.

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Broomfield, Sale, near Manchester, on WEDNESDAY and THURSDAY, June 26 and 27, 1895, at 12 o'Clock precisely each day, the above Collection of ESTABLISHED ORCHIDS, remarkable for the large number of species of exceptional merit and rarity, some being unique. The whole of the plants are in the best possible health.

May be viewed the day prior to the Sale, or earlier by special card to be obtained of the Auctioneers. Catalogues may be had of Mr. Hind, the head gardener, on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, June 21, at half-past 12 o'Clock :—

DIACRIUM BICORNUTUM, a grand Orchid of Cattleya-like growth, and bearing ten to fifteen large pure, white, wax-like flowers on a spike, the singular bicornute labellum being spotted with violet. The plants are grand masses in perfect condition, and are on parts of the trees from which they were collected. All are fine masses, the larger having from 1 to 20 bulbs. It thrives admirably grown with Dendrobium Phalænopsis and plants of that class. The true large variety is scarce, and such an opportunity of securing healthy masses may not occur again, those offered being the whole of the consignment.

ANGRÆCUM ARCUATUM.—The most beautiful and fragrant of the large Vanda-like Angræcums, fine masses.

DISA CHRYSOSTACHYA, large scarlet and yellow. D. polygonoides, brilliant scarlet, and other rare terrestrial and epiphytal Orchids.

On view morning of Sale, and Catalogues had.

Clapham Park, S.W.—Preliminary Notice

CLEARANCE SALE of the choice COLLECTION of ORCHIDS, GREENHOUSE PLANTS, and FERNS; also COW, STACK of HAY, and other Effects. By order of the Executors of the late Sydney Laurence, Esq.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Poynder's Road, Clapham Park, S.W., a few minutes' walk from Clapham Road Station, EARLY in JULY, at 1 o'Clock, without reserve.

Bromley, Kent.

To SPECULATORS, BUILDERS, FLORISTS, and OTHERS.
VALUABLE FREEHOLD BUILDING LAND,
known as The South Hill Park Nursery, within 5 minutes' walk of the Railway Station and the town.

The Land has an extensive frontage to Westmoreland Road, and included are the whole of the Glasshouses thereon, the property thus offering a rare opportunity for a Florist to secure exceptional premises at a very moderate price, and as a Building Speculation (the Land comprising about 1 acre), it is equally advantageous. Also

VALUABLE BUILDING LAND, comprising about 2a. 1r. 0p., situate at the end of Queen Anne Avenue, South Hill Park, admirably adapted for the erection of Villa Residences. Possession on completion.

MESSRS. BAXTER, PAYNE, & LEPPER will SELL by AUCTION, at the "Bell Hotel," Bromley, Kent, on WEDNESDAY, June 26, at 7 for 8 o'Clock precisely, the above VALUABLE PROPERTY and BUILDING LAND.

May be viewed, and particulars, with plan and conditions of sale obtained of R. STENNING, Esq., Architect, 122, Cannon Street, E.C.; of Messrs. GODDEN AND HOLMES, Solicitors, 27, Old Jewry, E.C.; and of BAXTER, PAYNE, AND LEPPER, Surveyors, and Land Agents and Austioneers, Bromley and Beckenham, Kent, and 69, King William Street, E.C.

FOR SALE, small high-class NURSERY, near South Coast resort, 300 feet Glass, Dwelling-house, valuable Stock. Lease, rent moderate. Immediate possession, Owner retiring.—FLORIST, 41, Wellington Street, Strand, W.C.

FOR SALE, a small NURSERY, FLORIST'S and JOBBING GARDENER'S BUSINESS. Five Greenhouses heated by Hot-water, &c. Stock and Trade. A reasonable offer accepted.—W. H., Park Row Nursery, Greenwich.

NURSERY GROUND.—26½ Acres, close to a station, only 11 miles from London. Long frontage to the Railway; good soil; away from the smoke. Price, Freehold, £100 per acre.
DEBENHAMS, Land Agents, 80, Cheapside, E.C.

COMPACT High-class General SEED and BULB BUSINESS for SALE.
Retail doing in all Sundries. Shop in grand position, in large fashionable town.
Particulars of J. L., 41, Wellington Street, Strand, W.C.

FOR SALE or PARTNERSHIP, a valuable and promising FRUIT and VEGETABLE NURSERY, at Southend-on-Sea, Essex, held on favourable terms, and consisting of about 8 acres of excellent Land, of which 3 acres are Market Garden Ground, and containing 6000 yards of Asparagus beds, about 4000 Fruit Trees, 3000 Gooseberry and Currant Trees, well cropped; with Potatos, Peas, Onions, &c., 3000 young Nursery Stock, ready for sale; and Glasshouses for Tomatos, Cucumbers, Grapes, Peaches, &c.

For further particulars, apply to Mr. A. A. TIMBRELL, Solicitor, 24, Martin's Lane, E.C., or to Mr. C. T. WILKINSON, Solicitor, Town Hall Chambers, Stratford, E.; or to Mr. HENRY TETHER, The Park Nurseries, Park Road, Southend-on-Sea, Essex.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-seven years to run. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

NURSERY FOR SALE.—On high ground, 14 miles from London, close to railway. Good Dwelling House, and 1 acre of ground. Modern range of Glass, well and efficiently heated, Potting-shed, Office, and all necessary appurtenances. Low rent (cleared by letting), long lease. Price, £1500. Stock and crops by valuation.—Apply, by letter, "MIDDLESEX," 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

EXHIBITIONS.

THE DEVON and EXETER HORTI[CUL]TURAL SOCIETY will hold a ROSE SHOW [in] Northernhay, Exeter, on June 28 next, when valuable pr[izes] will be offered for competition.
Schedules and full particulars of—
G. D. CANN, 16, Queen Street, E[xeter].

YORK CHRYSANTHEMUM SHOW, NOVEMBER 20, 21, and 22, 1895.
Class I.—GROUP of CHRYSANTHEMUMS with [FO]LIAGED PLANTS. 1st Prize, SILVER CUP, value [illegible] Cash, given by the Lord Mayor of York, and £1 added. [His] Lordship most kindly intimates, this PRIZE is INCREA[SED], viz., SILVER CUP, value £10. J. LAZENBY, [Sec.]

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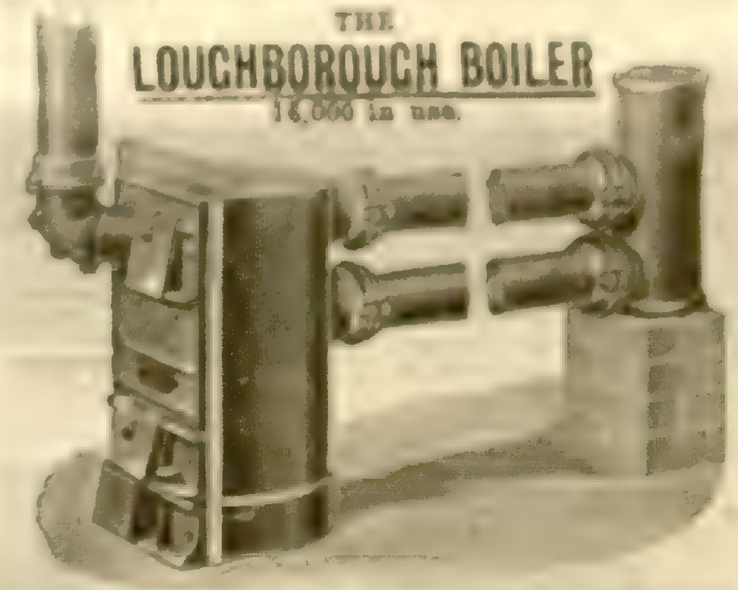

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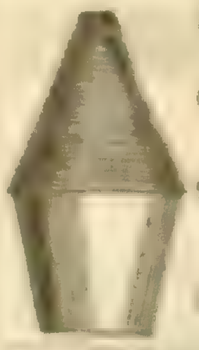

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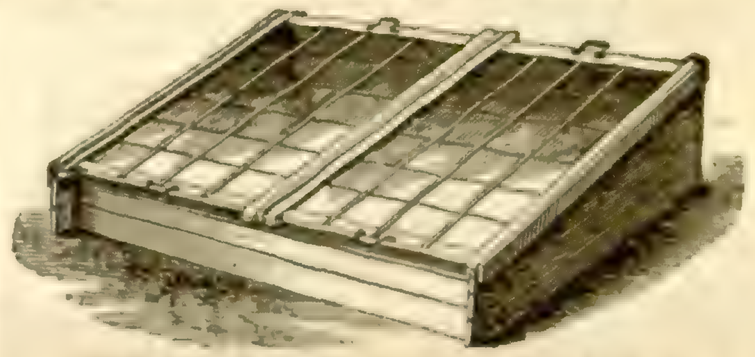

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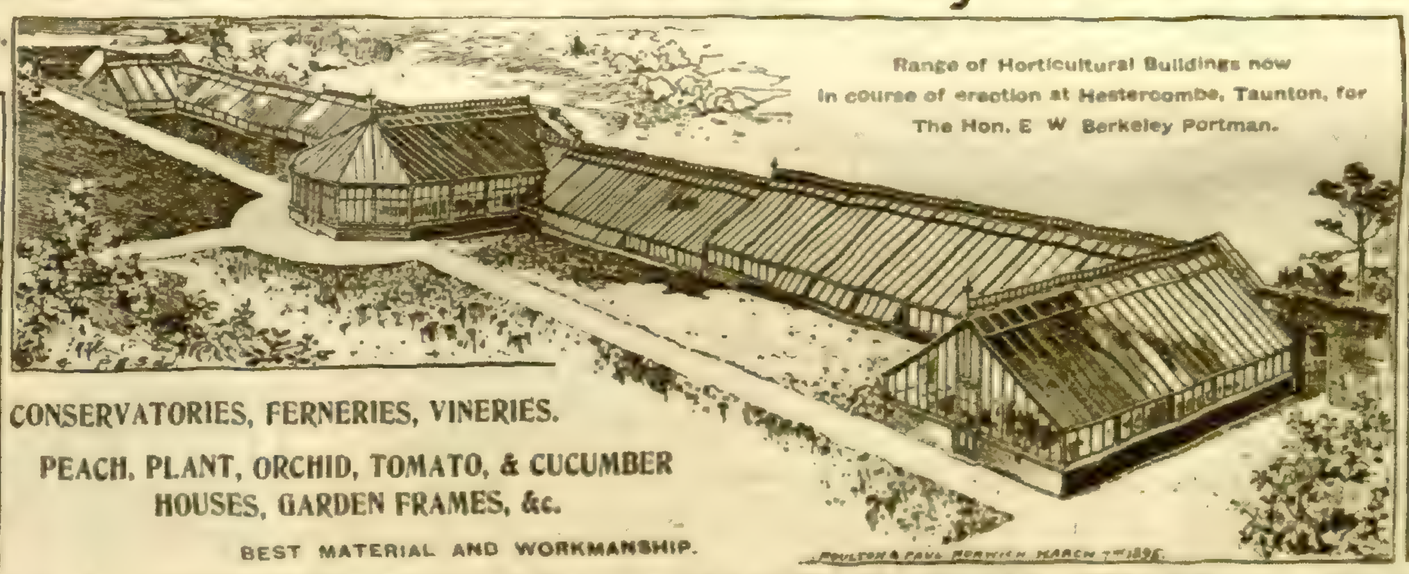

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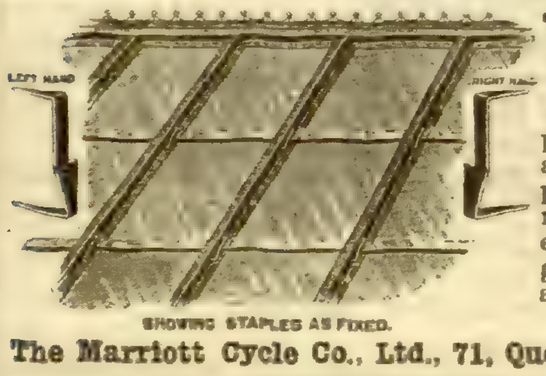

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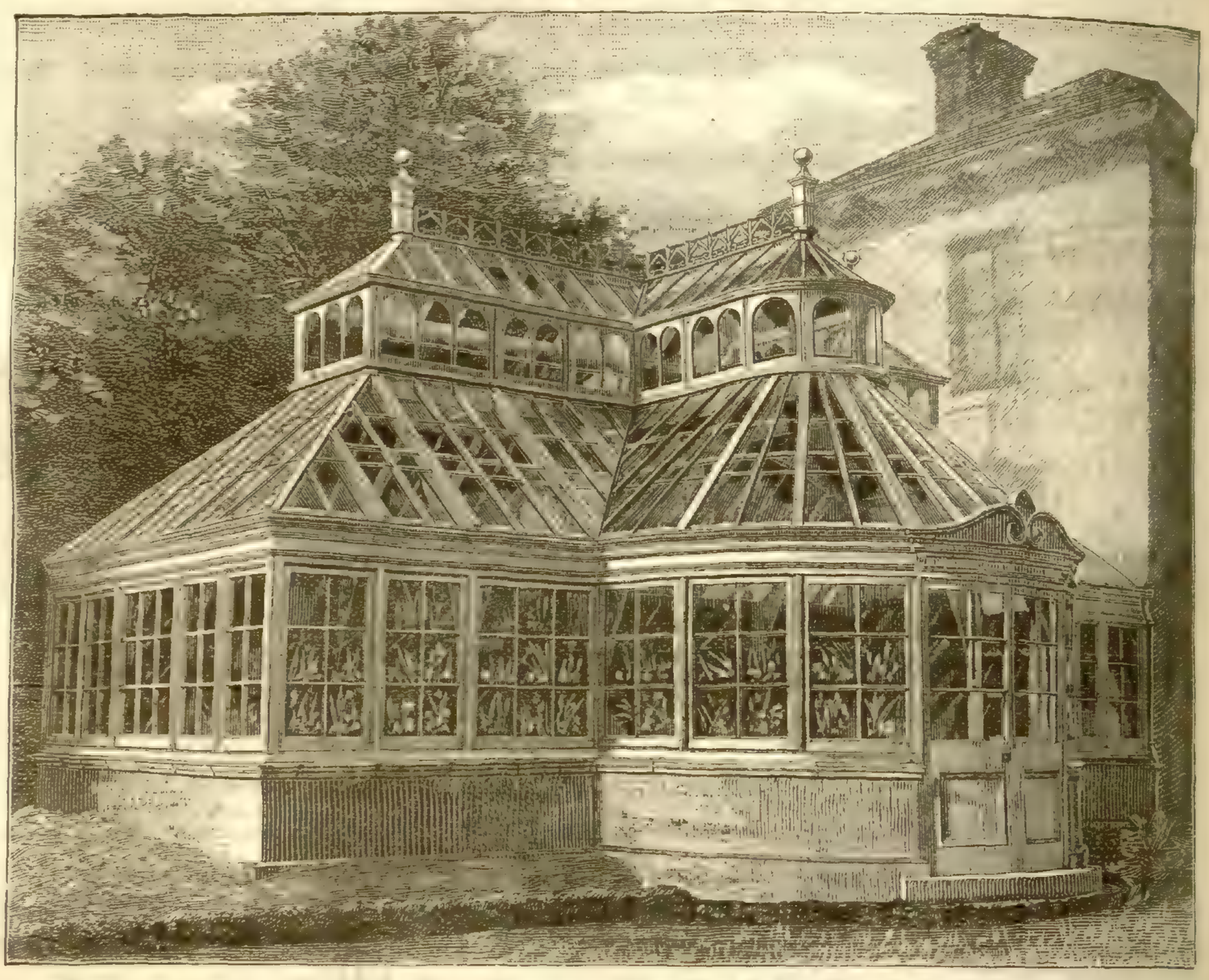

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D. JARDINE.

Biggar, August 29, 1894.

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ROBERT BOA.

Churwell, Leeds, August, 1894.

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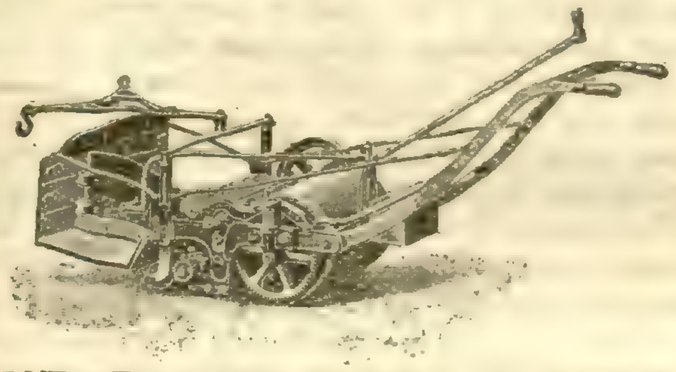

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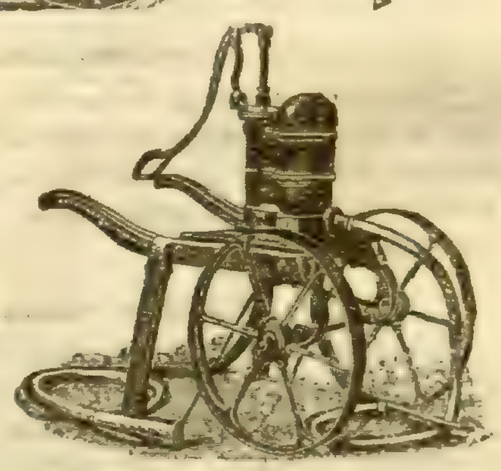

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THE
Gardeners' Chronicle.

SATURDAY, JUNE 15, 1895.

CULTURAL EDUCATION.

READERS of the *Gardeners' Chronicle* will have observed the numerous references to the proceedings of Agricultural Research and Teaching Stations on the Continent and in America. In many of these establishments horticulture is dealt with, as well as agriculture. In all cases, of course, the fundamental principles, so far as the cultivation of plants is concerned, are the same. We may be justly proud of the establishment at Rothamsted, carried on for half a century by the munificence of Sir John Lawes, and we are just beginning to find out, by experience, that practical skill, to be of full use, must be associated with a knowledge of first principles, and specially with the power of turning that knowledge to practical account. In this particular we are nearly half a century behind our near neighbours; whilst America, which began the work much later, is making strides such as we poor Britishers may marvel at, but can hardly expect to emulate. In some parts of this country land is going out of cultivation, it is difficult to find tenants for farms, and at the very same time the imports of foreign agricultural and horticultural produce are daily assuming more gigantic proportions. The greater portion of this produce we could not hope to grow ourselves, and it is a merciful thing that we are able to supply our requirements from other countries, where climate is more favourable, and the expenses of cultivation less. But still, making allowance for all this, there still remains a very large residuum which we undoubtedly could, and should, grow for ourselves. No one can doubt that, speaking generally, much more can be got out of the land than has hitherto been obtained from it. The proof is easily seen by comparing the output of the market garden with that of the farm. In spite of alleged preferential rates and market extortions, it is clear that the market growers of high-class vegetables, fruit, and flowers are prospering to an extent that may well excite the envy of the agriculturists proper. At the same time, an outlet is supplied for both skilled and unskilled labour. The ordinary farmer can hardly be expected to be able to adapt himself to new conditions. In his own groove he is excellent, but the groove is narrow and deep, and does not enable him to see over it. It is to the coming generation that we must look—to use the slang of the day—for that "adaptation to environment" which is the only preventive of extinction. The coming generation must be not merely educated, but trained, so as to be able to apply their knowledge. It is from this point of view that not a few interested in cultural matters will

feel some astonishment at the report just presented to the Board of Agriculture by Mr. P. G. Craigie. To our own readers the subject will be more familiar, as we have from time to time called attention to it; and the Sibthorpian Professor, Mr. Warington, dealt with it in his introductory lecture at Oxford not long since. Now that we have a definite statistical statement from a well-known expert, we may hope the lesson will be taken to heart Mr. Craigie visited the States in the autumn of 1893, to inquire, amongst other things, into the organisation of the officially-aided experiment stations in the various States of the Union. The result of his inquiries is detailed in the report before us, which may be had for 4*d.* from Messrs. Eyre & Spottiswoode, East Harding Street, Fleet Street, London. We cannot enter into detail here, but we may allude to a few prominent points. There are, it appears, more than threescore collegiate institutions wholly or partly engaged in agricultural teaching. These institutions are supported by Government grants and grants from the several States, supplemented by the money received as fees, given by private individuals, or earned by the sale of produce. One thousand one hundred and fifty-nine teachers are employed.

In addition to these leading colleges, there are fifty-four experiment stations, also supported by the State. The staff at these stations varies from three in Alabama to sixteen at Cornell, and seventeen at Michigan. The total number of officials is 491, including 115 chemists, 59 horticulturists, 36 entomologists, and as many botanists. In general terms, the "object and duty" of these stations is defined to be "research and experiments on the physiology of plants and animals, their diseases and remedies; the chemical composition of useful plants, comparative advantages of rotation of crops, the acclimatisation of new varieties of plants and trees, analyses of soil and water, manurial experiments and analyses, feeding and dairy problems, and so forth." It is admitted that there has been an occasional tendency to superficiality of treatment, and to other defects attributable to inexperience, and to the condition that *Bulletins* are required to be published at regular intervals. The desire to publish results is, of course, natural enough, but it is evident that hasty generalisation is likely to be fostered by such a system. This does not, of course, apply to those *Bulletins* which are intended to supply cultivators with information on certain points.

To give an idea of the "lines of work" at these stations, we may say that horticulture is credited with 183 "enquiries," including vegetables, 41; small fruits, 42; Grapes, 42; orchard fruits, 43; nuts, 15. Matters connected with crops number 146: chemistry 73, soil 57, diseases of plants 36, entomology 31, meteorology 31, botany 27, weeds 22, seeds 21, forestry 18; besides, of course, the strictly agricultural subjects. The figures just cited refer to matters which were made the subject of investigation at the various stations in the year 1892. The experiment station record for 1892 contains 970 pages, in which the information given in 17,514 pages of bulletins and reports is condensed. The subjects upon which information was publish-d and circulated were crops and cropping 209, horticulture 116, botany and mycology 113, entomology and bee-culture 89, soils 41, chemistry 30, besides matters of purely agricultural interest which we do not cite. A central office at Washington supervises and co-ordinates the work done by the local institutions.

After dealing with generalities, to a few of which we have alluded, Mr. Craigie goes on to give full details of various colleges which he visited, beginning with Cornell University, where a university training is given, followed by the conferring of the degrees of Bachelor or Master of Agriculture.

This institution owes its origin to the donation by Mr. Esra Cornell of £100,000 in money and of 200 acres of land. The proceeds are supplemented by State aid, so that the instruction given to the students is practically free! a small sum only being paid for the use of apparatus and material. The regular course occupies four years, during the last two of which the student is permitted to specialise and select his studies in those departments in which he is most interested. The prescribed course of study includes, agriculture, five hours per week; chemistry, three hours per week; entomology, three hours; botany, two hours; horticulture, two hours. Two hours each day are spent in practical work in the barns, dairy, forcing-houses, or laboratory.

(To be continued.)

New or Noteworthy Plants.

BRACHYGLOTTIS REPANDA.*

This is a noble tree, or low shrub, abundant throughout the New Zealand forests. The branches (we quote from Sir Joseph Hooker) are like the "petioles, lower surface of the leaves, and inflorescence, densely covered with soft white cottony tomentum. The leaves are very large, 6 to 12 inches long, very broadly ovate-oblong, or cordate-oblong, irregularly lobed or waved along the margin; membranous, glabrous above, petioles 1 to 3 inches long; peduncles larger than the leaves, spreading, drooping, or erect; branches, slender, flexuose. Heads excessively numerous, sessile or pedicelled, minute, one-sixth of an inch long." Its tree-like habit is unlike that of Senecio, to which overloaded genus the plant was first allotted.

The specimens from which our illustration (fig. 110) was taken were obligingly communicated by Mr. Gumbleton, who received them from Tresco, Scilly Islands. Nothing of smaller size than elephant-folio could do justice to the noble foliage and striking appearance of the plant. The contrast between the dark shining green of the upper-surface of the leaf, and the soft, dense, white, velvety tomentum beneath, is very remarkable. Judging by the perfectly uninjured appearance of the leaves and inflorescence, which, in the case of the underside of the leaves, were encrusted with sea-salt, it should prove a capital plant for seaside planting in the milder parts of the country. *M. T. M.*

Book Notice.

The Elements of Botany. (By Francis Darwin. Cambridge University Press.)

The fourteen chapters of which this book is composed, give the substance of the botanical lectures given to Cambridge medical students. The author has not attempted to adhere to a small number of species, but has fixed on certain phenomena, and made use of the plants which most strikingly and conveniently illustrate them. In this manner the principal phenomena of plant life are studied in association with the morphological and histological characters of the plants. In the appendix is given the substance of fourteen practical demonstrations, by the aid of which the student works out for himself the details didactically taught in the lecture-room or by reading the book. Despite some obvious omissions necessitated, perhaps, by the requirements of the examination schedule, this is a very lucid introduction to botany, and one which really covers the ground much better than some of the modern treatises from the study of which the student gets up with a fair knowledge of a few points, but with no general knowledge of botany or appreciation of its scope.

* Forster's *Char. Gen.*, 92; Hook., *Handb., Flor. N. Z.* (1867), 163; *Senecio Forsterii*, Hook. f., *Fl. N. Z.*, t. 148.

Plant Notes.

ORIENTAL POPPIES.

It is not saying too much to assert that Papaver bracteatum is one of the grandest herbaceous perennial plants in cultivation. Such puny plants as one sees here and there in gardens do not do the plant justice, for if planted too late in the year or too shallow, or if the plant is quite young, it may prove disappointing. But a large clump or a row of plants which have been undisturbed for some years, and are, therefore, full of vigour, affords a grand sight in a flower-border. I have a clump—two clumps, in fact—planted four or five years ago in an herbaceous border, and last Sunday, sitting in a summer-house at the end of the border, about 40 or 50 yards away, the blaze of colour from these clumps so dazzled one's eyes that, saving a clump or two of sweet Rocket near them, nothing else could be seen.

The true P. bracteatum has a stout hairy stem, rising 1 foot above the foliage, and the flower is of a dark crimson tint, larger than a coffee-cup, and of great substance. On the base of each petal is a wedge-shaped black blotch; and the stamens, just before the flower passes off, are of a lovely metallic purplish-black hue, with a lustrous sheen. The foliage is dark, much cut, and slightly hairy. What gives the plant its specific name is a single, leaf-like bract just under the bloom. Occasionally, not often, this bract is wanting. The odour of the flowers is slightly heavy, and just a little unpleasant; but the nobility of the plant in foliage and flower quite atones for this defect. Plants come freely from seed, though they do not, as a rule, flower the next year. Given a good soil and absolute rest in winter, they are sure to bloom profusely when three years old; and when five or six, the amount of bloom is marvellous in quantity. *A. H.*

Two Hardy Cypripediums.

A month ago there was a strong plant of C. parviflorum in bloom here, with sixteen flowers out at the same time. Now C. spectabile is coming out, and will have thirteen flowers. Both plants passed through the late severe winter without any protection, so there can be no question about their hardiness.

Akebia quinata.

This is a luxuriant climber when planted against a warm wall in a sheltered garden. It is growing at Bishopsteignton, and flowers freely every year. The blooms are of singular shape, and form clusters of a deep plum colour.

Embothrium coccineum.

This is well named the Flame Tree, for the colour of the flowers is most peculiar; it may perhaps be best described as orange-crimson, with a strong admixture of vermilion. It is hardy in Devonshire and Cornwall when screened from cold winds, and is now in bloom at Bishopsteignton, where a young tree only 8 feet high is a blaze of colour, which is visible a long way off, and is somewhat like that of Papaver bracteatum. I had the curiosity to count the number of trusses and flowers on this little tree; there were 58 trusses, and from seventeen to twenty-seven flowers in each truss.

Aristolochia longa.

This hardy perennial is a native of northern Italy, and is worth growing on account of its singular blooms, which are purplish-black. It is liable to ramble, having very long roots. It grows about 2 feet high.

Caccinia glauca.

This plant has a very singular aspect, every part of it, excepting the flowers, being pale glaucous. The flowers are bright blue, much resembling those of Echium in shape. The leaves are obovate, finely serrate, nearly sessile. The stems are thick and fleshy, from 2 to 3 feet long, and lying on the ground for half their length, from their weight. The flowers are on short branches from the upper half of

the stems, which portion is erect. Each of these flower-branches had six to eight flowers, each flower coming from an inflated calyx, the edges and midribs of the sepals being coarsely toothed. It is altogether a striking plant, and well worth growing. It is quite hardy at Bishopsteignton. One plant, not tied up, covered a space of 4 by 3 feet. It is a native of the desert regions of Persia. *W. T., T.* (See figure in *Gardeners' Chronicle*, vol. xx., 1883, p. 173.)

Fig. 110.—Brachyglottis repanda: leaves deep green above, covered with white felt beneath; flower heads whitish. Hardy or half-hardy shrub. (see p. 736)

SUNNY HILL, LLANDUDNO.

The property of Joseph Broome, Esq., J.P., late High Sheriff of the county of Carnarvon, and a lifelong amateur of plants and gardening, is situated in a charming spot above the bay, and with, in the distance, the Great Orme Head on the one hand, and the Lesser Orme on the other, the rocky land forming part of Mr. Broome's property rising up behind the gardens and the verdant meadows facing them. Although so favourably situated that many greenhouse plants thrive well in the open air, still, provision has to be made to counteract the sweeping winds which at times blow along the coast, and consequently Mr. Broome has laid out his gardens in sections, each enclosed within hedges of Sweet Briar or other suitable shrub, and each devoted to a distinct style of gardening. Throughout most of these pretty little gardens, pyramid fruit trees are used wherever they could be effectively and usefully employed, and their flowers and fruits contribute in a great degree to the pretty and homely effect which pervades the gardens at Sunny Hill.

Hardy herbaceous, alpine plants and Orchids are the things chiefly cared for, and to these Mr. Broome has remained constant for many years, the results of his skill having been often displayed in the early years of the Royal Botanical and Horticultural Society of Manchester, with which his name has been so intimately connected from its foundation until now, when, a few weeks ago, a deputation from the Society waited on him and presented a congratulatory address on his attainment of his seventieth year.

The carriage-drive is bordered with Wallflowers, which at Llandudno make dwarf hedges, and in various nooks are different classes of plants, or different sets of species, which associate well together. In one place is a fine lot of a beautiful species of Iris which Mr. Broome imported from Smyrna; in another patches of Chionodoxa, and Galanthus received from the same quarter, one of the kinds of Chionodoxa being a charming novelty, with violet, light lilac, and white flowers, quite distinct from any of the others. In one quarter some pretty plants of Rosa polyantha multiflora, grown from seeds, are blooming profusely on very dwarf bushes, and Spiræa Anthony Waterer is being nursed in order to increase it. The Tree Pæonies have passed out of bloom, but their foliage is fresh and pretty, and not brown and unsightly as it is in less favoured gardens; and the herbaceous Pæonies are now beautiful with their richly ov

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delicately tinted flowers of various shades. In a shelter the many plants of Edelweiss carry their woolly white heads erect, and in several parts of the gardens are large patches of Narcissus poeticus and its double white variety, the former being Mr. Broome's favourite Narcissus, and the latter one of the most useful for cutting. Along the borders is a fine display of coloured Polyanthus and Auriculas, whose flowers, however, are now on the wane; and occupying long stretches of edging, are broad rows of seedling Aubrietias, raised at Sunny Hill, and which have unusually large flowers varying in hue from pale mauve to dark purple, and so profusely bloomed as to nearly cover the leaves. Roses are cultivated in profusion, and notwithstanding that the severe winter cut some of the tenderest back, they have already recovered, and are well set with flowers. The sunk garden, partly walled in and partly enclosed by ornamental and flowering shrubs, is a delightful nook, in which the rarer alpine plants, the North American Cypripedium spectabile, C. calceolus, and other terrestrial Orchids are blooming satisfactorily. On the rockery on one side, the different varieties of alpine Phloxes, the Arenarias, Androsaces, Saxifrages, Sempervivums, and plants of that class, are making a beautiful display; while in the beds and borders beneath the climber-clad walls, the Aquilegias, Doronicums, Pyrethrums, Rosa rugosa and its white variety, and other showy kinds of herbaceous perennials and flowering shrubs are masses of richly-coloured and fragrant flowers. Among the flowering shrubs, Magnolia Halleana, and other of the small-growing Magnolias proved hardier than many of the commoner shrubs and bushes. M. Halleana has been in flower for months past. At the end of the smooth green lawn an ornamental summer-house appears, the borders on each side being filled with Pansies, Roses, Azalea mollis, and other showy flowers; here, too, are fine bushes of the blue Marguerite (Agathæa cœlestis), and a quantity of Anemones, which are very beautiful in spring but are now past blooming.

The Orchids

still occupy the old houses, though a nice block specially constructed to accommodate them by Messrs. Richardson is approaching completion.

The collection is chiefly noted for its fine varieties of Cattleyas, Lælias, Dendrobiums, &c., and each section gives a good show at the present time. Facing the entrance of the Cattleya-house is a fine group composed of varieties of C. Mossiæ, of which C. M. majestica and C. M. Prince of Orange are two grand forms. At the back is a specimen of C. Mendeli with over thirty large blooms, and beside it the handsome and distinct C. Mendeli rubicunda, with eight flowers, wholly tinted of a bright light rose, the lip being ruby-red. At one end is a fine form of Lælia purpurata with thirteen flowers, and at the other several lighter forms of the same species, and with them are Sobralia macrantha, Cattleya Aclandiæ, Dendrobium suavissimum, with eight large spikes; Lælia Boothiana, a large specimen of Oncidium sphacelatum, Vanda teres, &c. The next house is a warm and moist one, in which some Nepenthes are suspended. Here the Cypripediums thrive remarkably well, a noble specimen of C. caudatum roseum having produced a large number of flowers. The Cypripediums of the C. niveum class are also well represented, a number of fine C. bellatulum, C. niveum, and C. Godefroyæ being in bloom. Dendrobium thyrsiflorum and other Dendrobes, too, are fine, the D. Wardianum making marvellous growths. Vanda cœrulea does well at Sunny Hill, and Cœlogyne cristata alba evidently likes its accommodation, and keeps more plump than is usually the case. A fine Lælia tenebrosa is in flower, and L. crispa superba and others showing well for bloom.

In the next house are some fine plants of Cattleya Rex showing well for bloom; some healthy specimens of the Pescatorea section of Zygopetalum unusually fresh-looking and vigorous. Mr. Shill, the Orchid-grower at Sunny Hill, keeps these always moist, and in a shady corner of the house where there is an even temperature, and the result is most satisfactory.

The cool-house has a good number of fine Odontoglossums, brilliant Masdevallias, Oncidiums, &c., and in the greenhouses are a show of greenhouse Rhododendrons, Lilium Brownii, L. Wallichii, and other Lilies; charming plants of Schizanthus retusus and S. Grahami, covered with flowers, and which are grown to perfection here, &c.

In the drawing-room, Mrs. Broome has some cleverly-arranged vases of cut Orchids, in which the fine golden sprays of Oncidium ampliatum majus, strong spikes of Cypripedium philippinense, pendent sprays of Odontoglossum citrosmum, and massive Cattleyas, are effectively used, and by their beauty give at least one good reason for growing Orchids. *Visitor.*

Orchid Notes and Gleanings.

ONCIDIUM CONCOLOR SUPERBUM.

A grand variety of the beautiful canary-coloured Oncidium concolor is in flower in the collection of Dr. Jessop, Roundhay Mount, Leeds (gardener, Mr. T. Tyson). The vigour of the plant and large size of its pseudobulbs seemed to promise flowers of extraordinary size, and these have not belied the promise. Its bright-coloured flowers are more than 2 inches across transversely, and the fine labellum 1½ inch wide, the bright orange edges of the crest and wings of the column adding much to its attractiveness. The inflorescence bore ten flowers. Like all of the Oncidiums from the Organ Mountains, it succeeds in a house which is maintained at a tolerably cool temperature. *J. O'B.*

Cypripedium bellatulum album.

A most beautiful albino of Cypripedium bellatulum is now flowering in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, to which the above appropriate name has been given. The flower is of spotless white, with a little yellow on the centre of the staminode, and quite typical in size and shape. Further, the entire plant has lost all the purple markings, the underside of the leaves, as well as the scape, ovary, and bract being entirely green, and thus the albinism extends throughout the entire plant. It was discovered by Mr. R. Moore, Assistant Superintendent of the Shan States, the gentleman to whom we are indebted for the discovery of the beautiful Cypripedium Charlesworthii. Several plants are in existence, and were distributed by Messrs. Charlesworth & Co., to whom they were sent by Mr. Moore. It is a strikingly distinct form, and undoubtedly a great acquisition. *R. A. R.* [Shown at the Royal Horticultural Society on Tuesday last.]

Cypripedium Charlesworthii

was discovered by Mr. R. Moore at a place some 25 miles south-west of Lake Inle, high up on a limestone hill fully 5000 feet above sea-level; and very recently it has been gathered in quite an opposite direction 40 miles north-east of the lake, or some 60 miles from the place in which it was originally found. It appears to make its home on hills of a certain formation only... "I have been out with Shans, and on arriving at a particular place, they, by looking at the hill, will tell you whether C. Charlesworthii will be found there or not. If it occurs at all, it will be in large quantities, and not a plant will be found on neighbouring hills of different shape or formation... The roots cling to the rocks with extraordinary tenacity." *Orchid Review.*

Oncidium hæmatocheilum.

This is a native of Trinidad, and, according to Mr. Potter, writing in the June number of the *Orchid Review*, it is a hybrid between O. luridum and O. Lanceanum. Mr. Potter gives various evidence in support of his conclusion.

ROUND BORDEAUX.

M. Treyeran has, at his country house, a charming winter-garden attached to the billiard-room, and there many and splendid tree Ferns form the greatest ornaments. It leads into the great Cattleya-house, where are sturdy plants of C. Mossiæ, Warneri, and Lawrenceana, in excellent health, as are also two very large plants of Cymbidium Lowi, well bloomed; the finest example that I know of Sobralia macrantha, very large plants of Cypripedium, &c. The paths here, as in all the other houses, are edged with a rockwork planted with Ferns, foliage Begonias, and similar plants. The whole effect is very pleasing. One house contains Philodendron pinnatifidum, of rare beauty and remarkable vigour, very large Palms, large plants of Cycas revoluta, &c.

Two other houses are specially devoted to Cattleya, of which plants M. Treyeran collects the best varieties and species. There are here Cattleya Claesiana, unusually well-grown examples of C. Mossiæ, very large clumps of Lælia purpurata, Cattleya Mossiæ, with flowers of unusual size; C. Trianæi, an elegant variety of C. Schroderæ, a very fine C. Skinneri alba, and other varieties. The Odontoglossum-house is well constructed, and here the plants grow well, although the climate of Bordeaux is not favourable to them. We noted a fine O. Ruckeri, an O. excellens with large perfectly formed flowers, fine wide petals, pure white in the centre, decidedly the most beautiful variety known. A fine Odontoglossum Coradinei was found near an Oncidium cucullatum giganteum of an unusually dark shade. Pollen grains of the maritime Pine are found in quantities 40 kilomètres (25 miles) away from the borders of the Gulf of Gascony, in the water that fills the tanks of the Odontoglossum-house. In the hot-house a fine plant of Selenipedium Schroderi was noticeable for its splendid colouring, many examples of Cypripedium Chamberlainianum bloomed continuously, some fine plants of Cattleya Schilleriana were seen, beside some new plants, among which was a Bromeliad with leaves of a very deep red colour.

Besides these houses, there are others devoted to the cultivation of Azaleas, Gloxinias, &c. All are well kept, and attest the high degree of horticultural skill possessed by the proprietor, M. D. Treyeran, one of the most energetic of Bordelais horticulturists.

M. Martin Cahuzac's Plants.—M. Martin Cahuzac, the President of the Société Horticole and Viticole of La Gironde at Bordeaux, has a summer residence on the heights which surround the town, and whence he enjoys a magnificent prospect. The flower-garden which surrounds the houses abounds with Roses and Carnations; there is also a very fine collection of Cannas, with large flowers. The Odontoglossum-house deserves praise. In spite of the unfavourable climate of Bordeaux, the plants are in excellent condition; perforated pipes allow of the flow, from the end of May until September, of an abundance of water which ensures the maintenance of the necessary coolness and moisture. Thanks to this ingenious plan, O. crispum, Pescatorei, Rossi, Ruckeri, citrosmum, Cochlioda, as well as Cattleya Mendeli, Schilleriana, and Mossiæ, here grow and bloom excellently. In the fine Cattleya-house a splendid C. Mossiæ alba attracts attention, as well as great numbers of Cypripedium; a fine Cypripedium Rothschildianum is there, near an Eulophiella Elisabethæ. In another house we noticed a splendid Phalænopsis Luddemanniana, and particularly a charming variety of Lælia elegans marginata, with the petals bordered with purple; also an interesting collection o. Vanda. There is here an unrivalled Pritchardia macrocarpa, and a beautiful variety of Areca sapida called argentea.

M. Vidaud has conservatories in the outer part of Bordeaux. One house contains very large specimens of Cattleya—one, C. Mossiæ, with six bulbs and fourteen spathes. A very large irregular rockwork allows the continuous passage of water, drop by drop. It is stocked with various plants, and has a charming effect. Mexican Orchids here grow to an unusual size; Lycaste, cultivated in baskets, form very large bulbs. We noted here some good varieties of Cattleya Mossiæ and some unusually fine Lælia anceps.

A second house is devoted to Oncidium with very large clusters of roots and bulbs; O. hastilabium with unusually fine bulbs, Cattleya Mossiæ with

flowers nearly 10 inches across; C. labiata also grows here to very unusual dimensions.

A third house has a most picturesque appearance; tree trunks thrown about and edged with cork are covered with various decorative plants and Orchids; baskets of various shapes, also of cork, and containing well-grown Orchids, produce a pleasing effect. Here are Aërides spreading over the rocks, large specimens of Lælia purpurata with great masses of roots, clusters of leaves and splendid flowers, mingle in picturesque disorder. Calanthe veratrifolia has stems like those of a Bamboo; the cultivation of Aërides, Houlletia, &c., is quite marvellous. A special system secures a supply of water at any moment. Furthermore, cultural experiments are undertaken with plants of but little commercial value. M. Videaud is replacing Polypodium fibre with Coco fibre to avoid sourness.

Fig. 111.—TWIN PSEUDOBULBS OF ODONTOGLOSSUM ANDERSONIANUM.

In yet another house we noted Phalænopsis amabilis with a very large cluster of bloom, and some Congo Orchids. M. Videaud has, for three years, grown Vandas in a cool house with complete success; they are of great vigour, the baskets being half emptied of compost.

The specimens of Odontoglossum crispum occupy a very long house, the walls and paths of which are frequently moistened by a special canal-like system of water-pipes. Besides good varieties of Odontoglossum, we noted many fine flowers of Lælia majalis. There is also an entire house devoted to Cattleya Mossiæ, and, further, a garden full of splendid Roses. *Ch. De Bosschere.*

STREPTOCARPUS AT WOODHATCH, REIGATE.

When at the Temple Show, a well-known plantsman remarked to me that there was nothing new there. Of course, notions as to what may be new vary very much, but one may well wonder where anything really new is to come from. My own opinion is, that anything that may be termed a surprise, or as sensationally new, is now no longer possible, and therefore, we have to regard as new not so much absolute novelties as marked advances. It is in such category of novelties we place the undoubtedly remarkable break or strain of Streptocarpus shown by Messrs. Veitch & Sons as hybrids from gratus or the Rex form. These indicate not so much advance in size or colour of flowers over the older forms, as improved habit; the stems being stout, erect, and carrying trusses of almost erect flowers in great profusion. Here we have such advance as was seen in the Gloxinia some time since, when that too passed through the evolutionary process of erecting its blooms from the previously common pendent form. The leafage of the new break is still too long and gross, but further intercrossing and selection will greatly improve that, and when the blooms are doubled in size, varied and enriched in colour, then we may see in Streptocarpuses wonderfully attractive greenhouse plants. Nearly all the plants shown in Messrs. Veitch's fine collection of both old and new forms were raised from seed sown in January of last year. The old form, however, blooms the same season, whilst the gratus variety flowers in the second year. Such, at least, was my information, but that seems open to doubt, as I will presently show. Let it be truly said of the older forms, however, that these showed great variation in colour, and are even with somewhat pendent flowers most beautiful. Meeting Mr. Salter, Mr. T. B. Haywood's excellent gardener from Woodhatch, at the show, he, in reference to the Streptocarpuses, remarked that he had a very fine lot of plants that illustrated their great capacity to make exhibition specimens. I undertook to run down and see them, and did so on the 23.d. I found the plants at Woodhatch to be all that Mr. Salter had stated them to be. One house was devoted to them, and kept for an almost last surprise; houses full of Calceolarias, Gloxinias, Orchids in great variety, Azaleas in great profusion, and everything inside and out clean and neat as a new pin, not omitting the fine collection of some 600 Chrysanthemum plants in pots of all sections, and looking wonderfully well. The Streptocarpus-house contained about 100 plants, of which some 60 were in 24-sized pots, and had leafage about 2 feet across. The heads of bloom were fully proportioned, ranging from 10 to 12 inches, some carrying from 100 to 120 expanded flowers. These, too, under such good culture as is here given, were very fine. Practically, these plants are all from a strain which Mr. Salter has carefully selected for several years, and serves to show what great possibilities seem to be open to Streptocarpuses as exhibition or decorative plants, and as greater advance in the size of bloom is assured, there seems reason to hope that a very great future is in store for them. Blue tints certainly predominate, and most of them are very rich. It is noteworthy in these flowers that colours seemingly pallid in one or two blooms, are richly coloured when seen in the mass. Perhaps, too, colour intensifies with older plants; in any case, it is long since I have seen a house of plants that so much impressed me with their beauty as did these Streptocarpuses. I hope the day is not far off when we shall see classes specially arranged for them at flower shows, for here at Woodhatch it has been shown of what these plants are capable. One plant had pure white flowers without stripe, some have the stripe heavily marked, the cerise shades also are numerous, and altogether apart from the dimensions of the plants, the strain is a fine one. Mr. Salter has in small pots blooming a batch of plants raised from a packet of Messrs. Veitch & Sons' strain, and from out of these he has found one of the gratus hybrids. I mention this to show that at least in this case the seedling did bloom as early as did the seedlings of the older forms. Of course, such a form has already been employed for crossing purposes. It would be just the sort of encouragement so much desired in relation to such a race o plants as this, plants full of great possibilities, did the Royal Horticultural Society offer prizes at one of its meetings next year for a dozen specimen plants. Not only would the Streptocarpus benefit—and it is now everybody's plant—but it would set many gardeners striving to secure fine specimens. Mr. Salter's finest plants are four years from the sowing. They seem to have fairly liberal treatment, temperate culture, ample but not too much pot-room, plenty of light, and kept fairly near to the glass. Thus, what is possible in one case is not difficult anywhere. As we are already tiring somewhat of the florid colouring of the bold Begonia, we may well hail the more modest blushings of the Streptocarpus with satisfaction. *A. D.*

DIVIDED PSEUDOBULBS IN ODONTOGLOSSUM.

The illustration, fig. 111, shows a condition which, so far as we know, has never previously been observed in Orchids. Two pseudobulbs, B, B, of Odontoglossum Andersonianum, made their appearance from the axil of a single leaf A, shown cut across. From the base of each pseudobulb a flower-spike, C, C, was produced. The plant was grown by De Bary Crawshay, Esq., and was exhibited by him at one of the recent meetings of the Royal Horticultural Society. We suppose the explanation is that the axis of the plant forked or divided at a very early stage of the plant's growth. It is possible, of course, that both bulbs originated independently in the axil of one leaf.

Myosotis Traversi, with small yellow flowers, and M. Forsteri, with small white flowers, are both now in flower in the garden of M. Gumbleton, near Cork. The latter is described as an annual. Both are natives of New Zealand, and are described in Hooker's *Handbook to the New Zealand Flora.*

THE ROSARY.

IN THE ROSE GARDEN.

In spite of insect foes which have been more prevalent than usual this season, and the lack of moisture in the soil, Roses in this district are looking far better than was anticipated by many of us a short time ago; and as I have recently been able to inspect a good many collections, both trade and amateur, I can testify to the goodness of the prospect as regards our Roses. In mid-Sussex we had no rain all through the last month, and up to the time of writing (June 8); but fortunately the dews have been more than usually heavy, and this has helped the Roses considerably. Maggot and caterpillar have been very destructive, and where hand-picking was neglected the evil effects of their presence are still evident. Without having seen them one would scarcely credit the contrast that there is between those beds which have had this attention, and those where nothing has been done. The stem-boring saw-fly has also been very busy among my Roses, scarcely a shoot of the new hybrid Sweet Briars has escaped a visit from this pest. Instead of the shoots of Maidens running up to a considerable height, they have been most effectually headed by the larvæ of the saw-fly. And how rapidly it does its work! boring through and falling to the ground, where it passes into the pupa stage. Weevils, too, have been a greater trouble here than for many seasons. Notwithstanding these and other foes, of which the Rose has many, I am pleased to note the encouraging prospect visible on established plants, more especially when the trying winter is remembered.

Both standard and dwarf Rose stocks are sadly in want of a heavy rainfall; in fact, a rather large percentage of the standard Briars have failed owing to the lack of rain. It is somewhat strange that planted-out Briar stocks have come through the winter far better than those established the previous season; indeed, by far the worst outlook here and in the places I have visited is among standard maidens, so many of them breaking weakly, and large numbers being killed by the frost. It is in the more delicate-growing Teas and hybrid perpetuals that we are hard hit, but Madame Bérard and Gloire de Dijon, and other similar varieties will grow vigorously in a short time if they are merely injured by cold, whilst Comtesse de Nadaillac, Souvenir d'Elise Vardon, Niphetos, and many more of our most charming varieties will only linger on for a time when they have been crippled by hard frost. Although the soil is so dry, I think all Rose stocks have a more promising appearance than at the same date last year. It is somewhat puzzling that our unrooted standard stocks should look so much better than the majority of standards, and one might reasonably have thought that the former would have felt the exposure more, seeing they were so recently removed from the shelter of woods and hedges.

The sticking and tying of maidens, both standards and dwarfs, are operations that are now well in hand, and the plants, if well cultivated, look strong and healthy; but, as I have before hinted, we have many cases where the past winter sadly crippled the rosebuds. Bloom is now general all through the south, and the prospects of the Gloucester show on the 27th inst. are better than for some seasons. I trust we may even have an improvement upon Windsor of last year. Colchester show is a week earlier than the southern venture of the National Rose Society, and from what I have gleaned, we may look for Colchester, Canterbury, and other forward spots to show up well. Canterbury and Gloucester clash; so, too, do Brockham, Croydon, Ealing, Farningham, and Sittingbourne. On July 10 and 11 again, there are three shows upon each day, so that some of our large growers, who are represented at almost all Rose meetings, will have a particularly busy time.

Boxes, labels, wire, moss, and the other little etceteras needed for exhibition, must be looked up and prepared at once. Moss will be hard to procure in a nice condition around here; and let the judge be ever so fair, there is no doubt that good moss considerably helps the effect made on blossoms. Teas and Noisettes growing as wall plants are now masses of colour wherever the frost has spared the wood. In spite of frost, I never saw specimens of yellow Banksian gayer than they were this year at the latter part of May. Austrian Briars, again, are better flowered than usual. I have the Hybrid Sweet Briars in flower, both upon maidens and older plants; I had almost written cut-backs, but this term cannot come into use with these beautiful and particularly fragrant Briars. One of the most showy Roses now in flower is the useful R. rugosa; and no matter what the weather, spring or winter, it is always beautiful. Of all Roses, these I consider to be the least liable to be attacked by insects; and I do not call to mind having once seen the foliage injured by mildew, orange-fungus, or red-rust. When we take into consideration their beautiful foliage and long succession of bloom, not to mention their showy fruits, surely R. rugosa and its varieties are some of the best hardy-flowering shrubs that we possess. Here and there a good hybrid perpetual may be cut already, and we know how great a difference two or three weeks will make, more especially if a shower accompanies a continuance of this warm weather. Mosses are well in bloom, so too, are the Scotch, Polyantha, and many of the earlier garden Roses, and I anticipate a fine show of these delightful flowers at Gloucester. *A. P., Uckfield.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

CARROTS.—Thin out the main crop to about 3 inches apart. Hoe and take away all weeds, and afford occasional dustings of soot in dull weather, or when rain is expected. Those that were sown in prepared holes for show purposes should also be thinned out, leaving the most promising and strongest plant, which should also be the one most centrally situated in each hole.

PARSNIPS will require attention in the same way. An occasional syringing in the evening with tepid soft water, to which has been added a little soot, will assist both these and Carrots, by keeping them clear of insect pests. If dry weather continues the maggot may appear, but if the ground was carefully prepared during the winter it is not likely to be troublesome, for any soil which has been well and deeply worked retains more moisture than if not so treated.

PEAS.—If dry weather continues, mildew and thrips will soon affect Peas in some soils. Those sown in properly-prepared trenches will not suffer in the same degree as those sown in the ordinary way. Afford them a good mulching of long stable-litter, and a syringing in the evening with tepid soft water and soot, and in this occasionally add a little flowers-of-sulphur. Pay attention to the thinning of the pods, leaving only the most promising. The same attention should be given to all kinds of culinary Beans.

CELERY.—Maggot in the leaves of Celery may be kept in check by frequent dustings of soot when damp, and syringing the leaves with strong soot-water. Celery for early work will now be growing fast, and if for show purposes it should have special attention in the way of watering and syringing. Allow about six weeks for thoroughly blanching the heads. Brown paper bands, about 6 inches wide, are the handiest means for blanching for this purpose, but they must be used of quite two thicknesses to exclude the light. Remove all small leaves and suckers from the outside, which should be taken off close down to the root. Keep a sharp look out for slugs. As the Celery increases in size, fresh ties of matting should be made, and once at least, it will be well to remove the old paper during the blanching, putting on fresh, and at the same time examining the stalks for slugs and removing suckers. This will also allow of the Celery expanding, but the operation must be quickly done, uncovering but one stick at a time, and if possible, doing this in dull weather.

EARLY LEEKS for exhibition may be treated in a similar manner, using brown paper bands cut into about 3-inch widths. These also should be removed once during blanching, and when replaced, a little earthing-up may be performed. Do not afford Leeks dirty water overhead, or it is apt to discolour the blanched parts, which, having to be removed before they are fit for exhibition, makes the Leeks smaller, and therefore less effective.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PROPAGATING PLANTS AND SOWING SEEDS FOR THE SPRING GARDEN.—The present month is the best time for increasing the stock of the following bedding-plants, viz., Ajuga, Alyssum, Arabis, Aubrietia, double-flowered Daisy, Pansy, Cheiranthus Marshalli, and varieties of it; single and double-flowered Wallflower, Cerastium tomentosum, and C. Biebersteinii. Cuttings of the above require to be put into frames or hand-lights, and kept close and well shaded until roots form; failing these appliances, make use of wooden boxes, such as are used for bedding-plants, if they can be placed in some well-shaded glasshouse. Most of these will also strike roots if inserted on a border having a wall on the south side. Loam enriched with leaf-mould is a very suitable compost for the cuttings, and the drainage of the cutting-bed should be good. Sea-sand, when obtainable, may be freely employed. The work of dividing those plants which were taken up out of the flower-beds, and temporarily laid-in, should now be proceeded with. If the stock of these plants is extensive, pull them into sizeable bits, planting these out in the reserve garden, in a somewhat shaded east or west border—or where, at any rate, they are shaded from the midday sun; having planted them, abundance of water will be required in dry weather until re-establishment takes place.

BULBS AND CORMS.—Tulips, Hyacinths, Anemones, &c., when the foliage is ripe, and in the case of Tulips when the flower-stalk gets yellow, should be taken up, cleaned of the soil, but not of the outer skin, and stowed away on cool dry shelves.

THE SOWING OF SEEDS OF ANNUALS suitable for carpeting the beds of Tulips, Hyacinths, Narcissus, &c., will soon require attention if the plants are to be of the right size and in good condition for planting in October and November. Seeds of Myosotis arvensis, M. a. alba, and M. palustris should be sown forthwith thinly in lines, or broadcast and be thinned-out to stand in the seed-bed till required for transplanting. These British species are more to be relied upon than foreign species, especially when the beds are in exposed situations. Silene pendula and S. p. alba should be sown at the beginning of July, making another sowing about a fortnight later. The weather at the time of sowing makes such a difference in the germinating, that one sowing of any of these seeds is not to be relied on. If the weather is dry at sowing-time, the drills or beds should be well watered previously, and the seeds covered with a small quantity of fresh soil or charred earth mixed with the staple. Escholtzias in variety should be sown about the middle of next month; Lasthenia californica, Candytufts, Alyssum maritimum, Saponaria calabrica, S. c. alba, Gypsophila elegans towards the beginning and middle of August; Limnanthes Douglasi, Nemophilas, Erysimum Perofskianum, Bartonia aurea, Lupines, Virginian Stocks, and Collinsias about the third week of that month and the beginning of September. Situation and soil make much difference in the growth of annuals, and where the flower garden is a large one, and spring and summer bedding are carried out extensively, much labour is required in meeting requirements, and it is not often that both can be satisfactorily carried out in the same garden. Usually the spring garden is most in favour, and what summer bedding is done is generally past its best early enough to afford time for planting of the spring flowering plants early. Where both spring and summer bedding are done, the spring bedders suffer much injury by untimely removal in May and June. It is far better if one position of a flower garden be devoted to spring flowers and another to summer flowers.

EARLY-SOWN ANNUALS.—These plants when sown thickly should be well thinned out before crowding occurs, a good watering being afforded directly the thinning is finished. Mignonettes, Stocks, Asters, Marigolds, Zinnias, annual Chry-

anthemums that have been planted out of pots and boxes, should be frequently sprinkled with water in the evening, and protected from slugs.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

YOUNG FRUIT TREES.—Continue to give special attention to all young trees upon walls, sufficient suitable shoots being selected and laid in to form the future main branches, either taking away or pinching at the second leaf any shoots not thus required. Do not omit to secure the young wood firmly, but not tightly, to the wall or trellis, and train thinly to ensure perfect ripening of the wood. Should any shoots be growing much stronger than the rest, as sometimes happens in fan-trained trees, pinch the points or depress them somewhat to check the flow of sap, which will thus be diverted into other channels, and tend to equalise the growth upon the tree. Stop all laterals at the first leaf, and promptly suppress all insect pests on their first appearance. Copious supplies of water will be required, and mulchings of strawy manure to check evaporation. Pyramids or bushes may have the side-shoots stopped at the fourth or fifth leaf, removing the weaker growth altogether if at all crowded. Encourage extension growth at the base, so as to form a symmetrical well-balanced tree. Strong growths at the apex should be pinched, and the resulting shoots stopped at the first leaf; should the green aphis be troublesome on Plums, two or three syringings with soapsuds in the evening when the sun is down will remove it. Young Currant and Gooseberry bushes may have the growths thinned to five of the strongest and best-placed, any other springing from the base should be removed; if any laterals grow from these, pinch them at the second leaf. The strong young shoots of Raby Castle Currant and some others are liable to be blown off by high winds, and if at all exposed, they should be afforded some temporary support. A couple of light stakes and some matting passed loosely round are generally sufficient. If aphis be present on the points of the shoots, they may be bent over carefully and dipped in tobacco-water. On older trees the infested tips should be pinched off and destroyed.

FIG TREES KILLED BACK BY FROST.—Fig trees on walls have been injured severely in many cases during the severe weather of the past winter. Some have been killed to the ground, in spite of a certain amount of protection. Brown Turkey seems to have especially suffered. Where it is intended to train up new wood from the sucker growth now generally arising from the base, a selection of these should at once be made, retaining as many as required of the strongest and most promising for that purpose. The remaining suckers should be taken cleanly off at once. Train the selected shoots thinly to the wall, and as the growth will be probably somewhat rank and watery the first season, the points may be pinched when 3 feet in height, which will tend to solidify the wood and enable it to withstand the winter.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

ODONTOGLOSSUM-HOUSE.—With regard to the cool or Odontoglossum-house it should be freely ventilated, and the plants carefully protected from strong sunlight. During very hot weather, everything possible should be done to keep the atmosphere a few degrees lower in temperature than the external air. It is not advisable to damp this house continually with the object of keeping the atmosphere cool, because, in so doing, the plants, instead of growing hard and solid, become soft. Our cool-house is span-roofed, running north and south, therefore fully exposed to the sun's rays all day long. At early morning, any plants that are dry are watered; about 9 A.M., the house receives a thorough damping, and about two hours later the plants are slightly dewed overhead. No more atmospheric moisture is supplied until about 5 P.M., when the top ventilators are closed, and the house well damped down again, leaving the bottom ventilators fully open throughout the night. The blinds are drawn up on the east side early in the afternoon, but those on the west are not removed till the sun is off the house. During the hottest part of each day we spread a few garden mats over the ordinary shading, and by keeping them well syringed, and occasionally damping the immediate surroundings, a nice cool airy atmosphere is easily maintained. As regards lean-to houses facing north or north-east, no difficulty is experienced in preserving a comparatively cool temperature at all times.

CATTLEYAS.—The condition of the plants of Cattleya Mossiæ, C. Mendeli, C. Skinneri, and C. intermedia, should now be ascertained, and those which require more space for rooting attended to. If repotting be required, it should take place before growth has made much progress, or if top-dressing only be needed, this should not be delayed, or the growing roots may suffer injury. These species, in common with many others, must not be over-potted, but just sufficient space should be afforded as will suffice for two seasons. Great care should be taken not to injure the roots, healthy plants being in a state of active growth. In repotting, keep the plants slightly raised above the rim of the pot, and make use of a few neat but strong stakes to hold them firmly in position. Allow of plenty of drainage material, and over it place a thin layer of sphagnum moss, using as a compost the best fibry peat, a small quantity of sphagnum moss, and plenty of crocks. After the operation is finished, place the plants in their growing quarters, and for a few weeks afterwards shade them rather more heavily than usual, and afford water sparingly until they are re-established. The watering of newly-potted Cattleyas is an operation that beginners do not readily understand. There have been more plants killed by excessive watering at this critical time than from all other causes put together. A serious mistake which the inexperienced cultivator frequently makes is to deluge the plants with water so soon as he observes any slight shrivelling taking place in the pseudobulbs, with the idea of maintaining a plump appearance. The result is, that the old roots, instead of extending, rapidly and surely decay from excess of moisture, and more often than not causes the death of the plant. I would advise the inexperienced when watering Cattleyas recently repotted, to keep them rather on the dry than on the wet side, and instead of saturating the compost, to water the soil around the edge of the pot till such time as each plant has become well rooted.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

THE STOVE.—All creepers will require abundance of water at the roots during hot weather, and frequent syringing to prevent aphides attacking them, or to clear them of these insects. Attend to the tying-in of the shoots as required, and afford the borders frequent top-dressings with Clay's Fertiliser. Crotons, Marantas, Dracænas, Aralias, and all fine-foliaged plants will likewise need constant attention in regard to watering and syringing. Continue to put in cuttings of Tradescantia in variety, in order to keep up a good stock of these plants for furnishing purposes. Pot up a batch of Selaginella denticulata for the same purpose, and divide and repot plants of Isolepis gracilis. Cuttings of Euphorbias, Poinsettias, Scutellarias, and other winter-blooming plants, may still be put in, potting-on those that are already well rooted.

PLUMBAGO CAPENSIS, if required for outside purposes, may be removed to the open, but a sheltered position should be chosen for a time. Secure the flowering shoots, to prevent them from injury by the wind. Afford plenty of water at the roots, and manure-water frequently to old plants. Young plants will require to be potted on, and any flowering shoot they may make should be pinched out. Keep the plants in a warm greenhouse in order that they may make as much growth as possible during the summer months. P. rosea and P. coccinea are good varieties for winter flowering, either grown in pots or planted out in the stove.

GREENHOUSE RHODODENDRONS.—Now that these plants are making their growth, an abundance of water at the roots will be necessary. Those that have become much pot-bound may be repotted, using for the larger pots good peat, with plenty of sand. Pot firmly, and afterwards water them with great care. Syringe lightly overhead, keep a moist atmosphere, and afford a light shading if the house has a south aspect. Young plants that are not expected to bloom next year may have the points of the leading shoots nipped out to induce a greater degree of bushiness, and be kept growing in a moderately warm house, with shade over them during the hours of bright sunshine. Older plants that are considered large enough to carry flowers may have a smaller amount of shade and more air, and should therefore have a part of a house to themselves, or be placed in a pit or house apart from the others.

CYCLAMEN.—The old corms which have been kept a little dry at the roots should now be started. Remove all the old leaves, and afford the plants one good watering, afterwards syringe them regularly two or three times a day, and keep them shaded. When they have made a few leaves, shake off most of the old soil, and repot into the same sized pot. Young plants that are well-rooted should be potted on into their flowering-pots. Keep them shaded, and syringe twice a day.

RICHARDIAS should be divided and potted up, or planted out in well-prepared ground in the open. Cut off any yellow or unsightly leaves, so that they present a tidy appearance. Give the plants a thorough soaking with water after planting out, and occasional supplies will be necessary during dry weather throughout the summer. The useful R. Little Gem will be best divided and grown in 32 and 24 sized pots. The beautiful yellow Richardia Elliottiana should be carefully divided, and every piece placed singly in 3-inch or 5-inch pots. Afterwards repot as soon as the plants are ready.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

MEASURES TO TAKE TO DESTROY RED SPIDER.—The warmth and dryness of the weather together, and the pressure of other work at this busy season, favour the spread of red-spider on the various kinds of fruit cultivated under glass. In spite of every precaution that can be taken, it is sometimes impossible to prevent its appearance on plants during long periods of drought, the insects, perhaps, being abundant on other plants which are growing in proximity to the glasshouses. It is seldom that all the plants in a house are infested at one time, but when they once obtain a footing the insects increase with surprising rapidity if no means are taken to clear the plants of them. I experienced some difficulty this season in checking their increase in a Black Hamburgh vinery, but by regularly syringing all of the affected leaves daily in the afternoon, the foliage of the Vines has been saved from destruction. In syringing these Vines care was taken to use water which was quite free from impurities, and not to wet the bunches more than could be helped, the result being that the berries suffered no harm, and at the present time they carry a good bloom. The syringing of these Vines was discontinued as soon as the berries began to change colour, but should the dry weather continue, the foliage will again be syringed as before, in those parts of the house where fruit is removed.

FIGS, ETC.—The fruits as they ripen should be gathered in the early morning, going over the trees daily for the purpose, the syringe being freely used after each gathering, which will in no way injure any of the fruits approaching maturity, as with plenty of ventilation the moisture dries up rapidly. The same kind of treatment should be afforded the Peach and Nectarine trees, fruits improving in size and flavour during bright weather if the air of the houses be maintained in a moist state, and ventilation freely afforded.

MELONS AND CUCUMBERS.—Afford copious syringing of the bine, together with a close humid atmosphere. A fruitful cause of the appearance of red-spider on Melons, &c., is dryness at the root, and this is most felt by those plants whose roots are restricted to small spaces.

VINES.—The Muscat of Alexandria Vines that were started in the month of February will now have fruit with the seeds formed, and a brisk heat with plenty of moisture has become necessary to the swelling of the berries to their greatest capacity. The bunches should have the seedless berries removed, and the shoulders supported with strips of matting. So regulate the growths as to afford the bunches protection from the mid-day sun, and thus obviate the scalding of the berries. The border should be lightly pricked up, and a slight dressing of some approved fertiliser afforded, washing it in with tepid rain-water. The Muscat vinery should be closed at 3.30 P.M. after copious damping down; the night temperature should be about 70°, and ventilation afforded at 6 A.M., gradually increasing the amount of air up to midday.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, JUNE 20—Linnean Society.

FRIDAY, JUNE 21—Royal Botanic Society, Lecture.

SHOWS.

WEDNESDAY, JUNE 19 { York Gala (3 days). Royal Botanic Society, Musical Promenade.

SALES.

TUESDAY, JUNE 18 { Unreserved Sale of the Collection of Established Orchids, Stove and Greenhouse Plants, formed by the late Ed. Jex. Esq., of Springfield Dukes, Springfield, near Chelmsford, by Protheroe & Morris.

FRIDAY, JUNE 24 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—61°.4.

The Origin of the Cineraria.

As many of our readers may be aware, a controversy, not remarkable for amenity, has been carried on recently in the columns of *Nature* as to the origin of the florists' Cineraria. On the one hand, it is asserted that Senecio cruenta, and Senecio cruenta alone, was the parent of the existing forms. On the other it is contended that the Cineraria as we now know it, had a complex origin, and was the result of a crossing or crossings between Senecio (or Cineraria) cruenta and various other species. One controversialist relies upon historical evidence, the other brushes it away as of no validity. Unfortunately the origin of the Cineraria, in point of date, lies outside the memory of most of those still living, so that little or no personal testimony is available, and the written records are, to say the least, conflicting. The points in dispute, we may add, could easily be settled at Kew, or in some other of our botanic gardens, by a few experiments in cross-fertilising the various species. These experiments could be made with due precautions against error, and the records could be kept with that degree of accuracy, the want of both which undoubtedly invalidates the entire trustworthiness of some, at least, of the old records. The point at issue is of great interest from an evolutionary point of view, and bears directly upon the question whether what we call species (whatever we may mean) may arise from cross-breeding and selection, or from selection only.

It is, we think, unfortunate that the Cineraria should have been chosen as an illustrative example when there are equally instructive plants, for instance, the greenhouse Rhododendrons, the tuberous Begonias, the Jackman Clematis, and, still more recently, the Streptocarpus, the origin and development of which have been keenly watched by the present generation, and the records of which are certainly not to be dismissed as the ancient history so lightly considered by one of the disputants. In any case, we believe that students of evolution have at their disposal a vast mass of information in horticultural records and practice, and which, when duly winnowed, and "correction" applied for inevitable errors, will be found of the greatest value. Cultivators, always within certain limitations, have been, and are doing rapidly, precisely what is effected under natural circumstances much more slowly.

At the request of Mr. DYER, we now publish the following communication, and shall probably have some further information to offer on the subject later on. In the meantime, we shall be glad to know of any definite statements as to the history of the Cineraria which will bear the test of criticism, and we should be glad to learn from Cineraria-growers of the existence of any bud variations or sports they may have observed. Up to the present we do not remember to have seen anything of the kind apart from actual malformations, and this negative testimony, whatever it be worth, must be credited to those who believe in the single origin of the Cineraria.

Mr. DYER writes:—"The recent discussion on this subject has been noticed in the *Gardeners' Chronicle*. I should be glad therefore to see the inclosed article, printed as long ago as 1827 [1826], reproduced. JAMES DRUMMOND, the author, was both a competent botanist and gardener. The original is accompanied by characteristic figures of the species concerned. It appears to me pretty conclusive historical evidence that the garden Cineraria originated from C. cruenta, and from nothing else, a view more than once stated in these pages by others than myself.

"I am indebted to Mr. NICHOLSON, the Curator of the Royal Gardens, for drawing my attention to Mr. DRUMMOND'S paper." *W. T. Thiselton-Dyer, Royal Gardens, Kew.*

"The different species of greenhouse Cinerarias are great favourites with me, and especially the C. cruenta; for besides the great beauty and variety in the flowers of the latter species, it produces them in the months of December, January, and February, when it has but few rivals in the greenhouse; and in the months of March and April its fine purple blossoms form a beautiful contrast with the Acacia decipiens, and other plants of that class; and, in my opinion it surpasses even the Hawthorn in the fragrance of its flowers; yet, from some cause or other, we seldom see it cultivated to the extent it merits. Should the following account of the method I have followed for some years of growing this plant appear to you worth insertion in your valuable magazine, it may turn the attention of some of your numerous readers to the cultivation of the C. cruenta, the effects of which will, in all probability, be the production of fine double and single varieties, of different colours, as it sports greatly from seed.

"Except in cases when it becomes desirable to preserve any particular variety for its superior beauty, I prefer raising the C. cruenta every year from seeds, which the plant perfects with me in the months of April and May. Care should be taken to select the finest varieties, and those that produce the largest and finest heads or corymbs of flowers. The plants must be daily attended to when ripening their seed, as the flowers retain their beauty until the very day the seeds are scattered with the wind, a remarkable and valuable property in this fine winter flower. I sow the seeds immediately when ripe in pots of light, rich earth, and place them in a hot-bed. The plants come up very small and feeble at first, but as they get two or three leaves, I plant them singly in pots of the smallest size, and shift them, as I find they require it, into larger ones, giving them the same soil and treatment I give young Balsams. By October 1, if the plants have been well attended to during the summer, they will fill pots 9 inches in diameter, and be throwing up strong flower-stalks from the centre of each. At this time I place them in an open part of the greenhouse, and supply them occasionally with water containing liquid-manure, composed of soap-suds and other matters, which I find of great service to the plants.

"Cinerarias treated in this way begin to flower in December, and continue increasing in size and beauty for several months, until their corymbs reach a foot or 18 inches in diameter. Such varieties of C. cruenta as I think worth preserving for more than one season, I cut down about the end of May, and place the pots on a dry shelf in the greenhouse, supplying them very sparingly with water. About the 1st of August I repot them, dividing the roots, and treating them in other respects as I do seedling plants, but they rarely reach the size they do the first year from seeds.

"The other greenhouse species of Cineraria I cultivate are lanata, hybrida, geifolia, and amelloides: these I increase by cuttings, planted about midsummer, and treated in other respects as cruenta, my object being to have a few plants of each in flower with the latter. To have them in perfection, they should not be more than one year old; and they do not require pots more than half the size of seedling cruentas. *James Drummond, Cork Botanic Garden, October* 18, 1826" (*in the "Gardeners' Magazine,"* vol. ii., pp. 153-154).

HABENARIA BONATEA.—Our illustration (fig. 112, p. 743), gives a representation of the singular Habenaria Bonatea, which is occasionally seen in gardens under the name of Bonatea speciosa. If it has not the beauty of the Malayan species, the singular form of its pale green-and-white flowers, and the fact that it can be cultivated in an ordinary greenhouse, are counterbalancing items in its favour as a desirable garden plant. The nectary is in close approximation to the ovary, and of the three anterior lobes of the lip the lateral ones are somewhat tubular, while the central one is even more so, forming a sort of nectary. Indeed, all three lobes have an appearance like that of the true nectary, which is also a process from the lip. Habenaria Bonatea is a native of South Africa, and its culture is similar to that required by Disa grandiflora and other Cape Terrestrial Orchids. Our illustration was prepared from a specimen supplied by Messrs. F. SANDER & Co., St. Albans, and exhibited by them at the Royal Horticultural Society.

LINNEAN SOCIETY.—On the occasion of the evening meeting, to be held on Thursday, June 20, at 8 P.M., papers will be read:—I. "On some North American Desmidiæ," by WILLIAM and G. S. WEST; II. "On the Structure of the Isopod Genus Ourozeuktes, Milne-Edw." By A. VAUGHAN JENNINGS, F.L.S.; III. "A Revision of the Genus Silene," by F. N. WILLIAMS, F.L.S., &c.; and IV. "The Egg-Cases of Port Jackson Sharks," by E. R. WAITE.

—— At the meeting held on Thursday, June 6, Mr. W. PERCY SLADEN, V.P., in the chair, the minutes of the last meeting having been read and confirmed, the Chairman, on behalf of the President, nominated the following to be Vice-Presidents:—Messrs. J. G. BAKER, F. CRISP, A. LISTER, and W. P. SLADEN. Mr. B. B. WOODWARD was elected a Fellow. Mr. M. BUYSMAN, who has laboured for many years to establish a garden at Middleburg for economic plants, exhibited specimens to show the excellence and completeness of his preparations.

THE NATIONAL CHRYSANTHEMUM SOCIETY.—We are requested to state that the annual outing of the members of the above Society will take place on Monday, July 22, in the form of a visit to the gardens and grounds of Burford Lodge, Boxhill, the residence of Sir TREVOR LAWRENCE, Bart., one of the Vice-Presidents of the Society.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this Society was held on Tuesday night, at their room, 25, Westgate Road. There was a good attendance, and Mr. LARKE, North Dene, Gateshead, occupied the chair. Mr. J. HOLMES, of the Fleming Memorial Hospital, Newcastle, read an instructive paper on "Hardy Herbaceous Plants," which was very much appreciated, illustrating and adding interest to his remarks by numerous specimens. A warm discussion followed, in which most of the members took part.

The Veitch Medals.—The recipients this year were Mr. James Bateman, the venerable pioneer of Orchid growing, and the author of what we believe is the biggest book in the Lindley Library, the famous *Orchidaceæ of Mexico and Guatemala*, the praises of which were appropriately descanted on by the President, Sir Trevor Lawrence, in presenting the Medal. It is difficult to over-estimate the services of Mr. Bateman to horticulture and to the Royal Horticultural Society. Some of his hearers on Tuesday last must have remembered the days, now long past, when Mr. Bateman's crisp, bright "lecturettes" charmed miscellaneous audiences at South Kensington, and served their immediate purpose better than some of the technical dissertations now delivered at the 3 o'clock meetings. Mr. F. Moore, the popular Director of the Gardens at Glasnevin, was another recipient, and a most worthy one, whose extensive knowledge of plants is only equalled by his modesty and his willingness to communicate his information to others. With ready wit and characteristic modesty, he declared that the award of the medal to him as an Irishman was an act of injustice to England! Of M. Lemoine and his work as a hybridiser, it is not necessary to speak in these columns, where we have so often had to record his achievements. It was a matter of great regret that M. Lemoine was unable to be present. But what an anomaly it seems, that the recognition of distinguished work in horticulture should be left to be done by the trustees of a memorial fund instituted to keep green the memory of one particular horticulturist. Surely, the proper body to do such work is the Royal Horticultural Society. We are bound to say, however, that we do not think the Society would more effectually represent the general feeling of the horticultural public than do the Veitch Memorial Trustees!

Fig. 112.—Habenaria bonatea. (see p. 742)

THE PEOPLE'S PALACE HORTICULTURAL SOCIETY.—The summer exhibition of this Society, announced for July 11 and two following days, will now be held on July 4 and two following days, in order that their Royal Highnesses the Duke and Duchess of YORK may have an opportunity of visiting it, accompanied by his Grace the Duke of FIFE, President of the Society. Their Royal Highnesses have been pleased to express a desire to time their visit so as to meet as many as possible of the members of the Society, and it will accordingly take place at five o'clock. The visit will be in every respect a friendly and sympathetic one; and it is the desire of their Royal Highnesses there should be nothing in the way of a ceremonial reception. It is their further desire that the members of the committee be presented to the distinguished visitors. One of the usual monthly courses of lectures was delivered on the evening of the 8th inst. at the People's Palace by Mr. H. J. JONES, who took as his subject, "The Chrysanthemum for Exhibition Purposes." The chair was occupied by HAROLD BOULTON, Esq., one of the Hon. Secretaries; and Mr. JONES, speaking in a conversational style, delivered a very interesting address, detailing the processes of culture and management, and at various points illustrating his remarks by helpful object-lessons. At its close many of the members, who are keen cultivators of the Chrysanthemum, put many questions to Mr. JONES, which were fully answered. A hearty and enthusiastic vote of thanks was passed to Mr. JONES at its close. An excursion to Kew Gardens has been arranged for Saturday, June 22. A special steamboat has been chartered to take the company from London Bridge at half-past 2 o'clock, and a very large party is expected.

"THE NATURAL HISTORY OF PLANTS."—The thirteenth part of this excellent publication is before us. The section on the "Genesis of New Forms," as a result of crossing, is particularly well worth reading now, when there is a tendency to underestimate the importance of cross-breeding as a factor in evolution. No amount of imperfection in the records can do away with the facts, and the existence of the facts nobody denies. The subject of classification is begun in this part. The main features are the recognition of the Myxomycetes as one of the primary divisions of plants. The Thallophytes contain five divisions—1, the Schizophytes (e.g., Bacteria); 2, the Dinoflagellates (e.g, Ceratium); 3, the Bacillariales, including the Diatoms; 4, the Gamophyceæ, including the green Algæ; and, 5, the Fungi. Thus, the Algæ and Lichens disappear as separate classes, and are distributed through the other classes. The remaining classes are left with fewer changes.

PHYLLOXERA AND THE BERNE CONVENTION.—Over and over again we protested against the enaction of the Phylloxera laws in our colonies and on the Continent. Had there been the least chance that the regulations would have been generally effectual, we must of course have accepted them with resignation, but at the very first, from the time when the habits of life of the insect were made known, we pointed out the futility of the regulations. Now it is generally recognised that the Phylloxera has paid not the slightest attention to them! and dealers and importers have been put to all this inconvenience and loss for a long series of years, and all to no purpose. We are glad to find that the Paris Horticultural Congress took up the matter at the late exhibition, and resolved to petition the French Government to endeavour to obtain the revision of the Berne Convention, and the unrestricted circulation of all plants, excepting always Vines.

"REVUE HORTICOLE."—We are glad to find that the merits of our excellent French contemporary were recognised at the late Paris Exhibition by the award of a special Gold Medal. The *Revue* is, if we mistake not, the oldest horticultural periodical in Europe, and amply maintains its well-earned repute.

HORTICULTURAL EDUCATION.—In our last issue we took note of the establishment of a technical School of Horticulture at Chelmsford, under the auspices of the Essex County Council. We now give the details of the proposed scheme, which will show how much may be done in a short time, provided the pupil come prepared beforehand. As to the tuition, we have good reason for knowing that it is excellent.

TIME TABLE—FIRST WEEK.

DAYS	MORNING.		AFTERNOON.	
	9—10 Lectures.	10—12 Practical Work.	1—2 Lectures.	2—5 Practical Work.
MONDAY	What is a Plant?	Study of the parts of a Plant, and of the changes that these parts may undergo as a result of cultivation.	Water and its properties.	Study of solution, filtration, and evaporation. The use of the thermometer.
TUESDAY	The General Anatomy of a Plant.	Practice in plant dissection, and in the use of pocket-lens.	The Soil and its composition.	Study of Chemical constituents of soil and manures, and of capillary attraction in soils.
WEDNESDAY ...	The Minute Structures that build up the tissues of a Plant.	Study of plant-tissues under the microscope.	Composition of the Air, and of the principal constituents formed by plants.	Experiments in oxidation. Study of the properties of carbohydrates and albuminoids.
THURSDAY	Germination of Seeds.	Study of respiration and of irritability in growing-organs in plants. Testing purity and vitality of seeds.	Preparation of land for growth of crops (choice of ground, draining, digging, trenching, rolling, raking, &c.).	Practice in use of implements (how to handle a spade, dig a trench, use a hoe, &c.). Preparation of seed beds.
FRIDAY	The Food of Plants and the General principles of Manuring.	Study of Water-culture experiments. Influence of oxygen, iron, and light upon coloration. Evil effects of over-feeding.	Manures—stable and artificial—their uses and methods of application.	Sampling different kinds of manures. Preparation and use of liquid-manures. Feeding pot plants.
SATURDAY ...	Revision class and inspection of note-books.		Visit to a seed-farm.	

SECOND WEEK.

DAYS.	MORNING.		AFTERNOON.	
	9—10 Lectures.	10—12 Practical Work.	1—2 Lectures.	2—5 Practical Work.
MONDAY	The Root and its duties.	Study of some physical and mechanical properties of roots.	Preliminary cultural operations.	Seed-sowing. Transplanting seedlings. Planting bushes. Mixing composts. Potting. Staking.
TUESDAY	Leaves and their work.	Study of the minute structure of leaves. Experiments, demonstrating, loss of water, formation of starch, and liberation of oxygen by leaves.	Diseases of Plants due to Fungi.	Study of Club-root in Turnips, &c. "Damping-off" in seedlings. Potato and Tomato disease.
WEDNESDAY ...	Structure and growth of shoots.	Detailed study of a stem. Structure of a bud. Examination of wounds and modes of healing. Ringing and barking operations.	Injuries to Vegetation due to Insects.	Examination of typical injurious insects. Preparation of insecticides. Spraying operations.
THURSDAY	Propagating Plants by means of shoots.	Microscopic examination of callus in woody and herbaceous cuttings, and of junctions between stocks and scions in grafts. Study of cork tissue.	Vegetable culture and Rotation Cropping.	Making sets of Potatos. Preparing seed-bed for Onions. Sowing Peas and Beans.
FRIDAY	Storage of reserve food material in Plants.	Microscopical examination of Potato and Dahlia-tubers, roots of Beet, and medullary rays of fruit trees.	Propagation of Plants, methods, &c.	Making cuttings, grafting, budding, layering. Propagation by division.
SATURDAY	Revision class and inspection of note-books.		Demonstration in a market-garden.	

THIRD WEEK.

DAYS.	MORNING.		AFTERNOON.	
	9—10 Lectures.	10—12 Practical Work.	1—2 Lectures.	2—5 Practical Work.
MONDAY	Flowers, their use and development.	Structure of flowers. Artificial fertilisation and use of the camel-hair brush in pollination.	Flower culture.	Potting bulbs. Planting bulbs. Sowing flower-seeds in pans and boxes. Potting seedlings. Bedding.
TUESDAY	Fruits and seeds. How formed—the influence of cultivation upon their formation. Ripening.	Examination of different kinds of fruits.	How Flowering Plants are classified.	Demonstration in Botanic Garden.
WEDNESDAY ...	Weeds and their eradication.	Study of annual, biennial, and perennial weeds.	Botanical classification of Kitchen garden plants.	Exercises in plant dissection and classification.
THURSDAY	Diseases of Plants due to Fungi.	Microscopical examination of certain leaf and fruit diseases.	Hardy Fruit culture.	Visit to a fruit farm.
FRIDAY	Revision Class.	Examination of note-books. Oral examination.	Fruit culture under glass. Gathering, storing, and marketing of fruit.	Making vine-eyes. Visit to a Vinery, Peach, and Tomato-house.
SATURDAY	Examination (written and practical).		—END.	

ROSE "BELLE SIEBRECHT," NÉE MRS. GRANT.—Messrs. SIEBRECHT & WADLEY have obliged us with the following communication relating to some remarks made by a correspondent in our columns. Commercial men have their own standard of ethics, and will probably see no harm in a firm renaming a plant of which they have acquired the whole stock. At any rate, no one will consider that any reflection on the reputation of the firm for "honesty, integrity, and fair dealing" has ever been intended. It is simply a matter of convenience. The Rose in question was exhibited under a certain name, and more than that, it received under that name an official award of a Gold Medal from the National Rose Society. Under those circumstances it is extremely inconvenient to change the name, as such a practice renders nugatory all laws and statutes designed for the general convenience. But a firm, especially a foreign firm, may transgress the laws even of the National Rose Society, and yet not be deemed criminal! Nevertheless, we think we express the sense of the community when we say, Don't do it again. Here is Messrs. SIEBRECHT & WADLEY's letter:—"Pardon us for taking this opportunity to refer to several articles which appeared in your valued journal upon this Rose, said articles, we regret, unjustly criticised our method of distributing this Rose. We regret very much to have to say that these articles have been rather damaging and unfortunate for us, and while it does not materially hurt the Rose, it certainly reflects very much upon our well-established and well-earned good reputation for honesty, integrity, and fair dealings for nearly thirty years, and we wish to say right here that before publishing such articles we should have expected that you would have given us an opportunity of explaining matters which, no doubt, would have prevented such publications of said damaging criticism on your part. At the time when we purchased the entire stock of this Rose, it was fully agreed upon between Messrs. ALEX. DICKSON & SONS and ourselves that we had the sole and perfect right to rename this Rose and send it out under any name which would be most advantageous to ourselves. We were not then informed, and have not been since, and do not know of any rule that was then or is now in existence, made by the National Rose Society, or any other Society, which forbids the renaming or changing of names of any Rose the stock of which was bought outright and paid for, either in Great Britain, France, Germany, or any other country; and as for keeping it a secret that the name had been changed, or how we came in possession of the Rose, this is simply absurd, for our Mr. SIEBRECHT has told the story of his falling in love with the Rose when visiting the Messrs. DICKSONS in 1892, and the subsequent purchase of the entire stock, and the almost total loss of the entire stock in transit, and also of the fortunate and almost marvellous recovery of enough of stock from which the present large number of plants that are being disseminated all over the world has been raised in our nurseries. To corroborate this statement, we herewith enclose you a clipping from the *New York Herald*, to a reporter of which our Mr. SIEBRECHT gave a few facts, as stated above. The newspaper people, of course, elaborated to some extent on these statements, and such as are erroneous we, of course, are not responsible for. In conclusion, we wish to say that we are very much grieved, and feel your adverse criticism and comments very keenly. Hoping that this explanation may satisfy you to that extent that you may see fit to exonerate our firm and put us in the proper light before the horticultural world, we remain, your obedient servants, SIEBRECHT & WADLEY."

STOCK-TAKING: MAY.—As we anticipated, the Trade Returns for the past month show a steady improvement, which reads, "Trade is reviving;" for imports have gone up £618 026, and exports have improved to the extent of £860,532. In the "decrease" columns we note a fall in the value of live stock for food to the extent of £208,026; in articles of food duty free there is also a falling off placed at £557,672, but in all else, excepting raw materials for sundry industries and miscellaneous articles, there is a most appreciable increase, sufficient to wipe out the decrease and add the excess on the total for May last year above recorded. More than that, the old gauge of prosperity, "chemicals, &c.," is on the right side of the account; so also is Tobacco, an increase in the imports of which is supposed to indicate an increase in the spending capacity of the working classes. The following are our usual extracts from the tabular summary for the month:—

IMPORTS	1894.	1895.	Difference.
	£	£	£
Total value of imports	34,134,060	34,752,086	+618,026
(A.) Articles of food and drink — duty free	12,373,081	11,815,409	—557,672
(B) Articles of food and drink—dutiable	1,599,588	1,734,648	+135,060
Raw materials for textile manufactures	5,517,526	5,704,849	+187,323
Raw materials for sundry industries and manufactures ...	3,642,386	3,471,679	—170,705
(A.) Miscellaneous articles	1,236,209	1,168,445	—67,764
(B) Parcel Post ...	47,070	81,559	+33,589

By the way, Grass and Clover seeds foot up at £22,967, as against £23,849, or £882 less than in May of last year. It may also be worth noting, in view of the late strike, that the value of boots and shoes imported during the past five months amounts to £163,037, as compared with £172,654 in the same period last year—a falling off which certainly was not expected. The figures relating to fruit, roots, and vegetables are always of interest; pity we have no such line as "vegetables unenumerated," as the enumeration would supply a guide to such as overhaul the annual agricultural returns for hints as to what to plant—knowing what it is that pays to bring from foreign lands to English markets. The following are the usual excerpts from the grand mass of figures for May:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples ... ... bush.	85,214	83,260	—1,954
Cherries ... ... ,,	17,115	11,782	—5,333
Plums ... ... ,,	805	242	—563
Pears ... ... ,,	88	259	+171
Grapes ... ... ,,	1934	2,706	+772
Unenumerated ... ,,	58,775	58,965	+190
Onions ... ... ,,	495,034	337,344	—158,693
Potatos ... ... cwt.	340,202	598,456	+258,254
Vegetables, raw, unenumerated ... ... value	£ 100,770	£ 118,701	£ +17,931

Some months since we drew attention to the effects of the bitter cold on the Orange trees in the Southern States of America; we now learn that, out of an estimated total yield for Florida of 2 000,000 boxes, one-half has been destroyed. Pity 'tis 'tis true. From Palermo we learn that the direct trade between Sicily and Manchester, per Canal, is now a matter of great interest—it pays; and doubtless a greater variety of supplies will be on hand in the capital of cotton. We come now to—

EXPORTS,

which, as we have said, show for the month an increase of £860,532. The figures are—for past month — £18,344,744, as against £17,484,212. The only decrease is to be found in articles of food and drink (£34,104), raw material (£9395), and apparel, &c. (£46,302). A large portion of the increase is due to American demands for textile fabrics and yarns—in fact, Bradford is so over-ordered in this trade that manufacturers cannot supply the local customers. More than that, our old friend "chemicals" looms largely in the balance-sheet. The prospect looks fair, for there is little doubt that in the East a great deal will soon be done in China. We can make ourselves of enormous value at Pekin—all we require in return from our Celestial friends is that they may help to swell the values in our Trade and Navigation Returns of the future.

RAINFALL IN TEIGNMOUTH.—The past month of May, remarks our Teignmouth correspondent, has been most exceptionally dry, rain having only fallen on one day, viz., May 1. I am indebted to Dr. LAKE for the information that the rainfall of May, 1895 (0·62 inches), has in only one year during the last twenty-two years been so low in May, and that was in 1892, when it was 0·61 inches. The greatest rainfall in May during the same number of years was in 1878, when it was 4·51 inches; while the average for many years has been 2·21 inches.

CYPRIPEDIUM GERTRUDE HOLLINGTON.—This fine Cypripedium was exhibited by Messrs. Hugh Low & Co at the Paris Exhibition, where it excited great attention. Our French friends seem to have been puzzled by the name, for we find it spelt Kollington, and Collington; while in some cases the name is judiciously, perhaps, not given at all. Shall we ever get a universal language? In the meantime, as a near approach to such a consummation, we may refer to our illustration of this fine Cypripedium at p. 644 of our issue for May 25 last. Messrs. Low's plant was sold, it was stated, to M. TOURNIER of Marseilles for 3000 francs = £120

CYPRIPEDIUM VILLOSUM.—A Dutch correspondent has kindly forwarded a two flowered spike of this species, in which the oldest or lowermost flower presents some peculiarities. The upper or dorsal sepal is inseparate from the two conjoined lower sepals for half its length. This union has dragged the rest of the flower out of place: thus the two lateral petals instead of being nearly horizontal — — are disposed obliquely upwards and downwards, the lip being similarly drawn out of place, so that the position of the two petals and of the lip may be thus represented / /. The column is similarly dislocated.

DOUBLE WHITE DAISY.—MM. LAMBERT, of Trèves, send us specimens of a remarkably fine double white Daisy. In spite of the long time occupied in the transit—a period sufficient to have sent the plant from Trèves to New York—the flowers when they reached us were sufficiently well-preserved to justify us in congratulating Messrs. LAMBERT in the possession of so fine a variety. The great length of the flower-stalks, as well as the compact heads of pure white flowers, will render it very useful for bouquet work.

FLOWERS IN SEASON.—A very pleasing lot of blooms of fancy Pansies comes from Mr. JOHN FORBES, Bucclench Nurseries, Hawick, showing infinite variety of colouring, and mostly of large size. Generally our northern brethren grow these plants better than we do in the south; although with due care exercised in choosing suitable positions for the plants, an unctuous, loamy soil, and plenty of cow-stall-manure, the culture of the Pansy is as satisfactory here as in the north. It may be said that they are scarcely suitable plants for the fully-exposed flower-garden, where Pelargoniums, Petunias, Begonias, &c, and other sun-loving subjects, are quite at home. There the Viola is a much finer plant during the summer months. Some very beautiful Carnations reach us from Mr. SMITH, gardener to F. BOWER, Esq., West Dean Park, Chichester, in colours, pink, deep rose-pink, crimson, buff-yellow, and white. Amongst them we remark a large bloom of rose-colour in two shades—that of the older flower pale, and newly-opened flower of a deeper hue, fragrant, large, full, not inclined to burst the calyx, with strong shoots; evidently a robust grower. It is a seedling raised by Mr. SMITH, and named Miss MILLICENT JAMES, an acquisition certainly for bouquets, vases, &c. The white, fragrant Empress of Germany; Niphetos, Mrs. Reynolds Hole, and Pride of Penshurst were amongst the varieties sent. Mr. SMITH is a pupil of a successful cultivator of Carnations, Mr. JENNINGS, of Ascott, Dunstable; and is master of the art of cultivating these plants.

Uprooted Trees in the Temple.—On Friday morning, June 7, the Temple gardeners were engaged, says the *Daily News*, in replanting the three Plane trees in Essex Court, which had been uprooted and laid prostrate on the previous afternoon by a sudden gust blowing through the archway leading into that square of dingy brick buildings. The trees were young, but the force of the draught was still remarkable, for they had attained to a height of some 40 feet, and the stem of the stoutest is 13 or 14 inches in circumference. On the same day another Plane in Pump Court was nearly overthrown from a like cause. The trees have now been provided with props or wire ties.

New Nymphæas.—The *Revue Horticole*, June 1, publishes a coloured plate of three new hybrid Water-Lilies, obtained by M. Latour-Marliac, viz., N. Seignoureti, deep orange; N. Laydekeri lilacea, flowers deep carmine, with yellow stamens; and N. Laydekeri fulgens, flowers light carmine, tinted with amaranth. All these, together with the yellow N. Marliacea, are hardy, and form glorious additions to our lakes.

Publications Received.—*Park and Cemetery*, vol. v., No. 2 (April, 1895), 334, Dearborn Street, Chicago. A journal devoted to parks and cemeteries, and to the laying out and maintenance of such grounds to the greatest advantage. Such a journal should do much good, by inducing improvements to be made in plantations already established, and in ensuring that those undertaken by present or future generations be systematically planned and regularly maintained.—*Fruit Growing on a Large Scale*, by Mr. Charles D. Wise (Spottiswoode & Co., New Street Square, London). A valuable and practical paper, reprinted from the *Journal of the Royal Horticultural Society*, January, 1895.—*The American Chrysanthemum Annual* (1895), edited by Michael Barker (published by the Mayflower Publishing Company, Floral Park, New York). An illustrated manual, which the many admirers of the Chrysanthemum will value. It contains papers relating to the Past Season, the National Society of England, Beds and Benches, Outdoor Culture, the American Society, Diseases, Insects, Methods, Best Varieties, and similar details relating to the Plant, its History and Cultivation.—*Biology Notes*, County of Essex Technical Instruction (County Technical Laboratories, Chelmsford), Nos. 6, 7, and 8, for March, April, and May, 1895. The numbers of this publication are devoted to such subjects as:—Some Biological Aspects of Dairying, Lessons in Practical Botany, Notes on Flax and its cultivation, Onion Culture, a Naturalist's Calendar, General and Miscellaneous Notes, &c.—*American Carnation Society: Proceedings of the Fourth Annual Meeting at Boston, February 21 and 22*, 1895 (A. T. de la Mare Printing and Publishing Co., New York). This includes a report on the proceedings of the meeting, discussions concerning various methods of growing, propagating, and blooming Carnations, notes on the diseases peculiar to these plants, and descriptive lists of the best species.

IVY AT CWM HIR ABBEY, RADNORSHIRE.

Attention has lately been directed to the Abbey of Cwm Hir as the supposed resting-place of the bones of Llewyllyn, the last native Prince of Wales. Very little now remains of the Abbey. Human hands have torn nearly all the walls down, and Ivy has helped to complete the ruin. Whilst on the spot a week or two ago, I made one or two sketches illustrative of the destructive work of Ivy. The fragment illustrated represents the base of a wall pier. An Ivy stem 3 inches in diameter has bodily raised the pier from its setting, and at the same time pushed it forward out of the wall for 2½ inches. In a second instance, an Ivy stem 2¼ inches in diameter has pushed through a vertical joint between two of the basal stones, and moved the wall to that extent. In so doing, the Ivy has split into two pieces three of the horizontal stones above. *W. G. S.*

[Another illustration of the power of vegetation to effect the destruction of buildings is to be noted at Cliveden, Maidenhead, where a branch of a Fig tree growing in a forcing-house has pushed itself between the courses of the brick wall at the front of the house, and is heaving the upper courses of bricks out of the level. This branch is laden with Figs, and well furnished with leaves at the present time. Ed.]

Home Correspondence.

Mona's Pride Potato.—In answer to Mr. T. Goddard's remarks on this variety, p. 692 in *Gardeners' Chronicle* for June 1, I wish to state that it is our main early tuber out of doors. It may in some gardens be a little later than the Early Ashleaf, but we find very little difference here. I shall be pleased to forward him a dish to try the quality. We have plenty of "black diamond" underneath us at Mostyn. The variety, Magnum Bonum, which is grown here as the main-crop, turns out splendidly most years. *J. Barnard, Mostyn Hall Gardens.*

Transplanting Violas.—The relatively old practice of transplanting Violas in the autumn—say, at the end of September, and early in October—for spring display, and as early in February as the

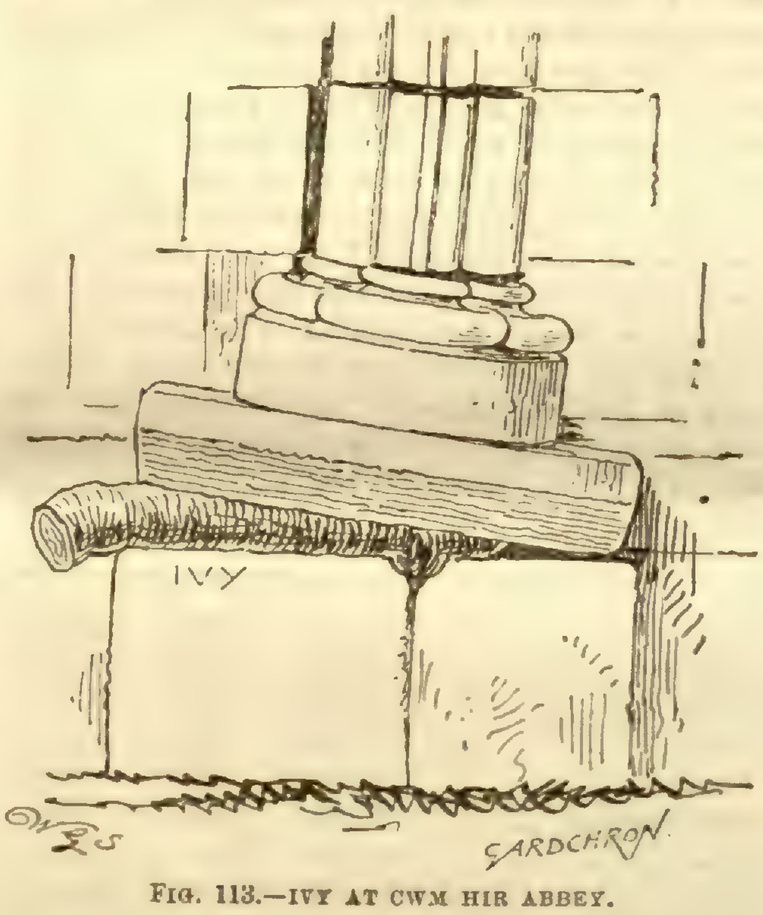

Fig. 113.—Ivy at Cwm Hir Abbey.

weather will allow for the summer bedding, cannot be excelled. I should have thought that most gardeners in Britain knew these simple facts, and yet the matter of transplanting the Viola is being discussed by certain of your correspondents *de novo*, as if it were a novel proceeding. What is simpler than to propagate the plant by cuttings, or slightly rooted slips, in the late summer, placing these in a shady place, or in garden-frames, in sandy loam? If the rooted cuttings and slips can, after well rooting them, be put out into beds at 9 inches apart, they will form excellent planting stuff by the autumn months above-mentioned. The Violas for the summer season are generally derived from the bands, clumps, &c., that have remained undisturbed all through the summer, autumn, and winter. Do not take them all up at once, but select one bed to begin with, dig up the plants with all their roots intact, pull them in pieces as you would Spearmint, and having heavily manured the land they came out of, or a new site, as the case may be, with cow-shed manure, dig it deeply, level it roughly, tread it firmly and evenly all over, rake it quite smooth and level, and re-plant the strongest pieces in single, double, or triple lines, or as may be desired, 6 to 8 inches apart. An old bed of Viola plants will supply enough pieces to plant three such beds, and a use can always be found for what remains over. When one bed is finished and the plants have been watered, commence another. Do not let the plants lay about in wind and sun, but take them to a shady, quiet place for dividing and sorting, placing the stronger pieces in damp soil in one wheelbarrow or trug-baskets, and the weaker in others; or failing these, cover the plants with damp mats, nothing being more injurious than exposure to drying winds and sunshine. In preparing the pieces, much of the top growth, if any has remained, should be neatly cut off before planting, and that which is left of it should stand above the soil when planted, in the beds about 2 inches, and rather less than more. Of course, the tyro commencing Viola culture will, after perusing the above, understand that his interest lies in purchasing the plants from the nurserymen in the autumn for spring work, and in February for summer bloom. *The Old Hand.*

Cedar of Lebanon.—In the grounds of Tapley, near Teignmouth, is a Cedar tree growing on a lawn inclining to the south, the soil being shale. It girths at 4 feet, 13 feet 2 inches; its two longest branches run north-west and south-east, the length of the former being 40½ feet, and of the latter 48 feet. Most of the longer branches feather to the ground. Walking from point to point of these, I made out a circumference of 105 yards. *W. T., T.*

Gardeners and Old-age Pensions.—When observed from a practical point of view, the obstacles to be overcome ere success is assured by a gardener seem to be so numerous, that but few persons who are not conversant with the business could have any idea of the way to surmount them. We will take as an illustration two young men just starting in life, both about the same age, with an equal amount of education. One commences as an apprentice to carpentry in a good firm, the other is put to gardening. The former, if he be an attentive observer, steady and persevering, will in all probability be a first-class hand in about six years, say at the age of twenty-one; after that time he would be enabled to obtain full pay. The other, who commenced in a garden, would have many difficulties to overcome, and years of patient study and plodding perseverance before him before he could command anything like a respectable remuneration for his labours, to say nothing of his superiority in many points of knowledge over his friend the carpenter. Let us for a moment see how the two progress till they are thirty years of age, which would be about the age when the gardener might obtain his first situation as head man. If the former had been steady and persevering, he would have saved sufficient money to purchase a house and piece of land, while the latter could scarce have earned sufficient money to furnish his house, particularly if he had made many changes, and the places were situated a long distance from each other. It is not, however, in respect to their wages that I wish to deal, but the difficulties that many gardeners have to contend with. We will suppose that the gardener we have in mind has obtained a head place; he would in all probability have saved sufficient money to decently furnish his cottage and get married, hoping that he might be settled for some years at the least. In the course of a few years his employer dies, and the place passes into other hands who care not for those formerly employed; so they have to leave, it may be at the end of a month without a character, as we have known it in some instances to happen. The difficulty then arises, how is the gardener to obtain another situation? What is he to do, supposing he has a family which will have taken all his earnings to provide for, even though he may have been a steady, sober man? In former days, many gardeners' places were filled by the leading nurserymen, who acted as intermediaries betwixt employer and *employé*, and were able to explain the reasons for a gardener leaving a place, and testify to his ability and character. Now, however, matters are altered, and the greater number of gardeners' posts are filled in other ways; and a gardener who has lost his friends stands a poor chance of readily obtaining a situation. Having, however, got over this difficulty, perhaps after his small savings were exhausted, he is in—say—his fortieth year, less well off than before; and his chances of getting a good place are less. He must therefore do his best to keep the situation he has obtained—not always an easy task—for there are many to please, and if he should be thrown out again it may be very difficult for him to procure another gardener's place. We may, therefore, see more men apply to the Gardeners' Benevolent Institution in future, for though, doubtless, many are as well able to manage a head place at sixty years of age as at forty, but few will engage them, and those who have not been able to make any provision for old age will in all probability require to be relieved. Gardeners, therefore, who are able to do so, would do

well when they are in a situation to put a trifle each year into this fund. Doing this may seem difficult, but if there were no obstacles to be overcome, but few great feats would have been accomplished. I remember one day a bricklayer who was the worse for drink being at work, when his employer went to him, and after a little chat told him that every time he drank a pint of beer or a glass of spirits, he swallowed a yard of land, and that if he took two pints daily he would swallow an acre in six and a half years, at the rate of about £60 per acre, or if he had put by that amount for twenty years, he would have had a house and an acre of land of his own; the bricklayer was so astonished at this view of the matter that he decided at once to give up drink. It is not my intention to advocate total abstinence, but though it may be difficult for a gardener to put by 6*d*. a day, still if this could be done, it would amount in fourteen months to the £10 10*s*. required by the Benevolent Institution to become a life member. When we look at the difficulties before us, the many who have had to fall back on this institution through, no fault of their own, it behoves us who are still able to try, though difficulties stand in the way, to make some provision for old age, and if every gardener in the kingdom, who is not yet a member, would deprive himself of his pipe and glass of beer for fourteen months, and put the money by, and at the end of that time send it up to the secretary, the chairman would, at the annual dinner in 1896, be able to announce, not that they had not only been able to put all on the pension-list who had applied, but that there were still vacancies to be filled. To do this, the 10,000 gardeners of the country should send the sum of 10 guineas, which they might easily each do by putting aside sixpence a day. This difficulty would then be overcome, and the Institution would be in a more flourishing condition than it is, and many who have now to suffer great privations would be enabled to pass a comfortable old age. Let all who may happen to read this think seriously over the difficulties of others, and assist in some way to relieve them while they have the opportunity. *H. C. Prinsep.*

ANTHRACITE COAL *v.* SOOT AS A MANURE.—Will you allow me to ask your readers' opinions as to the value of small anthracite coal instead of soot for agricultural use. I am in a position to get quantities of anthracite "duff," *i.e.*, coal not much coarser than sand, at a very small cost; and as it contains over 90 per cent. of carbon, it has occurred to me that I might use it as a substitute for soot. There will, of course, be many of your readers who will be able to advise me on this matter. *G. S. H.*

HYBRID POPPIES.—On p. 719 of the *Gardeners' Chronicle*, Mr. Wolley Dod speaks of the supposed hybrid between P. orientale and P. rupifragum. Two or three years ago Mr. Wolley Dod kindly gave me some roots of this plant, at the same time sending me "true rupifragum to compare with it." I have made somewhat a study of Poppies, and I am not yet quite convinced that I have ever as yet met with a true hybrid amongst the many species of Papaver. Of course I do not say there are none, that would be absurd, but I have never met with them. This "rupif orient" hybrid, I am almost convinced, is not a hybrid at all, but a form of either one of the supposed parents. For a study of rupifragum, this rupif-orient hybrid, and orientale, has led me to the belief that they are all forms of the same plant, the rupifragums representing the pigmies of the race, the orientales the giants, and the "rupif-orients" those of medium stature. This, at least, is certain, that I have raised several of these medium forms from seed of rupifragum pure and simple, in fact, a regular series from the dwarfest rupifragum to the tall orientale, and I can find no half-way house below which to call them rupifragum, and above which to begin orientale. It may be said, "Then your seed of rupifragum must have been hybridised by insects or wind," and it is impossible to say "No, it was not," but any one who has tried to hybridise Poppies as I have done for years unsuccessfully, and who also bears in mind how very easily Poppies are affected by the pollen of their own species from a distance, will find it much easier to believe that orientale and rupifragum are the two extreme forms, giant and pigmy, of one species, than that an accidental hybridisation has taken place between two actual species. That this should have taken place in two distant gardens within a year or two, seems to me to heighten the improbability of a true hybridisation having occurred. I may add that the seedlings of which I speak, from rupifragum, when they flower the first year, appear to be simply rupifragum, hardly any—if any—difference being discernible; the next year they begin to differ markedly in foliage and height, and the intensity of colour in the petals of some of the stronger growers is increased; the third year they develop into all sorts and sizes and colours between rupifragum and orientale. I do not wish to dogmatise in the least; I only suggest, do not these things point rather to P. orientale and rupifragum being but one species, to which also this supposed natural hybrid belongs? I do not yet know enough of the hybrid Poppy of M. de Vilmorin to express any opinion upon it, but I shall be very agreeably surprised if he really has hybridised a perennial with an annual species. I once had seedling plants sent me of P. orientale × somniferum, and was assured the cross had been effected; they turned out to be the coarsest orientale. Mr. Wolley Dod's P. caucasicum × Hookeri I have not yet seen, but again I am somewhat incredulous, particularly as I notice Mr. Dod says, "the pollen parent was evidently, &c." from which I infer that Mr. Dod considers his plant to be a natural hybrid, and guesses it to be a hybrid between these two from its appearance. I would suggest, may it not rather be a somewhat unusual form of either one or the other, the result of natural development or atavism? For my own part, I have not yet arrived at what P. Hookeri is, if it be not a Persian or Afghan form of P. Rhœas. I should be obliged to anyone who could send me a pod of seed of true Papaver Hookeri. Experience and baffled efforts make me very doubtful as to the existence of hybrid Poppies, but no one will more gladly welcome such when it comes and is proved, or more cordially congratulate the fortunate hybridist who produces it. *W. Wilks.*

PLANTING OUT VIOLAS.—When I urged the planting out of Violas in May, to which Mr. Cuthbertson takes exception, I was but doing what he does not understand, considering the exigencies of the gardener, who, in October, does his bedding for winter and spring in the shape of hardy bulbs, with carpeting spring flowers; and his summer bedding in May. Because of that I am not open to Mr. Cuthbertson's correction. Were I advising planting of Violas into beds or quarters where they would not have to be removed in the spring, I should not advocate spring planting at all, but rather autumn planting. That is best for the south, whilst no doubt in the north it is best to winter in frames and plant out in March, although not then if the proverbial dry harsh winds prevail. *A. D.*

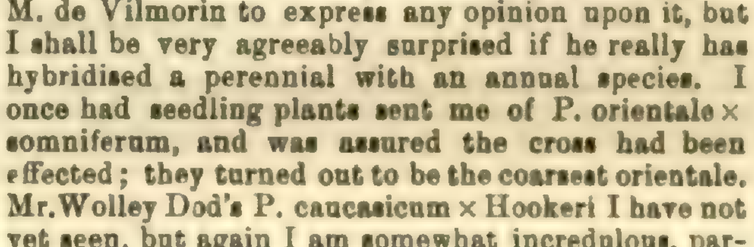

FIG. 114.—MALE FLOWERS OF SCIADOPITYS.

CELERY-FLY.—This insect pest is all too abundant already, and leafage is very much spotted. Parsnip leafage is in the same state. It is rather odd that so far, and being so generally dry, there have been few complaints with respect to the Onion-maggot, whilst last year there was not much trouble with the Celery-fly until late in the summer. It may be mere conjecture, but it would seem as if the considerable rains of last year not only checked the Onion-fly materially, but also destroyed it; hence, so far, so little trouble has arisen from the maggot. The Celery-fly, however, found a lively time during the finer weather of the autumn, and thus left behind a large progeny that is now so operative. It is very difficult so to dress Celery leafage that the fly will not deposit its eggs upon it, but once the maggot is preying on the leafage, then there seems to be no other resource but to gather the leaves affected and burn them. *D.*

EARLY STRAWBERRIES.—I am sending a dish of Strawberry, Laxton's Noble, to show you a sample of our crop this year. We gathered our first fruits from the open ground on the 6th inst. Last season the first were ripe on the 26th of this month; and in 1893 on May 15. Strawberry John Ruskin is also ripe; Vicomtesse Hericart du Thury we have discarded as being too small. Our next to come into use will be James Veitch and Keen's Seedling. On our light soil, though heavily manured and mulched, we have had to water frequently these last few weeks. *J. F. McLeod, Dover House, Roehampton, June* 12. [The fruits which accompanied above note were of excellent quality, indeed they were as fine as any we have seen. Ed.]

SCIADOPITYS.

THE male flowers of this curious Japanese Conifer are but little known. They are figured by Zuccarini in Siebold's *Flora Japonica*, but up to the present have been rarely seen in British gardens. On this account we avail ourselves of the opportunity of giving an illustration (fig. 114) through the kindness of Mr. Kent, who sends us from Messrs. Veitch's nursery at Coombe Wood flowers for the purpose. The pollen grains are shown highly magnified. They are globular and tuberculate, quite different from the pollen of Abies or Pinus, or indeed of any Conifer known to us. To the left a group of catkins, in the centre an anther from the face, and from the side showing the truncate connective, to the right the pollen grains dry and moistened, magnified 300 diameters. *M. T. M.*

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 11.—After the large exhibition at the Temple on the 21st ult. it could hardly have been expected that on the occasion of the ordinary meeting of the committees in the Drill Hall, James Street, Westminster, such a display as was furnished would have been made. As it was, however, the hall was crowded with exhibits, and the work before the Orchid and Floral Committees was unusually heavy. Beside the extraordinary number of Orchids, there were numerous and large exhibits of hardy flowers and plants in season. Pæonies especially occupied a large portion of the space.

In the afternoon, previous to the usual lecture, the three Veitch Memorial Medals were distributed to the selected gentlemen by the President of the Society, Sir Trevor Lawrence (see p. 743).

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. H. B. May, J. Fraser, O. Thomas, J. Laing, C. T. Druery, H. Herbst, R. Dean, R. Owen, W. Bain, C. Blick, E. Beckett, H. Cannell, J. D. Pawle, C. E. Shea, J. Walker, G. H. Englebeart, H. H. D'Ombrain, J. T. Bennett-Poë, W. Selfe Leonard, Geo. Paul, and H. Turner.

HERBACEOUS PLANTS, &c.

Mr. THOS. S. WARE, Hale Farm Nurseries, Tottenham, had a very gay display of hardy flowers in large variety. In the centre was a fine group of sprays of Lilium colchicum, and plants of Spiræa palmata, well bloomed. The effective scarlet flowering Heuchera sanguinea was represented by numerous bunches, and Ornithogalum lat folium, and Lilium pyrenaicum and L. pomponium were noticeable. Some profusely-flowered plants of Spiræa japonica multiflora compacta were effective, as was a fine panful of Saxifraga pyramidalis.

Several Campanulas were shown, including C. punctata, a dwarf-growing species about 12 inches high, with rather long, drooping white flowers minutely spotted in the interior. The white small-flowered Orchid, Habenaria dilatata, was shown in a pan containing six flower-spikes. Aurea glandulosa, varieties of Papaver, Irises, and various other genera were included in this collection. In addition to the above, Mr. WARE exhibited a group of Carnations, including several new and pretty varieties (Silver-gilt Banksian Medal).

Mr. M. PRITCHARD, Christchurch Nurseries, Hants, exhibited a collection of hardy cut flowers, of considerable merit and interest. The collection was representative, including a large number of species and varieties—Betonica grandiflora, Pæonies, Irises, Potentillas, &c. (Bronze Banksian Medal.)

A group of hardy flowers, containing a large number of double-flowered Pæonies, was staged by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea. The Pæonies, in this and other collections shown, were rather below the usual size, owing, doubtless, to the dry spring; but the flowers were fresh, and of excellent colours. Humea carnea is one of the best among the large double whites, or faint blush; and Whitleyi, Auguste Meillez, and Comte d'Osmond of the same section, are also good. Rubens purpurea, Aglaia, and Potsii superba, were the most noticeable of the dark crimson flowers. Sprays of the pretty blue Veronica teucrium, Spiræa Aruncus, Dictamnus Fraxinella, and the intense purple-coloured Campanula glomerata dahurica, were

included in good condition. Two large strong spikes of Eremurus robusta in this exhibit were conspicuous, and at the same time very beautiful.

Messrs. BARR & SON, of King Street, Covent Garden, as usual staged a large collection of hardy flowers, for the major part consisting of varieties of hybrid Chinese Pæonies. Solfaterre, a large flower with lemon centre and white outer florets, received an Award of Merit. Gracchus, a white flower; Lady Godiva, blush; The Bride, a single white flower; W. Marshall, rose and white, extra free bloomer; Agnes Barr, with primrose centre and flesh ray florets, were all noticeable varieties; and Madame Charpelier is a very highly-coloured flower. A few Irises, sprays of Anthericum liliago, Aster alpinus albus, a beautiful and somewhat rare variety, and Dictamnus Fraxinella alba were also exhibited (Silver Flora Medal).

A group of hardy flowers staged by Messrs. JOHN LAING & SONS, Forest Hill Nurseries, London, S.E., was bright and attractive. Many varieties of Pyrethrum were remarked, and the pretty little orange-flowered Geum chilense, Phlox ovata, Veronica carnea, Stenactis speciosa, Doronicum austriacum, Irises, Pæonies, Lychnis V. viscaria splendens plena, &c. A hybrid Streptocarpus named Distinction, with deep purple lines in the lip, was recommended for an Award of Merit (Silver Banksian Medal).

Messrs. KELWAY & SONS, Langport Nurseries, Somerset, exhibited a grand lot of Pæonies. Lady Beresford, a very large flesh-coloured flower, some of the flowers of which were marked a little with deep crimson on the inner florets, was recommended for an Award of Merit, as was also Duke of Devonshire, a rose or wine-coloured flower throughout, with a large number of florets and a high centre. Tory Leader was a large flower, also rose-coloured; Olivia, white, with lemon centre; Donald Grant, a large flower of good colour, Hiawatha is a good large single-flowered variety, and there were others shown in this section. Pyrethrum blooms in variety were shown in large boxes, and a few of the Delphiniums, for which the firm is celebrated. One of these, Beauty of Langport, was recommended for an Award of Merit (Silver Flora Medal).

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, staged a good collection of hardy flowers. An award of Merit was recommended to Inula Hookeri, a flower of higher colour and larger size than Inula glandulosa. Papaver nudicaule varieties, Irises, Aster alpinum, Allium Moly, Phlox ovata, Baptisia australis, &c, were remarked; as were also plants of Phlox pilosa, Campanula mollis, C. muralis, Silene pusilla, Saxifraga umbrosa minor, S. nepalensis, and varieties of Diervillia (Weigelia) (Silver Banksian Medal).

Sir TREVOR LAWRENCE, Burford, Dorking, gr., Mr. Bain, exhibited a spray of a large flowered stock, named Mammoth White. The spray was nearly a foot long, and the seed was sown on Feb. 4. An excellent plant of Blandfordia aurea, with eighteen spikes of orange-coloured flowers, tipped with yellow, came from Sir TREVOR LAWRENCE, Bt., Burford, Dorking, gr., Mr. Bain (First-Class Certificate).

LILIES, IRISES, &c.

An excellent lot of plants of Lilium Ukeyuri, bearing each one large flower, rising only 1 foot from the soil, was noteworthy. The correct name of the variety is L. japonicum Alexandræ, and it was figured in *Gardeners' Chronicle* p. 242, in issue for August 26, 1893 (Silver Flora Medal).

An exhibit of Irises was made by Messrs. R. WALLACE & Co., Colchester. An Award of Merit was recommended to Iris asiaticus, a large bold flower, with very pretty blue standards, and purple falls. It grows nearly 4 feet high. In general appearance it may be said to be similar to I. germanica, but it is larger in all its parts. Iris hispanica hybrids, pallida varieties, and forms of I. aphylla and I. variegata were all pretty and good; and two very good blooms were exhibited of the excellent Iris Lorteti.

A collection of Calochorti, for which the firm are largely celebrated, contained some flowers of Calochortus Lyoni, a new species, and earlier than any other of the tall-growing section. The flowers are about 3 inches across, and white or pale blush, almost rose-coloured on the outside of petals. Other and smaller-flowered varieties were also exhibited (Silver Banksian Medal).

CARNATIONS.

Mr. J. DOUGLAS, Edenside Nursery, Bookham, exhibited sprays of three yellow-flowering Carnations—Duke of Orleans, Miss Andry Campbell, and Corunna. The last-named was selected for recognition, and an Award of Merit was recommended. The colour of this one was rather deeper than that of the others. He also showed Snowflake, a good forcing Pink, and Carnation Phyllis, a very ornamental flower of crimson and salmon rose.

J. T. BENNETT-POË, Esq., exhibited two plants of Tree Carnation, King Otho, yellow, having serrated margins of rose colour.

Mr. T. BONES, Heaton Gardens, Cheshunt, exhibited a group of Carnation Yellow Queen, a neat little flower, of good form, and very free-flowering; in growth, tall and slender.

MARTIN R. SMITH, Esq., The Warren, Hayes, Kent, showed some plants of Carnation Lady Grimston, a flower of the Malmaison type, sweetly scented, and in colour rose and silver mottled.

Mr. CHAS. TURNER, Royal Nurseries, Slough, exhibited a large bouquet of a pink Carnation, named Mrs. W. H. Grenfell. Some small plants of a variegated Abutilon var. Sawitzi, from M. LOUIS DE SMET, Ghent Nurseries, Belgium, but which had been grown in the nursery of Mr. E. Morse, Epsom, were decorative in appearance, being very freely variegated with white.

Mr. Thos. Whillans, gr. to the Duke of MARLBOROUGH, Blenheim, exhibited two plants of a perpetual flowering Carnation, named Blenheim Beauty, with flowers as large as those of Souvenir de la Malmaison. The blooms are white, flaked slightly with lilac.

ROSES.

Roses were not so extensively shown as on some previous occasions, but there were excellent exhibits of garden varieties. Mr. GEO. PRINCE, nurseryman, Oxford, exhibited blooms of a H.P. seedling, the quality of which could hardly be judged from the specimen shown; also blooms of the new Clara Watson. Twelve varieties of hybrid Tea Roses were well shown, also twenty-four excellent blooms of Maréchal Niel, and single blooms of a number of varieties, all of remarkable merit. The Bride and several others were above the usual size (Silver Flora Medal.)

From Mr. GEO. MOUNT, Canterbury, there were staged twelve very fine blooms of Captain Hayward, twelve also of Anna Olivier, and some varieties put into sprays, with abundance of healthy foliage attached (Silver Flora Medal).

Mr. FRANK CANT, Braiswick Nursery, Colchester, departed a little from his usual style of exhibiting, and on this occasion showed several boxes containing a number of "garden varieties," including a good well-coloured single flower, named Braiswick Beauty. The Austrian Copper, Austrian Yellow, Janet's Pride, L'Ideal, varieties of R. rugosa, the pretty little bouquet variety, Mignonette, Gustave Regis, a handsome Tea, in bud; Rainbow, which may be said to be a pink-coloured Niphetos; and Blanch Moreau (Moss), were also included (Vote of Thanks).

Messrs. G. COOLING & SONS, Bath, were recommended an Award of Merit for a new H.P. Rose named Lawrence Allen; the blooms are full, warm flesh colour, and of fairly good build and size. The Bath firm showed an extensive collection of Briars, garden Roses, Moss, rugosa, Fairy Roses, &c. We remarked examples of the seldom-seen double-flowered yellow Sweet Briar, Fairy Roses, such nice things for edging and pot culture; the brilliant Austrian Briars, the prolific Polyanthas; old varieties of the Rose, as Charles Verdier, Blairi No. 2, an excellent climber; C. Lawson, Old Tuscany, Moss Salat, Bardon Job, Jean Desprez (?), flower white, bud Noisette-shaped, deliciously scented; Isabella Sprunt, Comptesse de Murinais, moss; many of Lord Penzance's crosses of Briars, Turner's Crimson Rambler, &c.—a beautiful and interesting exhibit of old garden favourites (Silver Banksian Medal).

Messrs. WM. PAUL & SONS, Waltham Cross, Herts, exhibited blooms of a pretty Tea variety named Sylph, and a hybrid rugosa variety called Mungo Park, obtained from R. rugosa × H.P. General Jacqueminot. The result is a good garden variety of rich colour. The Tea Rose Zephyr is an attractive white bloom, with pale lemon flush in the centre.

A nice lot of garden Roses, from Messrs. PAUL & SON, was noticeable here, including such excellent varieties as Paul's Carmine Pillar, Rosa rugosa alba, the yellow Sweet Briar, Janet's Pride, Austrian Copper, and Double de Coubert, a good semi-double, large white flower (Award of Merit).

GLOXINIAS.

Messrs. H. CANNELL & SONS, Swanley, Kent, had a group of Gloxinias, composed of well-flowered plants of a good strain. Some of the specimens had fifteen or eighteen good blossoms; Beacon is a rich crimson, Miss Tudor and Miss Lovelace are spotted varieties, Miss D. Dean is heliotrope tending to purple, and Bylis is white.

CANNAS.

Messrs. CANNELL also had a nice collection of Cannas, including the well-known Queen Charlotte, Alphonse Bouvier, Antoine Chantin, and Golden Queen, a yellow variety, with minute spotting (Silver Banksian Medal).

BEGONIAS.

A few new varieties of double Begonias were shown by Mr. B. R. DAVIS, Yeovil Nurseries, Somerset. An Award of Merit was recommended to B. R. Davis, a neat crimson flower; to Lucerne, a rather fascinating flower of apricot colour and salmon rose; and to Mont Blanc, a symmetrical white bloom of considerable merit. The Shahzada, Donovan, Sir Visto, and Mrs. W. Herbert Fowler were included varieties.

SHRUBS, &C.

From J. T. BENNETT-POË, Esq., Holme Wood, Cheshunt (gr., Mr. Downes), was exhibited an excellent specimen, in a tub, of the sweetly-scented, pure white-flowered Carpenteria californica, about 6 feet high, bushy, and covered with blossoms (Silver Banksian Medal).

From Messrs. VEITCH came sprays of various ornamental shrubs, such as the yellow-flowering Cæsalpinia japonica, Cornus brachypoda variegata, an extremely useful, hardy, variegated foliage plant; Hedysarum multijugum, Robinia hispida (Rose Acacia), and Hypericum Moserianum tricolor, with pretty showy yellow blossoms and foliage of three colours. Jasminum officinale foliis aureus was, to our mind, less attractive than the type, the yellow-tinted foliage in this instance giving an unhealthy appearance to the plant.

Mr. ANTHONY WATERER, Knap Hill Nurseries, near Woking, exhibited some sprays of hardy Rhododendrons in considerable variety, all of which were pretty, and of pleasing colours; also some sprays of Diervilla (Weigela) Eva Rathke, a dull crimson variety.

MISCELLANEOUS.

Hybrid Streptocarpus similar to those noticed at the Temple Show, were again exhibited by Messrs. JAS. VEITCH & SON, and a few distinct Gloxinias, including La Belle, pure white, and Columbus, scarlet-velvet, with minute spotting in the throat. Large flowering sprays were also exhibited of the effective Tropæolum "Coolgardie," which received an Award of Merit at the meeting on April 23 last. Messrs. HUGH LOW & Co., Clapton, exhibited two Caladiums, named respectively Beige Flor and Komador, but no award was made.

Mr. B. CAMPBELL, gardener, The Willows, Windsor, exhibited an excellent balloon-shaped plant of Bougainvillea glabra, var. Campbell's Brilliant. The plant was densely covered with flowers.

Messrs. F. SANDER & Co., St. Albans, Herts, were awarded a First-class Certificate for Cyrtanthus obliquus. The flower has a pale yellow corolla, with orange and green markings. They are somewhat numerous in umbels, drooping, and from 2 to 4 inches long. A showy and pretty species. A similar Award was obtained by Messrs. SANDER for Bentinckia nicobarica, a Central Asian species, with broad Kentia-like leaves.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (secretary). J. Douglas, S. Courtauld, Major Mason, W. Cobb, E. Hill, T. Statter, W. H. Protheroe, H. J. Chapman, W. H. White, H. Williams, J. Gabriel, Dr. Maxwell T. Masters, F. W. Moore, H. Ballantine, H. M. Pollett, T. B. Haywood, and De B. Crawshay.

The meeting brought the largest show of Orchids that has been seen at any of the ordinary meetings of the Society. Besides the groups, there were some sixty miscellaneous entries, upon which the committee had to adjudicate. Six new seedling Orchids were staged for the prize for the best hybrid Orchid not exhibited previously to January 1, 1895. The prize for this last fell to Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. Wm. Murray), for Phaius × Cooksoniæ (Humblotii ♀ grandifolius ♂), a pretty and distinct hybrid of the P. × Marthæ class, with nankeen-coloured sepals and petals, a broad, frilled lip, the base of which was bright yellow in hue, with purple-brown markings, and the front lobe of a clear rose colour. In competition with it, Miss HARRIS, The Grange, Lamberhurst, showed Lælio-Cattleya × Harrisii (? L. Schilleriana × C. Mossiæ), with fine large blush-white flowers, the richly-coloured lip being chrome-yellow at the base, and glowing crimson in front.

Messrs. F. SANDER & Co. showed Sobralia × Veitchii grandiflora, Thunia × Veitchiana magnifica, Cypripedium × A. de Lairesse (Curtisii × Rothschildianum), and C. × Frau Brandt, a very large and fine hybrid.

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (grower, Mr. W. H. White), showed a most interesting group of rare Orchids, among which were the singular Disa longicornu, with solitary large white flower tinged with blue, and which is supposed to be the first instance of its flowering in Europe (Botanical Certificate); Cypripedium × Eleanor (selligerum majus × superbiens), a very good form (Award of Merit); a profusely-flowered Luisia Amesiana; the fine Masdevallia Gargantua, M. × stella, M. × Gairiana, M. torta, Pleurothallis macroblepharis, a fine specimen of Thunia Bensoniæ, Dendrobium Schroderianum, Bulbophyllum Lobbii var. Colossus, and Vanda suavis.

Sir FREDERICK WIGAN, Clare Lawn, East Sheen (grower, Mr. W. H. Young), exhibited Cypripedium bellatulum album, a pure white and absolutely unspotted form, which caused quite a sensation among the admirers of the genus present—it received an award of a First-class Certificate; and Lælia grandis, Wigan's var. (Award of Merit), a very fine form of the typical L. grandis; Cypripedium Stonei candidum, a distinct variety, in which the face of both upper and lower sepals is clear white; Lælia purpurata "Richmond Gem," one of the largest and most beautiful of the variable species (Award of Merit), and Cypripedium × Phædra (Lindleyanum × Sedeni candidulum).

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), sent a grand form of Lælio-Cattleya × eximia; the pure white Sobralia macrantha Kienastiana, and Lælio-Cattleya × Camhamii. HAMAR BASS, Esq., Byrkley, Burton-on-Trent (gr., Mr. J. Hamilton), showed four finely-flowered plants of the handsome and distinct Cattleya Warscewiczii Sanderæ, which secured a First-Class Certificate, and also a Silver Banksian Medal, as a mark of excellence and culture.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. Davis), staged a very fine group of Orchids, which was awarded a Silver Flora Medal. In the centre was a fine light-coloured Lælia purpurata, with about three dozen flowers; a grand C. labiata Warneri, a large and finely-flowered Dendrobium thyrsiflorum; and among other fine things throughout the group were Aërides Fieldingii, Phaius Owenianus, Oncidium Krameri, Dendrobium Falconeri, and many fine Cattleya Mendeli, &c.

Two of the most remarkable exhibits were the fine groups staged by Messrs. JAS. VEITCH & SON, Chelsea; and Messrs. F. SANDER & Co., St. Albans; each of which secured the uncommon honour of a Silver-gilt Flora Medal. In Messrs. Veitch's group, remarkable were the new Cirrhopetalum robustum, a large, leafy species, with stout scape of large yellow flowers, tinged with red in the centre, and with fleshy red-purple lip (First-class Certificate); the pretty Angræcum falcatum, with eight spikes; Cypripedium × Clonius (caudatum Sedeni × conchiferum); Odontoglossum crispum var. excelsior, a large form with reddish blotches; Epidendrum xanthinum, E. Wallisii, the pretty white Miltonia vexillaria alba, Masdevallia Veitchii grandiflora, Disa × Veitchii, D. × Langleyensis, a superbly-coloured Lælio-Cattleya × Arnoldiana, the pretty purple Dendrobium glomeratum, Cypripedium Lawrenceanum Hyeanum, Cattleya Mossiæ Wagneri, Masdevallia × Gairiana, &c.

In Messrs. SANDER'S group, the principal plants were a fine specimen of Dendrobium Johnsoniæ, with many spikes of its Lælia-like white flowers; the beautifully-spotted Odontoglossum crispum Wiganianum; the large and distinct Cypripedium × Frau Ida Brandt (Io grande × Youngiana), the white upper sepal of which is flushed with rose, and with

purple lines radiating from the green base; petals broad and resembling those of C. × Morganiæ, tinted with rose and spotted purple, lip whitish with pale rose face (Award of Merit), C. × Svend Bruun; the very beautiful white Angræcum Fournierianum, Sobralia × Veitchii, Masdevallia chimæra Roezlii, Aërides falcatum Leonis, the fine white Miltonia vexillaria "F. W. Moore" and other forms of that pretty species; pans of Epidendrum vitellinum majus, Cattleya Walkeriana nobilior, Oncidium Forbesii, Cattleya Mossiæ aurea, C. M. Reineckiana, the rare Odontoglossum Galeottianum, and many fine Cattleyas, Lælias, &c.

Welbore S. Ellis, Esq., Hazelwood, Dorking, (gr. Mr. D. Masterton), staged a group of good Odontoglossum crispum, a large specimen plant of Miltonia vexillaria, a plant of Oncidium superbiens, and the pretty yellow and brown O. chrysodipterum, &c., (Silver Banksian Medal).

De Barri Crawshay, Esq., Rosefield, Sevenoaks, arranged a pretty little group, for which he was awarded a Silver Banksian Medal. Among the excellent plants exhibited were the brilliantly-coloured Cattleya Mendelii Mrs. D. B. Crawshay, the large white Odontoglossum crispum "Princess May," the handsome O. c. guttatum, Rosefield variety; the large white O. c. Pride of Rosefield, which exhibits an occasional spot on the segments; Cattleya Mossiæ Mrs. De B. Crawshay, Lælia purpurata Russelliana, L. p. Crawshayana, of the L. p. Brysiana class; Oncidium Marshallianum "Crawshay's Goliath," Odontoglossum citrosmum, Rosefield variety; and Vanda tricolor.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), staged a selection of Masdevallias, &c., of great botanical interest, and among which were Masdevallia muscosa, M. campyloglossa, M. Wagneri, M. gemmata, and M. demissa, to each of which the award of a Botanical Certificate was made. Mr. Measures also showed M. × Stella, M. calura, M. × falcata, M. Harryana Comet, Oncidium olivaceum Lawrenceanum, and Vanda tricolor, Cambridge Lodge var.

Messrs B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., had an effective group, in which Pescatorea Lehmanni var. grandiflora, the white and rose P. Roezlii and P. R. rosea, the pretty blue Utricularia Endresii and the white U. montana, Aërides Houlletianum, Cypripedium Rothschildianum, Dendrobium × polyphlebium and its variety Emericii, Promenæa microptera, Lælia tenebrosa, Odontoglossum citrosmum roseum, and other Odontoglossums, were remarkable (Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, had an extensive group, in which the beautiful and richly-coloured Lælio-Cattleya × Ingrami was an attractive feature; and the many plants of good Cattleya Mossiæ and other Cattleyas effective. Among the Cypripediums were three curious greenish forms of C. Curtisii, some very fine C. bellatulum, &c. (Silver Flora Medal).

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Aldous), received a Silver Banksian Medal for a pretty group, prominent in which were a fine lot of Lælia tenebrosa, Odontoglossum Halli leucoglossum, Anguloa Clowesii, Thunia Marshalliana, Odontoglossums, Cattleyas, &c.

Messrs. W. L. Lewis & Co. staged a group of Orchids, principally good Odontoglossums and Cattleyas, Epidendrum vitellinum, Cypripediums, the curious little terete-leaved Sarcanthus Lewisii (provisionally named), and the yellow and chocolate Bifrenaria vitellina received Botanical Certificates, and the group a Silver Banksian Medal.

Messrs. Charlesworth & Co., Heaton, Bradford, also were awarded a Silver Banksian Medal for a group of Lælia tenebrosa, Odontoglossum crispum, and the singular variegated-flowered Cattleya Mossiæ versicolor; and W. M. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, a Silver Banksian Medal for a pretty selection of Orchids, among which were eight plants of Cypripedium Godefroyæ leucochilum, some good Lælia tenebrosa, Cypripedium superbiens, and C. × superciliare, each with seven flowers; Anguloa Clowesii, Cypripedium callosum, C. Chamberlainianum, &c.

A Silver Flora Medal was also awarded Mrs. Chapman of Camberwell for a wonderful series of dried flowers of Orchids, in which the colours were well maintained; and a Silver Banksian Medal to Mr. Onzo Fukuba of Chelsea for a smaller collection of dried Orchids.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), exhibited Cattleya superba alba, a pure white form, with yellow tinge on the lip (First-class Certificate).

J. T. Bennett-Pöe, Esq., Holmwood, Cheshunt, sent a fine plant of Cypripedium caudatum Wallisii, with thirteen flowers (Cultural Commendation).

E. H. Woodall Esq., St. Nicholas House, Scarborough (gr Mr. Hughes), showed the fine Renanthera Imschootiana, with a spray of beautiful blood-red flowers (Award of Merit).

Walter C. Walker, Esq., Winchmore Hill (gr., Mr. Geo. Cragg), showed Oncidium insculptum (Botanical Certificate), Scuticaria Hadwenii (Botanical Certificate), Dendrobium Loddigesii, and Cypripedium Curtisii giganteum.

W. R. Lee, Esq., Beechlawn, Audenshaw, Manchester (gr., Mr. Billington), sent Lælio-Cattleya × Aphrodite (C. Mendelii × L. purpurata), a pretty light form, as yet small.

A. Campbell, Esq., Kennishead, Glasgow (gr., Mr. Reid), showed Odontoglossum Pescatorei Campbellii.

F. A. Gledstanes, Esq., Manor House, Gunnersbury, showed a finely-flowered plant of Cattleya Mossiæ.

Mr. A. A. Peeters, Brussels, sent Cattleya × Parkeria (Imbriata × Mossiæ).

Mr. Ware, Tottenham, showed the little white Habenaria dilatata (Botanical Certificate).

Reginald Young, Esq., Liverpool, sent Cypripedium superbiens and C. × Curtisii-superbiens.

Fruit Committee.

Present: T. F. Rivers, Esq., in the chair; and Messrs. J. Cheal, A. H. Pearson, J. Wright, A. Dean, W. Farr, G. H. Sage, G. Wythes, F. O. Lane, W. Wilks, and J. Hudson.

Collections of Vegetables.

A creditable collection of vegetables in season came from Mr. G. Wythes, gr. to Earl Percy, Sion House, Brentford, and for which an Award of a Bronze Knightian Medal was made. The best items were Cauliflower Walcheren and Erfurt Mammoth; Peas, Laxton's Gradus, Veitch's Earliest Marrow, with very well filled pods, also Chelsea Gem, and Duke of Albany, Veitch's Longpod Broad Bean, a nice-looking light green pod of good length, containing at the least five seeds in a well-developed pod. Turnips, Carter's Cardinal, a reddish purple-skinned variety, of the general form of the Flat Dutch, evidently quick in coming into use, like that one; Potatos Sharpe's Victor and Ashleaf; and Egyptian Beetroot of a nice useable size.

A. J. Howard, Esq., Worton Hall, Isleworth, received a Knightian Medal for some particularly fine White Cos Lettuces, Rochford's Market Cucumber, Early Milan Turnips, Potatos, Giant King, Sharpe's Victor, Ellam's Early Cabbage, and Veitch's Early Vegetable Marrow.

Miscellaneous.

Mr. Filkins, gr. to Miss Alexander, Oakbank, Chislehurst, showed a fine lot of tubers of Potato Queen of the Earlies, a smooth white kidney.

Messrs. Malden Brothers, Cardington, Beds, showed a good long standing Kale, useful for its keeping in good condition to so late a part of the season.

The Royal Horticultural Society showed two varieties of Spinach, viz. Carter's, which is said to be identical with Vilmorin's Longstander, and which showed no indication of running to seed, whilst the common Flanders variety shown alongside was in full bloom. The leaves of the first-named have great size and substance, and the plant, which has the hardiness of the latter, should be preferred to that one for autumn sowing (an Award of Merit). Excellent Asparagus "Hative" came from T. Staples, Esq., Belmont, Salisbury. A Cultural Commendation was given.

Peas.

Three varieties were shown by Mr. H. W. Ward, gr. to Lord Radnor, Longford Castle, Salisbury. These consisted of Telegraph, Lightning, and William I. He received a Cultural Commendation.

Mr. Cooke, gr. to W. H. Evans, Esq., Ford Abbey, Chard, showed plants of Pea Chelsea Gem, to show the great productiveness of that variety.

Tomatos.

Mr. J. Cobbett, gr. to the Rev. the Marquis of Normanby, Mulgrave Castle, Whitby, showed a nice-looking oblate-shaped Tomato named Excelsior, that received an Award of Merit. We were unable to learn its particular merits over much finer-looking fruits of other varieties shown.

Mr. Mortimer, Nurseries, Rowledge, Farnham, showed twenty-four dishes of ripe Tomato fruits, including some of Messrs. Suttons' varieties, all duly indicated by that firm's tickets; others being Jones' Perfection, very fine samples; Frogmore Conqueror, Mitchell's Ham Green Favourite, &c.

Cucumbers.

The last-named exhibitor showed fifteen fruits of a new variety, named Marvel, which had an average length of 15 inches, ribbed, but without spines; neck short, and colour of a dark green. A Silver Knightian Medal was awarded him for these and the Tomatos.

Melons.

Mr. O. Thomas, Royal Gardens, Windsor, sent a new Melon, "The Lady," a fruit of excellent flavour, middle size, white, or rather creamy-coloured flesh, and cross between Hero of Lockinge and an unnamed variety (Award of Merit).

A large, rich-looking, orange-coloured Melon, Goodrich Court Seedling, came from Mr. T. Spencer, gr., Goodrich Court, Herefordshire.

Strawberries.

A dish of the new Strawberry Royal Sovereign (Laxton) was shown by the Society. Fruits of moderate size. Strawberry Collis' May Queen came from Mr. J. Collis, Balls Lane, Chiswick.

Messrs. Laxton Brothers, Bedford, showed Strawberry Royal Sovereign in splendid examples of plants from the open ground. These plants were loaded with fruits in all stages, and were pictures of productiveness; fruits were likewise shown very fine and large. They exhibited a fine box of fruit of the same variety, also of their new variety Monarch, very large, of Cockscomb shape, prominent seeds, bright crimson, with a true Pine flavour. The flesh is firm. It is a cross between Latest of All and Captain, and the fruits shown were the produce of open air plants. Sensation is a fruit of great size, dark crimson colour exteriorly, and conical in form. It lacks the sprightly flavour of Monarch. Fruits of Leader from protected plants, and a boxful of the variety John Ruskin completed this exhibit.

Lecture on Roses under Glass.

Mr. Frank Cant, of Braiswick Nurseries, Colchester, who read a paper on this subject, commenced by describing the kind of structure particularly adapted for growing Roses in pots or in borders. A lean-to house might be made a makeshift, but it was not the best that could be had, but rather, a span-roofed structure running from north to south, which will get both morning and afternoon sun, and at the same time will diminish the excessive sun rays at noon. Mr. Cant supposed by way of illustration that a house should be built 24 feet long and 14 feet wide inside measurement. In this he would have a centre bed 7 feet wide, a path round this of 1½ feet wide, and then a border 2 feet wide. The centre bed should be planted with standard and half-standard Tea Roses, and the border with hybrid perpetuals. Four climbers might be planted one in each corner, and two others could be grown up the supports in the centre. These climbers, however, must be prevented by pruning from developing a dense growth to the injury of those underneath.

If one door only was put in, it should be at the south end, and if there were two, it would be necessary at all times to guard against them both being open at the same time. The best glass should be used, and no putty should be put on the outside when fixing this. Ventilation was an important matter, and top-ventilation essential. There might be six sashes or lights, and above these the lantern, where the top-ventilation would be effected. The whole of the glass roof ought to be portable, and it would be necessary to remove it in June. Before this is done, however, the plants should have been given open ventilation for a fortnight previously in order to prepare them. Though a Rose-house should be provided with ample means of ventilation, it was possible to over-ventilate during spring and winter. Mr. Cant quoted from Rev. Foster Melliar's *Book of the Rose*, where the author says it is better to give no air at all than open the house to an icy wind.

There would be no staging required in such a house as the lecturer was describing, and there would be room for about eighty Roses, or if in pots perhaps a hundred. They should be planted about the first week in November given a good watering afterwards, and slightly syringed each day. The house should be kept close for about a fortnight. Afterwards the temperature need not rise above 40°, and should not fall below 32° until January. Toward the end of this month the plants may be pruned, but the following year the operation could be done a fortnight earlier. If pot Roses were required, plants that have been prepared by potting the year previously should be procured. Roses taken from the open ground and put into pots would not bloom satisfactorily the first season. These pot plants should be bought in September, and they would probably not require repotting, but the roots should be examined and each plant top-dressed or repotted as appeared necessary. They should then be stood on ashes under a north wall, and care should be taken that they are never allowed to get dry at the root, at the same time, however, the plants being at rest, only the amount of water required should be given. Until housed in November they require to be protected from severe frosts by being put in a frame, or other protection. Good fibry loam sandwiched with cow-droppings and sand added, was the best soil, and it should be made firm about the roots. If it is intended that the plants should bloom in April, the house should be kept cool until January, when the buds will be showing signs of bursting, and it would be necessary to allow increased heat, viz., about 60° by sunlight, and 45° at night. Naturally, the Rose grows out-of-doors during April, May, and June, and it would be necessary to provide, by artificial means, conditions during January, February, and March equivalent thereto. Mr. Cant here said that he had omitted to remark that a flow and return hot-water pipe should be put round the house, and this would be sufficient for the cool treatment he was describing.

Watering was an operation that should be done with great care. Plants recently put out in borders should not be given liquid manure, nor even water, after the first application, until they had made an inch or two of growth. Those in pots could be examined by tapping the pots with a stick, and those watered that gave a clear ringing and not a dull heavy sound. During April and May frequent syringings were required; the spray from the syringe should be light and fine. Rose pests were more troublesome in houses than the open, excepting yellow rust, which the lecturer had not noticed in any house. Mildew was probably the worst of these, and when it had made an appearance, the water in the heating apparatus should be heated to boiling-point, and the tops of the pipes covered with a mixture of sulphur and milk. In the event of no heating apparatus the leaves should be dusted after syringing with flowers-of-sulphur. Aphis should be kept down as far as possible with the syringe, but during March and April it would probably be necessary to fumigate. Mr. Cant had found McDougall's

fumigating cones handy for this purpose. The work should be done after sunset, and a good syringing with pure water should follow in the morning. The lecturer did not like the various insecticides, as they left a coating upon the leaves, which was not conducive to the health of the plants.

Mr. Cant had found no difficulty in growing Teas and perpetuals in the same house. Tea varieties like more sun than the latter, but by planting the H.P.'s in the border round the house they could be shaded a little by means of roller-blinds. The shoots should be thinned when the buds appear, and afterwards the number of buds should be reduced also. Roses grown under the cool conditions described above will not carry a second crop of flowers before those outside are in bloom. Feeding should not be practised until the flower buds have appeared, and the best liquid for the purpose was that to be got from the cow-yard. This liquid well diluted might be given twice a week to pot Roses, and alternately with clear water to plants in borders. If liquid from the cow-yard could not be obtained, the lecturer preferred to use soot. A few remarks upon hybridisation concluded the lecture.

Dr. Masters, F.R.S., who occupied the chair, having invited remarks, Sir Alexander Arbuthnot said that the paper was most useful to amateurs, and indeed, contained more practical help to this class than did any of the larger works on the Rose. The customary vote of thanks was then accorded to the lecturer, the publication of whose paper in the Journal will be awaited with interest.

VIOLA CONFERENCE AT BIRMINGHAM.

May 30.—(Continued from p. 721.)

Old Violas.

The next paper was on "Old Violas," by Mr. E. Dean. The first to employ Pansies in the flower garden for the purpose of forming lines and masses of colour was Mr. John Fleming, formerly gr. at Cliveden, Maidenhead, and it was in all probability the prominence given to Fleming's success which induced Mr. James Grieve, of Pilrig, N.B., to employ Viola lutea and other species as seed parents in 1859-60. The oldest known Viola is Magpie, the La Pie of the French, the origin of which has never been traced beyond a cornfield in France, where it was said to have been discovered growing wild. It was first offered for sale in this country in 1857 by the late Mr. John Salter, and since then it has been known in England under several names, such as Mazeppa, Paul Pry, Wonderful, &c. Reference was made to the use of Viola cornuta by Mr. John Wills, the introduction of V. cornuta Perfection by Mr. B. S. Williams, and varieties raised from it; of Bluebell, a chance seedling, by Mr. R. Dean in 1874—73; of batches distributed by Messrs. Dicksons & Co., Edinburgh, including The Tory; also of a very popular variety—Imperial Blue Perfection—distributed by Messrs. E. G. Henderson & Son. Dicksons Sovereign, sent out in 1874, was an excellent variety. About 1876 the Royal Horticultural Society instituted a trial of Violas at Chiswick, and Certificates were awarded to several as bedders; those which have survived to this day are Alpha, Sovereign, The Tory, Bluebell, and Magpie. The work of Dr. Stuart of Chirnside, N.B., was referred to, and his origination of the rayless section; and True Blue, raised by the late W. Dean in 1875, was referred to as a present-day bedding variety of sterling qualities.

The paper concluded by advocating the setting up of a high standard of quality for bedding purposes which should be rigidly adhered to; what is required is dwarfness and compactness of habit, profuseness, and continuity of flowering, and useful and effective colours. The paper also recommended the institution, in co-operation with the Royal Horticultural Society, of a comprehensive trial at the Chiswick Gardens in 1895, of the leading varieties sent out within the past fifteen years; and the holding of a Viola conference in London, to examine the same, and select lists of the best bedding and exhibition varieties for publication by the conference.

Mr. John Wright opened a discussion on this paper by stating that many Violas were raised which were fine as flowers, but useless for bedding purposes; and value in this respect should be a *primâ facie* quality—continuity of bloom being specially necessary. Mr. Wright also advocated the exhibition of plants to show the habit of growth; sprays of cut blooms, as at present shown, were very beautiful, but a conception of the habit was very necessary, and that could be obtained only by seeing the plants, hence the importance of such a trial at the Chiswick Gardens as that advocated by Mr. R. Dean. Mr. A. J. Rowberry, the Chairman, and Mr. W. H. Gabb, all expressed the opinion that it was found very difficult to grow and bloom Violas in pots, and at the same time preserve the character they display in the open ground.

Surrey Violas.

As Mr. J. D. Stuart's paper on "Viola Sports" was not forthcoming, Mr. E. Burrell's paper on "Violas that do well in Surrey" was read by Mr. A. J. Rowberry. Mr. Burrell commenced by stating that an impression at one time prevailed in the south of England that a cooler climate was necessary for the Viola, as well as a moister and heavier soil, but he was able to record an unqualified success at Claremont. After the experience of dry summers, he had found it necessary, previous to planting, to place in the soil a liberal dressing of cow-manure, and to mulch early with spent Mushroom-manure. The chief drawback experienced is loss of colour in the flowers, lighter shades of mauve, lilac and purple becoming so pale that the varieties are sometimes scarcely recognisable. Complaints are sometimes made of the loss of plants in hard weather; at Claremont it is not more than 2 per cent. Cuttings are put in at the end of July, and transferred to their permanent quarters early in October; good cutting plants bloom earlier and more profusely than old ones. A selection of the most suitable varieties for bedding is not an easy task, but for bedding either selfs or those varieties in which there are two shades, and one of these shades is most pronounced are best; in the case of the latter appearing at a little distance to be as if self-coloured, for instance, such a variety as Mrs. Bellamy. For securing marked and decided contrasts there are few better than Archie Grant, Crimson King, Favourite, Lord Elcho, and White Swan; the latter with me decidedly the best white bedder, not quite so well formed in flower as Countess of Wharncliffe or Mrs. Kinnaird, but of compact, sturdy habit, and wonderfully free. When planted in a long bed or border, Violas are seen at their best when in bold clumps, and the colours shaded from white to dark purple from one end to the other. I have used for this purpose (and all are first-rate bedders), White Swan, Lilias, Annie King, William Niel, a mauve seedling, Edina, and Mrs. H. Bellamy. The above, with the varieties already named, are suitable where a contrast of colours is required, and are the most largely grown here. I also grow Violetta and Ardwell Gem, both very good. Countess of Kintore, Evelyn, and Neptune have been discarded in favour of Edina and Vernon Lee. Illuminator and York and Lancaster are not sufficiently pronounced in colour for my purpose.

New Violettas.

Dr. Stuart's paper on "Newer Varieties of the Violetta Type," read by Mr. Rowberry, followed next. Among white varieties, Vestal excels in the snowy whiteness of its flowers, but there are several new varieties having the habit of Blue Gown, but as pure as Vestal, such as White Wings, Virginia, Dorothy Foster, and Catriona, obtained only by careful crossing and selection. Among blues of various shades, Waterloo is very bright, striking, and dwarf; Roland Graeme is of a darker shade, very early and profuse; Queen of the Year and Cleg Kelly are fine selected varieties. Of lilac and blush varieties, since Blush Queen was raised, many of the same shade have been tried. Florizel (Pye) is the best among the new; there is a delightful blending of colour in its blooms, and the habit is good; Blush Beauty is Blush Queen with an intensified colour, very dwarf in habit; Rosea pallida is a most refined flower, wanting sun to bring out its colour, a profuse bloomer, and very dwarf. Yellow and primrose varieties are very numerous, and require to be very carefully graded. The newer ones are Cloth of Gold, Queen of Yellows, Leezie Lindsay, and Golden Slipper; Gold Crest is true golden in colour, profuse and dwarf. Leezie Lindsay is primrose, and greatly refined. Queen of the Yellows is very clear in colour, and with Golden Slipper will make telling flowers. For spring bedding purposes, Dr. Stuart places Sylvia, Blue Gown, and Bedding Rose in the front rank, and he concludes by stating that many flowers which make a beautiful spray are quite unsuitable for bedding purposes.

Winter Treatment of Violas.

The last paper was by Mr. A. J. Rowberry, on the "Winter Treatment of Violas." The directions laid down were, he said, for amateur growers. With the trade the rule was to take cuttings late in the year, winter them in frames, send out plants in the spring, as a rule beautifully packed, with fresh foliage on a single stem, and not many roots, these generally bare of soil. Planted in this condition, one half of the season was gone before the plants had established themselves and began to bloom. If the trade growers would have their stock ready to send out in October, they would not have the trouble of wintering the plants, and the amateur, under the treatment he should recommend, would reap a great advantage by having them under his care all the winter. The treatment he recommended is as follows:—In August a space is cleared on a shady border, and well forked over, a layer an inch deep of leaf-mould and road-sand in equal proportions, is laid upon the surface, and the cuttings inserted by using a blunt dibber, which will take down to the bottom of the hole some of the sandy compost. The cuttings are previously dipped in a vessel of some insecticide, to clear them of aphis; a good one can be prepared by dissolving 2 ounces of soft-soap in a gallon of water. Such cuttings, helped by an occasional watering, will root well by the beginning of October, by which time the winter bed should be ready. The position of the bed should be a dry and protected one, screened from the east wind, if possible. If the ground be not well drained, the beds should be raised somewhat; it should be dug over, levelled, and by mixing leaf mould, road-sand, and loam in equal proportions, a compost is provided to cover the bed to the depth of about 2 inches, and the plants put in 3 inches apart. No protection is needed during the winter. When March comes, the plants are lifted out of the bed with good balls of soil, and they will be stocky, with four or five nice shoots. Last February, many of my own plants treated in this way were cut down to the ground by frost, but by breaking up again as soon as the thaw came, they are now all that can be desired.

It was then resolved that the proceedings of the Conference be printed in pamphlet form as last year, and a guarantee fund was originated to meet the expenses of publication. Mr. A. J. Rowberry was appointed chairman of the Conference in 1896, Mr. George McLeod and Mr. W. Sydenham, vice-chairmen; and Mr. Richardson, hon. secretary. A hearty vote of thanks was passed to the chairman, treasurer, and secretary for their services.

BATH, AND WEST AND SOUTHERN COUNTIES SHOW.

May 30.—This famous society, formerly known as the Bath and West of England, opened its annual meeting at Taunton on the above date. Wisely, the council of the society devotes a portion of its funds to horticulture, and a show tent filled with productions of the gardens has for many years formed an object of attraction to many visitors to the show. Taunton is a good gardening centre, and the flower show was well and creditably filled with plants and flowers.

The most meritorious collection sent by a private person was unquestionably that of Wilfrid Marshall, Esq., of Norton Manor, Taunton (gr., Mr. Thomas), which consisted of well-grown specimen plants. Amongst them a huge Ataccia cristata, with its uncanny looking moustaches hanging down from a hydra-like head, the leaves resembling those of a Funkia. This particular specimen is an old "devil" plant, and on this occasion was shown at its very best. Specimens of Codiæum Warreni and an Anthurium Rothschildianum attracted much notice, and among the Orchids shown were large "bits" of Oncidium ampliatum majus, O. Krameri, Cattleya labiata Warneri, C. labiata Mossiæ, C. intermedia, Lælia tenebrosa, Dendrobium Dearii, D. thyrsiflorum, Cypripedium Rothschildianum, Odontoglossum crispum, Epidendrum prismatocarpum, &c. W. H. Fowler, Esq., of Claremont (Mayor of Taunton and Steward of the Horticultural tent), showed a grand collection of pot Roses.

Among the trade collections, the Pelargoniums from Mr. Charles Turner, Slough, were especially fine, as were those from Mr. W. H. Godfrey, nurseryman, Exmouth. The latter exhibitor had a novelty in Pelargonium Glory of the West, of a rich crimson, coloured flake with a velvety black blotch on it, the edge of a glowing creamy yellow, a wonderfully pretty harmony of colour; his Carnations were likewise excellent.

Mr. R. B. Davis, of Yeovil, had some fine double tuberous Begonias; Baron Schroder, Mrs. Fowler, Rev. E. Lascelles, Pilatus, Dora Hope, and Mrs. Stothert being of exceptional merit.

Messrs. Geo. Cooling & Son, Bath, had a splendid collection of Noisette Roses and Briars. Amongst the latter were Lord Penzance's new varieties, and some fine bunches of Copper Austrian and Yellow Austrian Briars; The Pet, Fairy Rose, Yellow Banksian, and Persian Yellow were also very fine.

Messrs. P. Barr & Son, Covent Garden, had a large collection of Iris, Saxifrages, Florist Tulips, and a very good single Anemone called Glory of the South, a vivid scarlet with rounded petals.

Messrs. Kelway & Son, Langport, were to the fore with a magnificent collection of Pæonies, Pyrethrums, and other showy herbaceous plants. Among them Pascal, a vivid crimson, single-flowered Pyrethrum, was particularly noticeable, as also Thermopsis montana, a yellow-flowered plant like a Lupin.

Mr. Fred Hooper, Bath, had several trays of Pansies, the other exhibitors being Messrs. W. E. Cousins, Taunton; W. J. Jones, Ryecroft Nursery, Lewisham; Slade, Taunton; John Laing & Co., Forest Hill, S.E.; and Robert Veitch & Son, Exeter.

To Messrs. Veitch had been entrusted the erection of what was, unquestionably, the chief feature of the horticultural section, a rockery and alpine garden furnished with a waterfall, a triumph of the floral decorator's art. By means of virgin cork, caves had been formed, jutting moss-grown rocks and boulders were introduced, the pool at the foot of the waterfall was furnished with aquatic and marsh plants. Growing luxuriantly on tree-trunks were Cattleyas, Dendrobiums, and other Orchids in bloom. Sarracenias grew in the mossy swamp; and in the fissures of the rocks and crevices Ramondias, Saxifrages, Globe-flowers, Thrifts, and other herbaceous and alpine plants.

Some grand plants of the Crimson Rambler Rose were shown on Messrs. R. Veitch's stand.

The Jadoo Fibre Company of Exeter had a good collection of plants grown in Jadoo fibre, including Ericas, Statices, Pelargoniums, Caladiums, Cotyledons, Adiantums, Petunias, Begonias, &c., which had been brought from Colonel Halford Thompson's conservatory at Teignmouth. These plants were in a perfectly healthy condition, and flowering profusely.

ROYAL BOTANIC SPECIAL FLORAL FÊTE.

June 12.—The greater number of classes at this show were devoted to a Children's Floral Parade, a few being reserved especially for specified groups; these latter, however, evinced but little competition. Nevertheless, the large marquee was filled remarkably well with miscellaneous, non-competitive groups, chiefly by trade growers; whilst the decorative floral exhibits were arranged in another part of the gardens. The various groups, as arranged under the direction of Mr. Coomber in the well-known marquee, made a brilliant display. Many of the "exhibits" were displayed at the Drill Hall on the previous day, and demand no further notice.

From Messrs. Sander & Co. came a large and choice group of Orchids and New and Rare Plants. These comprised fine masses of Miltonia vexillaria, both light and dark kinds; also a splendid plant, full of flower, of Lælia

grandis tenebrosis, which was most effective in its peculiar shade of colour. Dendrobium Johnsonæ was well represented, so also were several fine varieties of Cattleya gigas. Other Orchids comprised Thunias in variety, Sobralias also, notably S. Veitchi rosea (very fine), as well as Epidendrum vitellinum majus.

Of new or rare plants from the same source, there was a large well-developed specimen of Dracæna Sanderiana, and another of D. Godseffiana, Begonia Rajah, and Bertolonia Mrs. M. Moore, both choice dwarf foliage plants, also Bougainvillea glabra, Sander's variety, and Cyrtanthus obligus were also shown well.

Messrs. J. Laing & Sons staged a large miscellaneous group of flowering and foliage plants, comprising of the former some of their best strains of tuberous Begonias, both single and double, notably of the latter, one called Mrs. Graham, a large full, canary yellow. Gloxinias helped the display also, so did some well-flowered Orchids. Of the foliage plants there were several examples of the choicer Caladiums, which, with Palms, made a good background.

Messrs. Low & Co. had a group of well-managed Orchids, the choice forms of Cattleya Mossiæ being very effective. Odontoglossums were numerous, and several good Cypripediums were included, as C. Curtisii viride, C. Gertrude Hollington (hybrid), and Lælio-Cattleya Ingrami, extremely rich in colour, especially the lip.

Groups.

Messrs. W. Paul & Son staged an effective group of foliage and flowering plants, comprising Roses in pots and Acers, with a finish at the front of cut Roses in baskets, each variety by itself in considerable quantity, several old-fashioned kinds being included as well as new ones not yet in commerce.

From both Messrs. F. Cant, of Colchester, and Mount, of Canterbury, came a number of boxes of cut Roses, the Tea-scented varieties being prominent. In both of these exhibits the quality of the flowers was first-class.

Mr. Rumsey made an effective display of cut Roses and of plants in bloom; the former were in boxes, being embedded in Maidenhair Ferns to a good purpose.

From Mr. Chas. Turner came a group of show and fancy Pelargoniums, with cut Roses as a finish to the front, the whole producing a fine effect.

Pæonies, &c.

Messrs. Kelway & Son were exceedingly strong in cut Pæonies, embracing a wide range of variety, the whole producing a gorgeous colour-effect; early Delphiniums here were very good.

Messrs. Barr & Son also staged a large mass of Pæonies, including many choice kinds, notably the light-coloured forms.

From Mr. Thos. Ware came Pæonies, Iris, Lilies (in great variety), and other choice things in season, the whole exhibit being very comprehensive.

Miscellaneous.

Messrs. Peed & Son staged a miscellaneous group, in which Caladiums were a leading feature, these being enlivened by some plants in flower.

Messrs. Sutton & Sons made a feature of Gloxinias, showing plants of their well-known strain most profusely flowered, Her Majesty being conspicuous as a splendid white variety of pure colour.

Messrs. Carter & Co., also sent Gloxinias, the plants being well managed and packed with bloom, the habit dwarf and compact.

From Messrs. Keynes, Williams & Co. came a beautiful assortment of the Penzance Seedling Briers, fine masses of each colour being very effective.

Messrs. J. Veitch & Sons showed a profusion of Hardy Plants in flower, including Eremurus robustus; Pæonies, in variety; also choice examples of Cut Shrubs, as Cæsalpinia japonica, and other introductions of their own.

From Messrs. Cooling, Bath, came a very interesting display of old-fashioned garden Roses, as well as newer decorative varieties.

Messrs. Cheal & Son showed cut specimens of flowering and foliage trees and shrubs, and of herbaceous plants. Mr. Scott, gr. to Miss Foster, The Holme, Regent's Park, staged an effective group of miscellaneous plants, very well arranged.

Mr. Davis, nurseryman, Yeovil, had a good group of excellent varieties of double tuberous Begonias, one, a pure white, named Mont Blanc, being particularly good.

Mr. H. B. May sent well-grown Gloxinias and Ferns, &c., making a pretty group.

Messrs. F. Wallace & Co., Colchester, had a beautiful assortment of Calochorti and Iris. &c.

Messrs. Laxton Brothers showed their new Strawberries, Royal Sovereign and Monarch, both most promising early kinds, being evidently good packing sorts. The addition of a few large foliage plants would have been an acquisition, otherwise it was an excellent display, in every way meritorious.

VIOLAS.

The present dry time is very trying to Violas. Since March I have planted out some 300 plants or so of different varieties, obtained from cuttings put in in August last, and they exist, and that is all. They were planted out in well-prepared soil, and with care; a few are lost, and the rest of them make small progress; should no rain fall, many of the plants will fare badly. I hesitate to water, for the simple reason that I find not a few die soon after affording water.

The lesson to be learnt from this is, that spring-planted Violas may do well provided planting is followed by showery weather to keep them growing; but if instead, a dry spring like that of the present year is experienced, there cannot be a great deal of growth in the plants, and consequently but little bloom, until late in the season.

Near these newly-planted Violas is a number of seedlings which are literally sheets of bloom, and they have been so from an early part of the season. They were raised from seeds sown in the early part of 1894, planted out, and the season being moist they grew into large clumps and flowered finely. There they remained all the winter, though they in early April had a miserable appearance. Despite the drought, the plants are still blooming abundantly, many of the individual seedlings having made a close, tufted, spreading growth, have provided thereby shade and coolness to the roots, and that, added to their having rooted deeply into the firm soil, accounts for the goodness and continuance of the bloom. If a good summer display is required, then plant in October. This is the burden of a practical paper on the winter treatment of the Viola, read by Mr. A. J. Rowberry, at the recent Viola Conference at Birmingham, and specially addressed to amateurs; and though he advocated planting out in the beds in March, yet his treatment is practically autumn planting—cuttings put into sandy soil in a shady spot in the open in August—planted out into nursery beds in October in well-prepared grounds, and removed to their permanent beds in March—beds specially prepared. From such nursery beds the plants would be lifted with large balls of roots and soil; the effect of the removal would therefore be very slight. When plants are lifted from the cutting bed direct to the beds and borders in which they are to bloom, they are apt to lose some of their roots and much of their soil in the transfer, and then the plants are some time getting hold of the soil. Much the same occurs if they are had from a nursery, and, as some persons who require plants of Violas for the summer display do not order until late in the spring, the same result is witnessed. In spring or early summer, the autumn-planted Violas can be greatly helped by a top-dressing of fresh soil after a good rain.

A trying time comes in July and August, when the weather is very hot and dry at times, and when thrips become troublesome. It is then a little feeding is found of advantage. By dissolving sulphate of ammonia or nitrate of soda in water at the rate of a quarter of an ounce to a gallon, a capital aid to growth is provided; the former of ammonia being good for a heavy one, and the other for light ones. These manures should be applied only after a heavy rain or a good watering; and they may be afforded once a week, but never when the soil is dry. Where a continuous display is looked for, seed should not be allowed to mature. *R. D.*

VARIORUM.

A Royal Bouquet.—Dr. Paterson, Fernfield, Bridge of Allan, having forwarded his usual offering of a box of Orchids to Balmoral, for her Majesty's acceptance on the occasion of her birthday, has received the following reply on the Queen's behalf from the Hon. H. C. Legge, the Equerry-in-Waiting:—

"Balmoral Castle, June 5, 1895.

"The Equerry-in-Waiting presents his compliments to Dr. Paterson, and begs to inform him that he is commanded to thank him very much for the lovely Orchids he was good enough to send the Queen, with which Her Majesty was greatly pleased."

The Orchid flowers consisted of very fine Cattleyas, Lælias, Vandas, Odontoglossums, &c.

MARKETS.

COVENT GARDEN, *June* 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per dozen blooms	4 0	6 0
Azaleas, per dozen sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	3 6	4 0
Lilies of the Valley, doz. sprays	0 9	1 6
Lilium Harrisii, per dozen	3 0	4 0
Maidenhair Fern, per 12 bunches	6 0	8 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays	0 6	1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	4 0	8 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	4 0	6 0
— red, per dozen	2 0	6 0
— (French), red, per dozen	2 0	3 0
Iris, per doz. buns.	9 0	18 0
Stephanotis, dozen sprays	2 0	4 0
Tuberoses, 12 blms.	0 4	0 6

Orchid-bloom in variety

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Calceolaria, per doz.	6 0	9 0
Coleus, per dozen	6 0	9 0
Crassula, per doz.	12 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
Erica Cavendishii, per dozen	36 0	42 0
— various, doz.	12 0	24 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz.	6 0	10 0
Heliotrope, per doz.	4 0	6 0
Hydrangeas, p. doz.	12 0	42 0
Ivy Geraniums, doz.	6 0	8 0
Lobelia, per doz	4 0	6 0
Marguerites, p. doz.	8 0	12 0
Mignonette, p. doz.	4 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, doz.	9 0	15 0
Rhodanthe, per doz.	5 0	7 0
Schizanthus, p. doz.	6 0	9 0
Spiræas, per doz.	8 0	10 0
Stocks, per doz.	4 0	6 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Figs, per dozen	3 0	6 0
Grapes, 1st quality, black, English, lb.	2 6	3 0
— 2nd quality	1 0	1 6
— Muscats	3 0	4 0
— Guernsey	1 0	2 0
Melons, each	2 0	2 6
Peaches, 1st size, doz	10 0	12 0
— 2nd size	3 0	6 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	0 9	1 6
— per peck	4 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	2 0
Beans, per lb.	0 3	0 4
Cauliflowers, p. doz.	2 6	3 6
Cucumbers, per doz.	2 0	3 0
Mushrooms, per lb.	0 6	0 8
Peas, white, p. bush.	2 6	3 0
— blue	3 6	4 0
Tomatos, Home-grown, per lb.	0 6	0 7
— Guernsey, lb.	0 5	0 6

Old Potatos.

Trade slow. Prices shade lower than last report.

New Potatos.

Foreign arrivals virtually finished. Jerseys and Cornish are coming to hand freely, at prices from 8*s.* 6*d.* to 12*s.* *J. B. Thomas.*

SEEDS.

London: *June* 12.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market, as might have been expected, was thinly attended, and presented no features of special interest. The prolonged drought naturally puts a stop to all consumptive sowing orders. New French Trifolium for August delivery still offers cheap, and meets with increasing attention. Haricot Beans, with rapidly diminishing stocks, continue in strong request. There is no change in Blue Peas. For Mustard and Rape seed increased rates are demanded. Bird seeds unaltered. Linseed steady. The Board of Trade Returns give the imports of Clover and Grass seeds into the United Kingdom for the first five months of this year as cwts. 299,578, value £524,637, as against cwts. 195,421, value £495,437 for the corresponding period of 1894.

FRUITS AND VEGETABLES.

Borough: *June* 11.—Quotations:—Carrots, 1*s.* 6*d.* to 2*s.* per bag; Peas, 4*s.* 6*d.* to 5*s.* per bushel; Onions, 5*s.* per bag; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Apples, Tasmanian, 6*s.* to 8*s.* per case.

Stratford: *June* 11.—There has been an excellent supply of all kinds of produce at this market during the past week, and with a good attendance of buyers a brisk trade was done as under. Quotations: Cabbages, 2*s.* 6*d.* to 5*s.* per tally; Greens, 1*s.* 6*d.* to 2*s.* per sieve; Cucumbers, 2*s.* to 3*s.*;

Spinach, 1*s.* to 1*s.* 6*d.*; Horseradish, 1*s.* per bundle; Gooseberries, 2*s.* 3*d.* to 2*s.* 6*d.* per half-sieve; Carrots, household, 30*s.* to 40*s.* per ton; cattle-feeding, 8*s.* to 15*s.*; Mangels, 10*s.* to 16*s.* per ton; Onions, Egyptian, 120*s.* per ton.

FARRINGDON: *June* 13.—Onions, 6*s.* per bag; Lettuce, 1*s.* 3*d.* per score; Leeks, 1*s.* 6*d.* per dozen; Rhubarb, 2*s.* do.; Vegetable Marrows, 6*s.* do.; Peas, 4*s.* per bushel; Cauliflowers, 3*s.* per dozen; Carrots, 4*s.* do.; Turnips, 5*s.* do.; Cabbages, 5*s.* per tally; Asparagus, 1*s.* 3*d.* to 2*s.* per bundle; Cucumbers, 3*s.* per dozen; Cherries, 4*s.* 6*d.* per basket; Tomatos, 7*s.* 6*d.* per dozen lb.; Grapes, 1*s.* 3*d.* per lb.; Apples, Tasmanian, 10*s.* to 11*s.* 6*d.* per case; Gooseberries, 2*s.* 6*d.* to 3*s.* per half-bushel.

POTATOS.

BOROUGH: *June* 11.—Quotations for old ranged from 60*s.* to 100*s.* per ton; new, from 9*s.* to 18*s.* per cwt.

STRATFORD: *June* 11.—Quotations:—Fenland Magnums, 40*s.* to 50*s.*; do., light soil, 50*s.* to 70*s.*; Bruces, light soil, 60*s.* to 75*s.*; Yorkshire Magnums, 90*s.* to 100*s.* per ton. German do., 3*s.* to 3*s.* 6*d.* per bag. New: Jersey kidneys, 11*s.* to 13*s.* per cwt.

FARRINGDON: *June* 13.—Quotations:—Main Crop, 90*s.* to 100*s.*; Bruces, 70*s.* to 80*s.* per ton. New: Jersey, 9*s.* to 10*s.*; Flukes, 8*s.* to 9*s.* per cwt.

LONDON AVERAGES: *June* 12.—New: Maltese, 12*s.* to 14*s.*; Jersey, 9*s.* to 10*s.*; Cherbourg, 8*s.* to 9*s.*; Lisbons, 4*s.* to 6*s.* per cwt Old: Dunbars, 90*s.* to 120*s.*; Magnums, 70*s.* to 80*s.*; Hebrons, 70*s.* to 80*s.* per ton.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending June 8.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1895.	Accumulated. Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1895.	Rainfall. Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	102	0	+ 103	+ 264	3 —	95	15 8	56	31
1	5 +	106	0	+ 20	+ 414	4 —	75	9 1	49	36
2	3 +	95	0	+ 40	+ 277	3 —	81	10 2	35	32
3	2 +	102	0	+ 16	+ 283	4 —	73	8 0	47	37
4	3 +	111	0	+ 32	+ 371	5 —	63	8·3	42	35
5	2 +	113	0	— 39	+ 333	4 —	71	7·1	53	37
6	6 +	119	0	+ 53	+ 364	7 —	79	10·3	52	33
7	3 +	106	0	+ 30	+ 302	5 —	71	10·1	40	34
8	4 +	119	0	— 12	+ 337	4 —	67	11·5	64	43
9	5 +	114	0	— 6	+ 275	5 —	86	10·7	60	34
10	4 +	119	0	— 60	+ 195	5 —	75	12·7	67	36
*	2 +	110	0	— 53	+ 248	2 —	79	10·4	61	47

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending June 8, is furnished from the Meteorological Office:—

"The *weather* was somewhat unsettled during the early part of the period, with a good deal of cloud and some thundershowers in various parts of the Kingdom. Subsequently, however, the conditions again became very fine, with very little cloud, and a complete absence of rain.

"The *temperature* continued above the mean, the excess ranging from 2° in 'England, E. and S. and the Channel Islands,' to 5° in 'Scotland, E. and Ireland, N.,' and to 6° in 'Scotland, N. and W.' The highest of the maxima were recorded on the 7th at most of the Irish and Scotch stations, and on the following day over England; they ranged from 84° in 'Scotland, E.' (at Ochtertyre), 83° in 'England, S.,' and 81° in 'England, S.W. and Ireland, N.,' to 74° in 'England, N.W.,' and to 73° in the 'Channel Islands.' The daily maxima were again low on our south-east coasts, the thermometer at the North Foreland not rising to 60° during the greater part of the week. The lowest of the minima occurred either at the commencement or about the middle part of the period, and ranged from 36° in 'England, S. and S.W.,' and 37° in the 'Midland Counties,' to 43° in 'Ireland, S.,' and to 50° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts. The fall was extremely slight in all districts, excepting 'Scotland, N.,' and at many individual stations the weather was quite rainless.

"The *bright sunshine* again exceeded the mean in all parts of the Kingdom. The percentage of the possible duration ranged from 67 in 'Ireland, S.,' 64 in 'England, S.W.,' and 61 in the 'Channel Islands,' to 42 in the 'Midland Counties,' 40 in 'England, N.W.,' and to 35 in 'England, N.E.'"

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

PUPILS TO COLONISTS.—A colonial planter would esteem it a great favour if any reader would inform him, through these columns, what course is adopted by colonists when endeavouring to introduce pupils to their estates at nominal premiums. Are there agencies in London by which planters and pupils are introduced?—and if so, could their names be furnished? *Colonist.*

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.*

ADDENDA.—In our report of the Manchester Show, published last week, we were unable to mention the awards made to Messrs. Hugh Low & Co., Clapton, viz, a Gold Medal for the excellence of their exhibits as a whole, and a First-class Certificate to their Cattleya Mossiæ E. Ashworth.

ANTS IN GLASSHOUSE: *C. N. M.* Try carbolic acid, or catch them with sweet baits such as treacle.

BOOKS, WILLIAM LAWSON, "A NEW ORCHARD AND GARDEN": *W. H.* The earliest edition, according to Johnson's *History of English Gardening*, was published by Simon Harwood in London, 1597, 4to. After that there were numerous editions; the author professed to write entirely from experience. We do not think you are likely to be able to get the work, but you might commission some second-hand bookseller to be on the look-out for you. The same remarks apply to the works of Gervase Markham, who wrote in the middle of the seventeenth century.—*W. L. Yates. The Cottagers' Calendar* is the only gardening work published at the *Gardeners' Chronicle* office, price 3*d.*, cheaper when a number are taken.—*Ignoramus. Tomato Culture for Amateurs*, by B. C. Ravenscroft, published by L. Upcott Gill, 170, Strand, W.C., price 1*s.*

INSECTS: *G. S. C.* The beetles are those known as the June bug (Phyllopertha horticola). It has a repute for feeding upon flowers, and is especially fond of Rose blooms. Encourage insect-eating birds as much as possible.

LAWN SAND: *W. R.* We believe its action is to cause a very close growth of the finer grasses, whereby coarse weeds and grasses are smothered out of existence. It can be obtained of any horticultural sundriesman, and of some nurserymen. It should be applied in the growing season.

MADRESFIELD COURT GRAPES: *Maeers.* Kindly send specimens of affected bunches for examination.

MARGUERITE LEAVES INJURED: *A Beginner.* The leaves are mined by the grub of a two-winged fly, Phytomyza nigricornis, similar to the one which affects the leaves of Celery.

NECTARINE AND PEACH: *M. MacIntyre.* On the former, the spots on the fruit are caused by Glœosporium læticolor, and on the twigs traces of gumming are noticeable, which may be originated by punctures caused by an insect. The Peach-fruit and twigs are affected by mildew. Gather all affected fruits, and burn them, dressing the tree with some mildew-destroyer, or with flowers-of-sulphur after syringing the trees. See that the borders in which the trees are growing do not become dry.

NAMES OF PLANTS: *B. W. S.* The seed of Trapa natans, a southern European water plant, growing in fresh water, not in the sea, as the people of Isola Bella told you. It is plentiful in some parts, and flour is made from the kernel. It is the Chataigne d'eau of the French, and Jesuit's Nut of the Venetians.—*T. J. H.* Allium ursinum.—*T. M., Philadelphia.* Sedum sarmentosum, a variegated form of which is grown commonly as S. carneum variegatum.—*W. W.* The Canary Creeper is so named from the colour of the flower. The Latin name is Tropæolum peregrinum. The word canariense has come to be tacked on in gardens unjustifiably.—*A. F.* Thanks for 2*s.* received for the Gardeners' Orphan Fund, and sent by us to the Secretary. 1, Pinus Pinaster; 2, form of Thuya orientalis; 3, form of Thuya orientalis; 4, Picea polita, Japan; 5, Cryptomeria japonica; 6, Retinospora ericoides of gardens; 7, Thuya occidentalis var. cristata; 8, probably Cedrus atlantica; 9, Thuya orientalis forma.—*Flora.* Syringa Josikæa.—*A Beginner and W. T.* Some species of Populus—probably P. monilifera. Kindly send leaves and shoots.—*F. B.* Heuchera sanguinea.—*Campbell.* 1, Listera ovata; 2, Symphytum officinale; 3, Galium cruciata; 4, Lotus corniculatus; 5, Veronica Chamædrys; 6, Vicia cracca.—*W. Chester.* Only a robust form of Scilla nutans.—*W. H. C.* 1, Sedum kamtschaticum; 2, Asphodelus luteus; 3, Salvia lanata; 4, Chrysanthemum Leucanthemum; 5, Lychnis Viscaria; 6, Veronica Teucrium.—*Mac.* 1, Pyrus Aria; 2, Prunus Padus var.; 3, Sedum Rhodiola; 4, A Sedum of the Telephium group—not in flower; 5, Saxifraga Geum; 6 Polygonum affine.—*Subscriber.* 1, Cupressus Lawsoniana var.; 2, Retinospora filifera of gardens; 3, Retinospora squarrosa of gardens; 4, Cryptomeria japonica var. elegans; 5, Abies balsamea; 6, Abies Lowiana.—*A. G. M.* 1, Cypripedium ciliolare; 2 Vanda Roxburghii; 3, Dendrobium moschatum; 4, Lycopodium dichotomum; 5, Begonia, not recognised.—*H. B.* Thanks for Odontoglossum coronarium; we will refer to it again.—*J. McL.* Æschynanthus Lobbianus.—*A. Chapman.* A very fine form of Lælia purpurata, known in some gardens as L. purpurata alba.—*A. W.* 1, Cyrtanthus Mac-Owanii; 2, Sisymbrium Sophia; 3, Campanula sp; 4, Swainsonia galegifolia alba; 5, Orchid withered. Send fresh flower, bulb, and leaf; 6, Pellea rotundifolia; 7, Lonicera Ledebourii.—*T. C.* Swainsonia galegifolia; cool greenhouse climber.—*R. K.* has forgotten his botany! The plant is Bryonia dioica, a cucurbit and a virulent poison.

PEAR LEAVES AND SHOOTS: *F. F. P., Stroud.* The larvæ in the young Pears are those of Diplosis pyrivora, a minute two-winged fly. The discoloration of the leaves is probably due to a fungus. *R. McL.*

PINUS MONTICOLA: *C. P.* There has been no figure of the cone of this tree published in the *Gardeners' Chronicle*, but we shall be pleased to give one if you or some other reader will oblige us with a characteristic specimen.

ROSE FOLIAGE: *J. R. R.* Caused by some insect, the larvæ of which are abundant in the curled leaves.

TOMATOS: *Dr. K., and D. & Co.* Your fruits are affected with "Black-spot," caused by the fungus Cladosporium lycopersici, figured and described in the *Gardeners' Chronicle*, October 1, 1887, p. 409. Keep a vigilant eye upon the plants, and remove any fruits as soon as it is seen they are attacked, taking care to burn each one.—*Ignoramus.* Small lateral shoots on Tomato plants may be stopped at the first leaf or entirely removed, but not the leaves on the ends of the trusses of bloom when such occur, or at least, not till such time as sufficient fruits have set.

VINES: *J. B.* What you take to be eggs are blisters containing water. They are not injurious, but arise from excess of moisture in the air or the soil. Afford more air.

COMMUNICATIONS RECEIVED.—E. N.—Sutton & Sons.—J. O'B.—G. G. (next week).—H. M. W.—W. R. (next week).—H. C. de B, Antwerp.—J. W.—L. and B. (next week).—H. Markham.—J. A.—Thomas Jones.—G. G.—A. D. W.—W. H. D.—W. R.—Alicante.—C. Ayres.—H. W. W. (next week).—J. F. McL.—M. T.—A D.—A. Balleine.—W. W.

PHOTOGRAPHS RECEIVED, WITH THANKS.—C. J. L.—R. M.—J. W.—Glamis.—H. F.—C. T. D.

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JOURNEYMAN, Inside; age 23.—W. WILLIS, The Rectory Gardens, Caversham, Reading, wishes to recommend W. Day as above, who has been with me six years in the Houses. Life experience.

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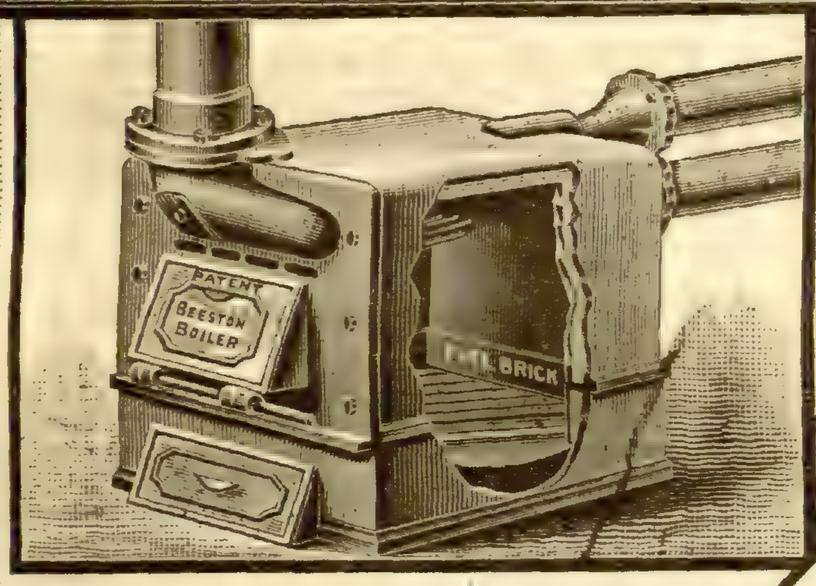

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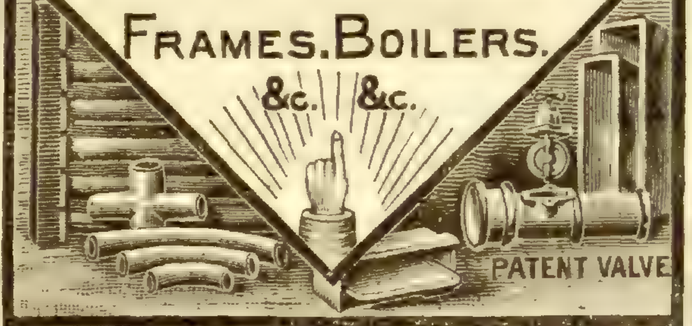

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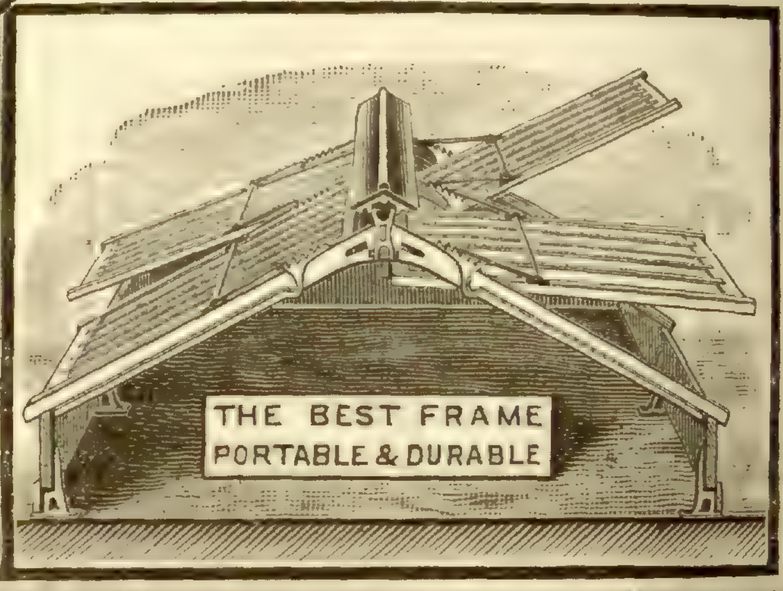

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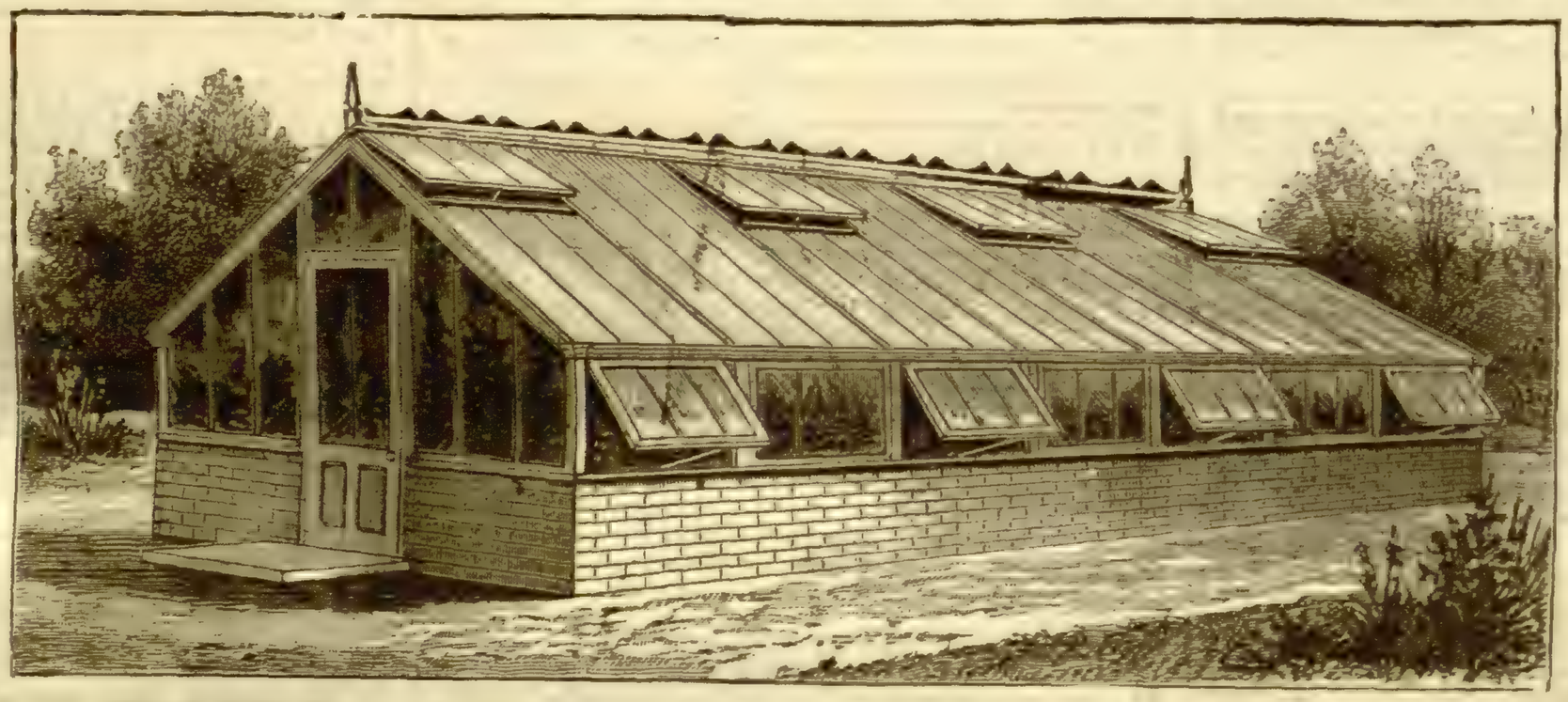

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In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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On view morning of Sale, and Catalogues had.

Friday Next.—Great Sale of Imported Orchids.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, on FRIDAY NEXT, June 28, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., at half-past 12 o'Clock, a consignment of 500

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.

The extraordinary CŒLOGYNE MICHOLITZII,

CYPRIPEDIUM ROTHSCHILDIANUM,

In grand order, wonderful vigour.

ONCIDIUM PELICANUM,

richly-coloured flowers, produced in large panicles.

CYPRIPEDIUM BELLATULUM, in great masses.

A NEW DENDROBIUM — DENDROBIUM DONNESIÆ. Thirty-seven good plants, all with young growths, and every plant imported. Offered for Sale for the FIRST TIME. Introduced by us in 1894. The finest of its class.

ODONTOGLOSSUM CITROSMUM.

ODONTOGLOSSUM TIGRINUM.

ODONTOGLOSSUM REICHENHEIMII. All in fine masses.

INDIAN CROCUSES.

PLEIONE MACULATA, P. HUMILIS, P. WALLICHIANA, brightly coloured, most attractive Orchids.

VARIOUS DENDROBIUMS.

1000 LÆLIA AUTUMNALIS ATRO-RUBENS, the All Saints' flower of Mexico.

1000 LÆLIA ANCEPS, &c.

Also a quantity of Mexican Bulbs will also be offered, including:—

1,000 MILLA BIFLORA, a beautiful snow-white flowered plant.

2,000 BESSERA ELEGANS, a charming scarlet-flowered bulbous plant.

1,000 CYCLOBOTHRA FLAVA, a splendid liliaceous plant.

10,000 MINA LOBATA SEEDS, a grand climber for summer outdoor decoration; flowers crimson, shading to orange.

AND TWO WONDERFUL CACTI—

PILOCEREUS SENILIS, "THE OLD MAN CACTUS," a most extraordinary plant, covered with silver hairs; and—

ECHINOCACTUS AUREUS, THE GOLDEN HEDGEHOG CACTUS, bearing an immense number of long golden sickle-shaped spines. Easily grown; never dies; simplest culture. And others.

On view morning of Sale, and Catalogues had.

Clapham Park, S.W.

CLEARANCE SALE of the CHOICE COLLECTION of ORCHIDS, GREENHOUSE PLANTS and FERNS, also Cow, Hay, and other Effects. By order of the Executors of the late Sydney Lawrence, Esq.

MESSRS. PROTHEROE AND MORRIS will SELL by Auction, on the Premises, Poynder's Road, Clapham Park, S.W., a few minutes walk from Clapham Road Station, on TUESDAY, July 2, at half-past 12 o'Clock precisely, the Choice Collection of well-grown ESTABLISHED ORCHIDS, comprising about 650 plants, including fine plants of Cypripedium insigne, and others; Cymbidiums, Calanthes, and others for cool, intermediate, and hot-house culture; also the whole of the STOVE and GREENHOUSE PLANTS, Pancratiums, 60 Azalea indica in various sizes, splendid specimens of Platycerium grande, Eucharis, Lapagerias, Aspidistras, Begonias, Gloxinias, 300 Chrysanthemums. Six good Frames, Hand-lights, Garden Tools, Jersey Cow in Calf, Garden Tent, nearly new, 8 feet by 8 feet; 50 Head of Poultry, small lot of Hay, Galvanised Water Tank, and other Items.

May be viewed Saturday and Monday prior to the Sale. Catalogues may be had of Mr. CHARD, the Head Gardener, on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Guildford, Surrey (near). The Normandy Manor Estate, occupying one of the most Charming Positions in the county, adjoining Wanborough Railway Station, five miles from Guildford, four from Aldershot, three from Bisley Camp, and one hour's journey from Waterloo.

MESSRS. PROTHEROE AND MORRIS (in conjunction with Messrs. MUMFORD AND BOND), will SELL by AUCTION, at their Cheapside Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 28, at Two o'Clock punctually, in 16 Lots, the exceedingly Valuable FREEHOLD ESTATE, embracing the Normandy Manor, Claygate, and Robinson's Farms, together with the Manor House, two Homesteads, the Manor Nurseries and Orchard, with 16 Modern Greenhouses, two Dwelling-houses and Outbuildings, several choice Building Sites, three Fruit Plantations, a capital Lake on Normandy Common, and a number of enclosures of very Fertile Arable and Rich Meadow Land, the whole containing about 270 Acres.

May be viewed by cards obtainable of the Auctioneers. Particulars, plan, and conditions of sale may be had at the principal Hotels in Guildford, of Messrs. PARROTT, Solicitors, Aylesbury, Messrs. PYKE AND PARROTT, Solicitors, 63, Lincoln's Inn Fields, W.C., Messrs. MUMFORD AND BOND, Auctioneers and Surveyors, Brill, Bucks, and Thame, Oxon, and of Messrs. PROTHEROE AND MORRIS, Auctioneers and Land Agents, 67 and 68, Cheapside, London, E.C.

Bromley, Kent.

To SPECULATORS, BUILDERS, FLORISTS, and OTHERS.

VALUABLE FREEHOLD BUILDING LAND, known as The South Hill Park Nursery, within 5 minutes' walk of the Railway Station and the town.

The Land has an extensive frontage to Westmoreland Road, and included are the whole of the Glasshouses thereon, the property thus offering a rare opportunity for a Florist to secure exceptional premises at a very moderate price, and as a Building Speculation (the Land comprising about 1 acre), it is equally advantageous. Also

VALUABLE BUILDING LAND, comprising about 2a. 1r. 0p., situate at the end of Queen Anne Avenue, South Hill Park, admirably adapted for the erection of Villa Residences. Possession on completion.

MESSRS. BAXTER, PAYNE, & LEPPER will SELL by AUCTION, at the "Bell Hotel," Bromley, Kent, on WEDNESDAY, June 26, at 7 for 8 o'Clock precisely, the above VALUABLE PROPERTY and BUILDING LAND.

May be viewed, and particulars, with plan and conditions of sale obtained of R. STENNING, Esq., Architect, 122, Cannon Street, E.C.; of Messrs. GODDEN AND HOLMES, Solicitors, 27, Old Jewry, E.C.; and of BAXTER, PAYNE, AND LEPPER, Surveyors, and Land Agents and Auctioneers, Bromley and Beckenham, Kent, and 69, King William Street, E.C.

Thursday Next.

A COLLECTION of IMPORTED and ESTABLISHED ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Steet, Covent Garden, W.C., on THURSDAY NEXT, June 27, at half-past 12 o'Clock precisely, a Collection of well-grown ESTABLISHED ORCHIDS, including fine specimens. IMPORTATIONS of ORCHIDS from various parts, in good order. ORCHIDS in Flower and Bud, rare BULBS, &c.

On view morning of Sale, and Catalogues had.

NURSERY for SALE.—Freehold: Eight Greenhouses and Stock. Well heated. Apply to 72, Asplin Road, Lansdowne Road, Tottenham.

TO BE SOLD, FLORIST'S, in first-class position, in neighbourhood of Crystal Palace.—Apply to Mr. PARSONS, 231, Gipsy Road, West Norwood, S.E.

FOR SALE.—A JOBBING GARDENING FLORIST, and GREENGROCERY BUSINESS. W. DANN, Dodsley, Midhurst.

ALEXANDRA NURSERY (HAWS'S), Undercliffe, near Bradford; about 1 acre; Hot-houses, Sheds, Stable; convenient House; Stock, &c. For SALE, cheap; easy rent.—Apply, WILLIAM LAWSON, Estate Agent, 49, Sunbridge Road, Bradford.

NURSERY FOR SALE.—On high ground, 14 miles from London, close to railway. Good Dwelling House, and 1 acre of ground. Modern range of Glass, well and efficiently heated, Potting-shed, Office, and all necessary appurtenances. Low rent (cleared by letting), long lease. Price, £1500. Stock and crops by valuation.—Apply, by letter, "MIDDLESEX," 41, Wellington Street, Strand, W.C.

FOR SALE, small high-class NURSERY, near South Coast resort, 300 feet Glass, Dwelling-house, valuable Stock. Lease, rent moderate. Immediate possession. Owner retiring.—FLORIST, 41, Wellington Street, Strand, W.C.

FLORIST'S BUSINESS for SALE.—The finest Premises and Position on the South Coast. Large Show House, 50 feet frontage, with Glasshouses attached. Fitted with Electric Light, and every modern appliance. Doing a high-class family trade. Good reason for disposal. Open to investigation. Stock, fixtures, &c., as it stands, £550. Fortune to a business man.

G. L. P., 41, Wellington Street, Strand, W.C.

To Florists and Landscape Gardeners with Capital.

LEASE and GOODWILL for DISPOSAL.—Within seven miles of Covent Garden. Twelve Houses and Pits, heated with pipes and boilers, well built and fully stocked; also detached Dwelling, Stabling, Potting Sheds, &c., about an Acre in all. Constant supply of water. Same hands twenty years. First-class position and high-class trade. Lease about thirty years at a moderate rental. Everything included but dwelling.—Apply to Mr. DELL, North Finchley, N.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

Reigate, Surrey.—To Nurserymen and Florists.

TO BE DISPOSED OF, by Private Contract, the LEASE, GOODWILL, and STOCK-IN-TRADE of an Old-established BUSINESS with an extensive Connection in this prosperous and favourite locality. The Nursery of 2 acres is well situated, close to the town and station, and there is a smaller Garden and Shop in West Street.

For particulars and orders to view apply to Messrs. WHITE AND SONS, Auctioneers and Valuers, Dorking.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

TO BE LET or SOLD, with immediate possession, a FREEHOLD NURSERY, Catford. Six hundred feet length of Glass-houses, with all necessary Heating Appliances, in thorough order; good Residence, occupied by Messrs. Laing & Son for many years. Close to two stations.—J. CHAMBERS, 126, Catford Hill, S.E.

TO LET, NURSERY, SEED and FLORIST BUSINESS. Market Town in South. Three Houses, Sheds, &c. Incoming low.

G., 41, Wellington Street, Strand, W.C.

THE NEW EARLY STRAWBERRY for 1895,

STEVENS' WONDER.

The earliest variety in cultivation, and very prolific. Solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. See *Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16. Having purchased the whole of the Stock of this grand New Early Strawberry from the Raiser, we have pleasure in offering it as follows:—

Strong Plants in pots ... £5 per 100 ... 15s. per dozen.
Strong Runners ... ... £3 per 100 ... 9s. per dozen.

Ready for delivery early in July.

EARLY ORDERS REQUESTED, AS STOCK IS LIMITED.

Further particulars upon application.

Wm. CUTBUSH & SON, Highgate Nurseries, London; And BARNET, HERTS.

EXHIBITIONS.

THE DEVON and EXETER HORTICULTURAL SOCIETY will hold a ROSE SHOW on Northernhay, Exeter, on June 28 next, when valuable prizes will be offered for competition.
Schedules and full particulars of—
G. D. CANN, 16, Queen Street, Exeter.

CROYDON ROSE SHOW, Wednesday, July 3.—OPEN CLASSES; Challenge Cup, value 25 guineas; N.R.S. Silver Medals for Amateurs and Gardeners. Also, N.R.S. Silver-gilt Medals, and good Prizes for Nurserymen.
A. C. ROFFEY, Secretary.

GRAND ROSE and BEGONIA SHOW.—BATH, THURSDAY, July 11.

1st Prize, Nurserymen, 72 varieties	...	£8	0	0
1st ,, ,,	36 ,,	...	4	0	0
1st ,, Amateurs	36 ,,	...	4	0	0
1st ,, ,,	24 ,,	...	2	10	0
1st ,, Group of Miscellaneous Plants			8	0	0

Second and Third Prizes in proportion.
Other Classes for Roses, Bouquets, Strawberries, Cut Blooms, Plants, and Tuberous Begonias. Entries close Friday, July 5.
For Prize Schedules, &c., apply—
PEARSON AND JEFFERY, Secretaries.
2, Northumberland Buildings, Bath.

WOKING FLOWER SHOW.
Wednesday and Thursday, July 31 and August 1, 1895.
H. W. ROBERTSON, Somerset Villa, Woking.

NORTHAMPTON HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW.
Delapré Park, Northampton. August 5 and 6.
INCREASED PRIZE MONEY.
For Best Twelve Plants, £15, £10, £5, £2 10s.; Central Group, for Conservatory Decoration, £12, £7, £3; Collection of Fruit, eight varieties, £6, £4, £2; Twenty-four Roses, £2, £1 10s., £1; Collection of Vegetables, twelve varieties, selected, £3, £2, £1; Table Decoration, £3, £2, £1.
Entries close July 26. Schedules and particulars from—
W. B. TROUP, Secretary.
Northampton, June 15, 1895.

WOLVERHAMPTON GREAT FLORAL FÊTE

JULY 9, 10, and 11, 1895,
IN THE PUBLIC PARK.

OPEN CLASSES for PLANTS, ROSES, FRUITS, &c., PANSIES, and VIOLAS.
OPEN AMATEUR CLASSES for ROSES.
GENTLEMEN'S GARDENERS' CLASSES, Open to All England.

Open Air Space to Let for Horticultural Sundries.

SCHEDULES, ENTRY FORMS, &c.
Apply immediately to—
W. A. GREEN, Jun., Horticultural Secretary.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

STRAWBERRIES.

All the leading varieties, new or old, in small pots for fruiting first year. Open-air plants, very cheap. Special low quotations for quantities for Market Growing.

FRUIT TREES

OF ALL SORTS. SEND FOR LISTS.

JOHN WATKINS,

POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

LIVE SPHAGNUM MOSS, Picked and Squeezed, 5s. per bag; Long Sphagnum, for packing, 3s.
JOHN BYRNE, Fellside, Kendal.

RICHARDS' NOTED PEAT.

(Trade supplied on best terms).
A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf

PEAT. EPPS'S PEAT.

Specially selected for Orchids, and all kinds of Plants, by sack, cask, cubic-yard, ton, or truck-load. Rich fibrous LOAM, Coarse and Fine SILVER SAND, superior LEAF-MOULD, C. N. FIBRE REFUSE, SPHAGNUM MOSS, CHARCOAL, &c.
Special through rates to all parts.
The Original Peat Depot, RINGWOOD, HANTS.

C. BEESON'S MANURE.—Composed of Blood and Bone. The best Fertiliser for all purposes. Sold in tins, 1s., 2s. 6d., and 5s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.
"12, Knowle Road, Brixton, London.
"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.
"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt. sample bag sent carriage paid to any station in England, on receipt of P. O. for 5s. Extracts from 19th Annual Collection of Reports:—
NATIVE GUANO FOR POTATOS, VEGETABLES, &c.
A. SIMMONS, Nurseryman, Barnet, used for Peas, Celery, Onions, Cabbage, Turnips, and Carrots. Results:—"In every way satisfactory." J. T. YATES, Coventry, used for Onions, Peas, Beans, and other vegetables, Strawberries, and Tomatos: "All crops proved satisfactory; a valuable manure, cheap, clean, and portable." F. J. FLETCHER, Maidenhead, with Onions.—"Results splendid; very pleased."
NATIVE GUANO FOR FRUIT, ROSES, TOMATOS, &c.
H. GILLETT, Florist, Sevenoaks.—"Used for three years for Tomatos, Cucumbers, Begonias, Geraniums, Ferns, and Palms, with very good results; prefer it to Peruvian; can highly recommend it as good and cheap." E. PARRY, Head Gardener, Castlemans, says: "I found it an excellent, cheap manure for Vines, Fruit trees, Roses, Carnations, Pot plants, and all kitchen-garden crops." Orders to the **Native Guano Co.**, Ltd., 29, New Bridge Street, Blackfriars, London, where pamphlets of testimonials, &c., may be obtained. AGENTS WANTED.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.
The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.
Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ¼-cwt. and upwards.
SOLD BY ALL SEEDSMEN.

HUDSONURE,

KING OF FERTILISERS.

Composed of the very finest ingredients, necessary for all plants. A genuine up-to-date Manure, and will be found to supersede all the old-fashioned mixtures offered. Contains Nitrogen, Phosphoric Acid, and Potash in the most available form, and will be found Quick in Action, yet lasting and reliable. Try it on anything.
In Tins, **6d.** and **1s.**, post-free, for trial, and in Bags of—

7 lb.,	14 lb.,	28 lb.,	56 lb.,	112 lb.,
2s. 6d.	**4s. 6d.**	**7s.**	**12s.**	**20s.**

Sent Carriage Paid, or can be obtained from High-class Seedsmen and Florists at above prices.
Insist upon having HUDSONURE.
SULPHATE OF AMMONIA, NITRATE OF SODA, BONE MEAL, KAINIT, PERUVIAN GUANO, DISSOLVED BONES, TOBACCO PAPER, &c., all of finest quality, at lowest prices.

HUDSON'S FERTILISERS,
KILBURN, LONDON, N.W.

STANDEN'S MANURE.

ESTABLISHED OVER 30 YEARS.

Exceeds all others in General Fertilising Properties and Staying Powers.

It promotes a rapid, healthy, and robust growth to plants generally.
It is a clean and dry powder with very little smell.
The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

THE ANALYSIS SHOWS—

Insoluble Phosphate	35·74 per cent.
Soluble	·83 ,,
Nitrogen	8·93 ,,
(Equal to Ammonia)	10·85 ,,

Sold in Tins, 1s., 2s. 6d., 5s. 6d., and 8s. each; and in Kegs, well secured, to prevent loss through exposure, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s.
To be had of the Seed and Nursery Trade generally.
MANUFACTURERS—
CORRY & CO., Ltd., LONDON.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

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HEAD LINE CHARGED AS TWO.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
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7	,, ..	0	4	6	18	,, ..	0	10	0
8	,, ..	0	5	0	19	,, ..	0	10	6
9	,, ..	0	5	6	20	,, ..	0	11	0
10	,, ..	0	6	0	21	,, ..	0	11	6
11	,, ..	0	6	6	22	,, ..	0	12	0
12	,, ..	0	7	0	23	,, ..	0	12	6
13	,, ..	0	7	6	24	,, ..	0	13	0
14	,, ..	0	8	0	25	,, ..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, £8; Half Page, £4 10s.; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1s. 6d., *and* 6d. *for every additional line* (*about nine words*) *or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*
Births, Deaths, and Marriages, 5s. *each insertion.*

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*
Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*
N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

RICHARDSON'S

HORTICULTURAL BUILDINGS,

ARTISTIC NEW CATALOGUE FREE.

Conservatories, Greenhouses, Vineries, Peach Houses, Stove and Orchid Houses, &c. Also Boilers, Pipes, and all Fittings.

MANY PRIZE MEDALS.

Awarded the only **Gold Medal** for Horticultural Buildings at the **International Horticultural Exhibition, London.**

W. RICHARDSON & CO.,
DARLINGTON.

CHAS. P. KINNELL & CO.

Largest and best Stock of HOT-WATER BOILERS, PIPES, VALVES, and HORTICULTURAL SUNDRIES in the United Kingdom. HEATING APPARATUS erected by specially-trained staff of skilled Engineers. Estimates free. New Illustrated CATALOGUE sent on receipt of post-card. Contractors to H.M. Government, &c., &c.

SOUTHWARK ST., LONDON, S.E.

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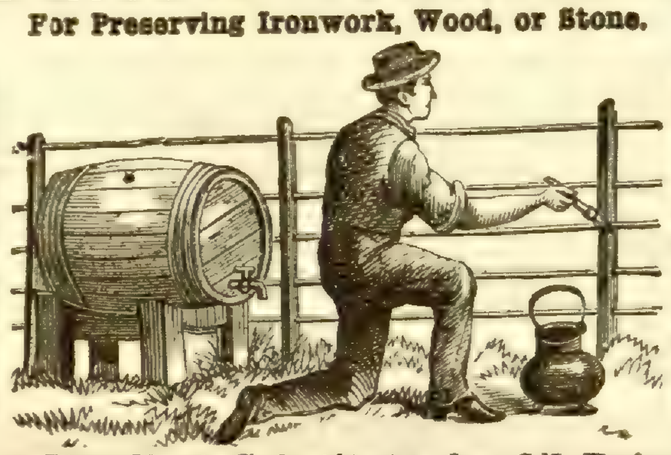
For Preserving Ironwork, Wood, or Stone.

REGISTERED TRADE MARK.



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An Excellent Substitute for Oil Paint, at one-third the cost.

This *unrivalled varnish* has for forty years given *unbounded satisfaction*, obtained *a large consumption*, and earned *a high reputation* throughout the kingdom. It requires no mixing, can be applied cold by any ordinary labourer, and *dries in ten minutes with a perfect gloss. Fences* periodically coated with it *are effectually preserved from deterioration for an indefinite period.*

Price, 1*s.* 6*d.* per gallon at the **manufactory**, or 1*s.* 8*d.* per gallon, carriage paid to any railway station, in casks of 36, 18, or 9 gallons.

Testimonial from CHAS. PATRICK, Esq., Cloughfold, Manchester (Numerous others):—"I have used your Black Varnish for upwards of twenty years, and find none to equal it in economy and quality."

CAUTION. EVERY CASK BEARS THE ABOVE *REGISTERED TRADE MARK.* Beware of Cheap Imitations.

HILL & SMITH

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Brierley Ironworks, Dudley;
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MADE UP TO ANY SIZE.

SHADING CANVAS and TICKING.
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GARDEN STICKS and LABELS.
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TANNED GARDEN NETTING.
TISSUE PAPER. COCOA-FIBRE REFUSE.
ORCHID and OTHER PEATS.
CATALOGUE on application.

JAMES T. ANDERSON,

135 & 137, COMMERCIAL ST., LONDON, E.

FLOWER POTS

and HORTICULTURAL POTTERY.

CONWAY G. WARNE (Ltd.),
ROYAL POTTERIES,
WESTON-SUPER-MARE.
THE LARGEST MANUFACTURERS OF GARDEN POTTERY IN THE WORLD.
MILLIONS IN STOCK. CONTRACTORS TO H.M. GOVERNMENT.
30 Gold and Silver Medals Awarded.
Price Lists free on Application.

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COCOA-NUT FIBRE REFUSE,

6*d.* per bushel; 100 for 30*s.*; truck, loose (about 2 tons), 50*s.* Bags, 4*d.* each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s.*; sacks, 4*d.* each.
BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
SPHAGNUM MOSS, 8*s.* 6*d.* per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—**H. G. SMYTH**, 21, Goldsmith Street, Drury Lane, W.C.

HEATING! HEATING!! HEATING!!!

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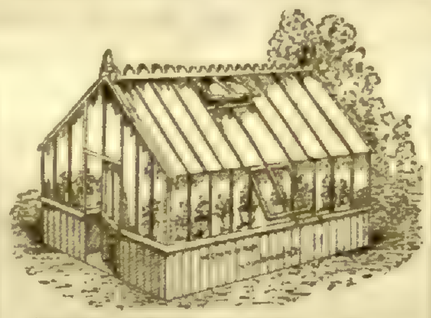

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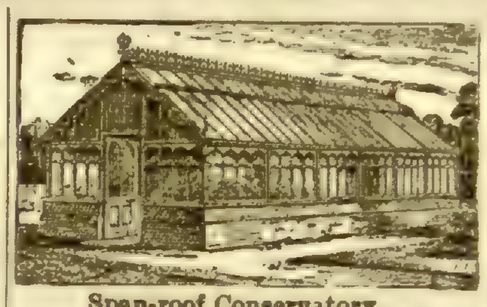

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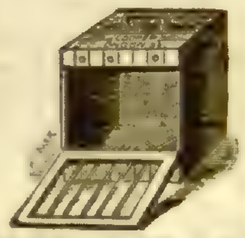

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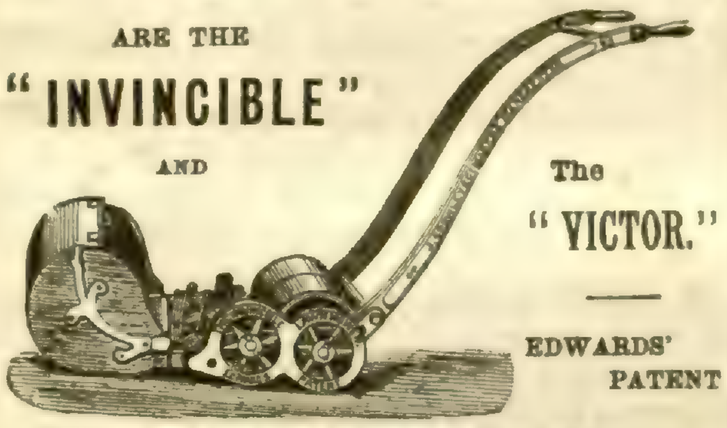

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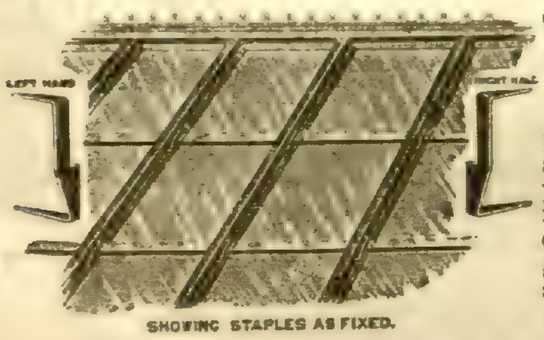

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THE

Gardeners' Chronicle.

SATURDAY, JUNE 22, 1895.

ROSE PROSPECTS.

ALTHOUGH we are now within measurable distance of the Rose exhibition-season, it is still difficult to say what its character is likely to be. Uncertainty still prevails, owing in a great measure to the extraordinary character of the year. The long protracted frost of whose effects I have already written, has been a disturbing element in all our calculations—as we have seen those effects were very varied in their character; all parts of the kingdom in some degree suffering, but some more severely than others. Standard Roses have been a complete failure almost everywhere; and never, perhaps, was the superiority of dwarf plants more seen than in this year. There was no chance, of course, of doing anything else but pruning very hard, but it was remarkable to find how strongly the Roses broke away from the base; this was seen especially in the case of Teas, which, though generally supposed to be more tender than H.P.'s, have, where they have survived the frost, shown great vigour. Not very long after the Roses started for growth came on that long period of drought which has, I fear, considerably injured our prospects; we have now been six weeks without any rain worth speaking of, and to plants already crippled by the hard winter, it has been a trying time. Coupled with drought, there has been a continued spell of east and north-easterly winds; with these we generally associate damaged foliage and bad, unshapely buds. But then we have had also some very hot days, the thermometer rising to 76°, and the atmosphere perfectly dry; this must lead to a rapid opening of the flower—but alternately with that comes a cold wave which checks their progress, while the nights are cold. Thus, on the night of the 12th there was frost in some parts of this parish (East Kent), blackening the Potatos, and making the young fronds of the Brake on the common look as if they had been burned—so that we cannot as yet say we are out of the wood.

There is one subject on which there is generally a great difference of testimony, viz., the presence of aphides, but in this year there is an almost unanimous opinion from all parts of the country that the foliage was rarely, if ever, so clean. I have had in my own garden but little maggot, while I do not think I have seen a single aphis as yet on my plants; yet there is plenty of fly on the Hops, which our growers generally attribute to easterly winds, but as yet our Roses are free. Single Roses have already begun to give us an indication of their quality; they have come out of the winter well, and it is not improbable, if cool weather prevail, that we may have a better display of them at our exhibitions than we have had as yet; for, generally speaking, in the southern parts of the kingdom we are mostly out of

flower at the date of our great metropolitan show. In the North they are later flowering, but generally speaking, when stands of garden Roses are set up at our southern shows single Roses are few in number. Lord Penzance's seedling Briars are beginning to flower, and there is no doubt, I think, that they will form a very attractive feature in our gardens of the future.

The earlier blooms of our exhibition Roses, both Teas and H.P.'s seem to me to be small, and in some cases malformed; but, I have never seen Teas and Noisettes on walls come better or in such profusion. I have plants of Madame Berard and Rêve d'Or on the east side of my house, and Longworth Rambler, Belle Lyonnaise, and Climbing Devoniensis on the south side, and they are filled from bottom to top with good well shaped blooms. On my garden wall I have Bouquet d'Or, Ma Capucine, and Comtesse de Nadaillac also full of blooms. These latter have been sorely crippled, and I feared were done for, but they have revived and promise to fill the space they before occupied; but, of course Teas on walls will be over before our exhibitions commence.

It is always a dangerous thing to prophesy until you are sure, but I am inclined to think that those who, like myself, look forward to an indifferent Rose season, will not be far wide of the mark. I shall be glad if it be otherwise, but at present my fears predominate over my hopes. *Wild Rose.*

NEW OR NOTEWORTHY PLANTS.

RHEUM MOORCROFTIANUM.*

THERE is a doubt as to the correct nomenclature of this plant. Royle mentions it without any adequate description, and Hooker speaks of it with reserve. The specimen exhibited under this name by Mr. G. F. Wilson at a recent meeting of the Royal Horticultural Society (May 14), was also hardly adequate to be decisive. Nevertheless, the oblique nearly glabrous leaf, as contrasted with the cordate coarsely setose leaf of R. spiciforme, induces us to consider Mr. Wilson's plant as rightly named. The plant is a native of Kamaon and Afghanistan, and is a decorative plant of a high order of merit. If it be really what it professes to be, it should be quite hardy, as it comes from an altitude of 12,000 feet. The pyramidal inflorescence is less than 2 feet in height, densely covered with greenish cream-coloured flowers, individually inconspicuous, but producing a fine effect in the mass. The upper portion of the spike is represented in our illustration (fig. 115, p. 765), reduced one-half, but a detached branch is shown on the right of the natural size. *M. T. M.*

BAMBOOS AND THE PAST WINTER.

THE interest which is taken in the cultivation of hardy Bamboos is of very recent date, and no winter of anything like the same severity as the past one has been experienced since the great majority of the species now grown were introduced to this country. It is scarcely probable that a spell of weather so injurious to these plants as that of last February will occur oftener than once in twenty years, and it will be of some value to put on record the manner each species has passed through the ordeal.

It has all along been recognized that the great defect of Bamboos as garden plants lies in their late recommencement of growth in the spring. In ordinary seasons this is not so noticeable, because the old foliage remains sufficiently green to prevent the plants becoming unsightly until replaced by the new, and this drawback is more than compensated for by their brightness and freshness during the autumn and early winter, when most other evergreens have become more or less dull and sombre in hue. On New Year's Day the Bamboo Garden at Kew looked practically in the same state as it had done in the previous August. It must be admitted that, were it the rule rather than the rare exception for Bamboos to be as badly affected as they have been this year, more than half of them would not be worth cultivation. I think, however, some consolation is to be derived from the fact that such things as our native Gorse, the common Ling and other Heaths, have suffered more permanent injury than two-thirds of the Bamboos have done. Of the three dozen or so kinds which I described in the *Gardeners' Chronicle* a little more than a year ago, not one has been killed outright. About half-a-dozen have scarcely been affected at all; perhaps twice as many more have suffered only a very temporary check. Of the remainder, some have been killed to the ground, whilst the others have had the old stems so severely injured that it is unlikely those particular stems will ever regain their former luxuriant leafage, although new leaves are pushing; most of them, however, are sending up strong new growths from the base, and with all except one or two the visible effects of the frost will have disappeared in a few months.

In the following notes I have run through the species and varieties in the order of their comparative hardiness, mentioning those first that have come through the fight with least damage.

Arundinaria nitida, Mitford (A. khasiana, Hort.).—In the *Gardeners' Chronicle* for March 10, 1894, I mentioned this Bamboo under the name of A. khasiana. It has since been proved to be quite a different plant, and instead of coming from the Khasia Hills it is a native of China. It appears to have first been introduced to Europe four or five years ago through the Botanic Garden at St. Petersburg. Mr. W. B. Hemsley has found it also among the unnamed Chinese specimens of Dr. Henry in the Kew Herbarium. Mr. Freeman-Mitford has given it the name written above, under which name no doubt a description will shortly be published. It has not suffered in the slightest degree from the past winter, and its foliage is now as fresh and abundant as it was last autumn. The purple stems are now 8 feet high, and although the species is not likely to become so tall or stout in stem as many of the Japanese species, it is, I think, the most beautiful, as it is the hardiest, of all the Bamboos hitherto introduced.

Phyllostachys Henonis, P. nigra var. Boryana, and P. nigra var. punctata have not been damaged further than the browning of a few leaves, which might occur in any winter.

Bambusa pygmæa.—This, the smallest of hardy Bamboos, was slightly touched, but is now as perfectly green as ever.

Arundinaria Veitchii and Bambusa palmata.—The former of these invariably turns brown at the margins of the leaves in autumn, and its appearance is no worse than usual this spring. Both it and B. palmata are growing with great freedom.

Phyllostachys viridi-glaucescens and P. nigra.—These two species lost nearly all their old leaves, but are now rapidly becoming furnished again, almost every twig on the old stems breaking freely into leaf.

Arundinaria japonica (the old Bambusa Metake), whilst suffering no permanent damage, has, in exposed situations had most of its foliage killed. The old stems are growing again, but the appearance of the plants is made worse by the persistence of the brown, dead leaves.

Phyllostachys violascens has been rather more damaged than its ally, P. viridi-glaucescens.

Arundinaria Fortunei, and its white and yellow variegated forms, A. macrosperma, Bambusa Laydekeri, B. tessellata, B. pumila, B. chrysantha, and Phyllostachys Kumasasa, are all rapidly regaining their normal appearance.

Bambusa disticha is the name given by Mr. Mitford to the dwarf Bamboo previously known in gardens and nurseries as B. nana. It may be grouped with the preceding lot.

Arundinaria racemosa is an Indian species new to cultivation, and introduced to Kew last year. It is a native of the Himalayas, where it grows up to altitudes of 12 000 feet. Our plants are only a few inches high, but have not been injured by the frosts, although only protected by a few Spruce branches. They are a further confirmation of Mr. Mitford's theory that no species will prove hardy unless it has netted (tessellated) veins in the leaf. This particular example is interesting, as it is (now that the plant hitherto known as khasiana has proved to be Chinese) the only Indian species grown outside that is not killed to the ground in winter.

Phyllostachys aurea and P. mitis have had some of the old stems killed outright, and some of the remainder are only breaking feebly; the young culms pushing from the base are, however, as strong as ever.

P. Quilioi is, if anything, worse than the two preceding species.

Arundinaria Simoni and its var. albo-striata are at present the worst-looking of all the Bamboos. A good many of the stems are destroyed, and the remainder sorely injured. It is, even after ordinary seasons, a late starter, and this will make it amongst the last to get back its old appearance (see fig. 35, p. 301, March 10, 1894).

Bambusa heterocycla.—None of the plants of this curious Bamboo have been in cultivation long enough to have formed new stems, and the old ones have suffered severely. I am almost certain, however, if once fairly established and furnished with stems other than those "made in Japan," it will prove to be quite hardy.

Phyllostachys sulphurea and Bambusa Castillonis, both species with yellow stems, have had nearly all the old growths killed, but are pushing up new ones from the base. The same may be said of Arundinaria Hindsii and its variety graminea, also A. marmorea, a small dark-stemmed species imported as Kan-chiku, and recently named and described by Mr. Mitford in the *Garden*.

Thamnocalamus Falconeri and Arundinaria falcata are almost invariably killed to the ground each winter, and cannot be fairly termed hardy. The former is later in starting this season, but otherwise is not affected. A. falcata is almost killed, but except in collections it is not needed.

The injury done to the different species and varieties has, no doubt, varied considerably in different localities. I noticed in Sir Edmund Loder's garden at Leonardslee a few weeks ago that the Bamboos there had not suffered so much as at Kew. So far as proportionate hardiness is concerned, however, the sequence given above will probably be not far wrong. *W. J. Bean, Kew.*

NOTES FROM BURFORD LODGE.

LOTUS PELIORHYNCUS.—This, the pigeon's-beak Lotus, is an object of much interest just now in one of the plant-houses at Burford Lodge, the residence of Sir Trevor Lawrence, Bt. It is growing in pots which are suspended from the roof of the house, and the long shoots hang down on either side, and are seen covered to a considerable extent towards their extremities with bright reddish-scarlet corollas an inch or so in length with a narrow standard, sharply recurved like a hood. It is certainly a very handsome greenhouse shrub when grown in this way as a hanging plant.

INCARVILLEA DELAVAYI.

This plant, which is now represented by several individuals in bloom at Burford Lodge, Dorking, will prove very useful for greenhouse culture, but should it prove to be as Mr. W. Bain thinks it will, quite hardy, and grow and flower in the open border, it must become very popular. Mr. Bain states that it lived unharmed through the winter in a cold frame, which appears to be a sufficient test of its hardihood. The flowers resemble those of a Bignonia, and they are of a charming rose colour.

* *Rheum Moorcroftianum*, Royle, Ill., 315 (absque descriptione).—"Leaves all radical, thickly coriaceous, orbicular, glabrous, or stellately puberulous beneath; racemes pubescent, fruit ovoid, wings narrow. *Wall. Cat.*, 1727, in part." J. D. Hook., *Flora of British India*, v. (1890) 56; Kamaon, alt. 13,000 feet.

It is a deciduous plant, and comes true from seed, Mr. Bain's plants being obtained in this way. It is an introduction from China, and came, I think, through Mr. William Thompson of Ipswich, who has offered seeds of it for two or three years past. It was shown at the Temple Exhibition, but having been placed among the collection of Orchids, it failed probably to find that recognition it would otherwise have obtained could it have been more prominently displayed. Mr. Bain has grown and flowered it with considerable success.

Blandfordias.

Some very fine specimens of B. aurea and B. nobilis are now to be seen at Burford Lodge; so fine indeed are they, that one can well imagine they are unrivalled for size and floriferousness. There is a specimen of B. aurea growing in a large pot, which has thrown up a very large number of flower-stems, and bearing blossoms of good size and colour. These specimens are grown mainly in peat; they have been undisturbed for a few years, and are treated to plenty of soot placed upon the surface, and watered in. Mr. Bain does many things well at Burford Lodge, and the Blandfordias especially well, for they are triumphs of cultural skill. *R. D.*

FRUIT CULTIVATION IN NORTH WALES.

Mr. A. O. Walker takes a deep interest in fruit cultivation. He has read a paper before the Chester Paxton Society, and generally he is accepted as an authority on the subject. On Saturday, May 18, I had the pleasure of a chat with him at his delightful residence at Nant-y-Glyn, Colwyn Bay, and I doubt not your readers will be interested to learn his views. By the way, Nant-y-Glyn is situate within a short distance of the town, but the seclusion of the mansion and grounds is almost complete. The grounds have been laid out with great taste. The gardens are on a sharp slope facing south-east, and are largely devoted to the cultivation of Apples, Pears, and other fruits. The place is so steep that heavy rain has little chance to soak in. To meet this difficulty, part of the garden has been terraced, an operation which seems to have settled the difficulty. Having shown me through the gardens, Mr. Walker was good enough to state his views on fruit-growing on the north coast of Wales. The conversation proceeded somewhat as follows:—

Do you regard the climate of North Wales suitable for fruit growing?—No, not North Wales generally. What I have to say will apply to the land within a mile or two of the sea, and particularly to the north coast. I mean the coast to the north of the Carnarvonshire mountains, say from Point of Ayr to Holyhead. The climate is very different to that on the other side of the mountains. The soil is warm. The climate is almost too equable. The winters are not so cold, and the summers are not so hot as they are in the best fruit growing countries.

At the same time, judging by what I see here, there are methods of mitigating the disadvantages of the climate?—The grower's chief aim should be to give the fruit trees as much sun as possible. Apples and Pears should be grown in horizontal cordons, or on espaliers, as much as possible. By this means every shoot gets thoroughly exposed to the sun, and the growth is more easily kept in check.

If you terraced a slope, could not the walls be utilised instead of espaliers?—Yes, if you built a mortar wall; but that would be very expensive. The more economical plan would be to build a loose stone wall and erect a galvanised wire espalier. These can be erected very cheaply. [Mr. Walker subsequently showed me several lengths of espaliers of a simple but effective pattern, which cost about 10*s.* per 100 yards.]

Are you troubled with insects?—Not very much. This year, the Gooseberry sawfly grub has made its appearance. Generally speaking, however, I cannot name a single insect that does serious damage to farm or garden crop on this coast.

You have, I gather, tried a great many different kinds of Apples?—In answer to this question, Mr. Walker conducted me to his apple storehouse at the top of one of his gardens. The room was fitted with tiers of racks methodically divided into compartments; on a desk by the window were the records of the various trees. To these records Mr. Walker carefully referred before replying. I have tried forty-eight varieties in all. If I were planting again, he continued, I should only use the following:—Lord Suffield, for an early kitchen apple; Yorkshire Greening, Wareham Russet, Alfriston, Stirling Castle, Lane's Prince Albert, Mère de Ménage, Cellini, Sturmer Pippin, Ribstone Pippin, and Dutch Mignonne.

As to Pears, no doubt your experience has led you to select the varieties best suited for the coast?—I have tried a good many varieties of them also; and I place great reliance on Beurré d'Amanlis, Beurré Hardy, Beurré Superfin, Doyenné du Comice, Glou Morceau (the best late Pear), and Louise Bonne de Jersey. I have not mentioned Williams' Bon Chrétien. It has not a fine flavour [?], is not juicy [?], and does not keep a week.

How do Pears and Apples compare generally?—Pears are much more difficult to grow. The want of heat in summer often prevents due ripening.

Your Peaches seem to do very well.—Yes; we have a good crop, but the quality is not equal to the south country fruit. Only the early sorts should be grown. The late sorts are no use whatever. [An Alexander Peach-tree growing on a sunny gable wall seemed to promise well this year. A Fig tree a little lower down was not so satisfactory.]

What is your experience with regard to Strawberries and Raspberries?—They do well.

Would they pay from a commercial point of view—That is a question of labour. If they were grown by a labourer on an allotment, picked by his children without cost, and sent to a convenient market, they might pay.

What varieties of Strawberries would you be inclined to recommend?—Laxton's Scarlet Queen is unequalled for flavour and heavy bearing; Noble is a good market fruit, but is not to be mentioned in the same week as Scarlet Queen for flavour.

Gooseberries do well, of course?—Yes, and there is always a good market for the young fruit.

What would you say as to the commercial aspect of fruit-growing?—Well, candidly, I do not believe in fruit-growing for profit as an independent industry. But if a man have a market garden, and a shop in a town within a short distance, it would probably pay him well to grow fruit if he understand the business. He can fill in his time in the orchard when the garden does not require much attention.

Why do you stipulate that the market gardener should have his own shop?—Because it is essential to his success that he should be able to do without the middleman.

Then as to land tenure?—Fruit trees are many years before they become profitable, and a man would be a fool to plant another man's lands without a long lease.

Then the conversation drifted to Potatos. I found Mr. Walker did not think it was practicable for the coast people to compete with Madeira and the Channel Islands in catering for the great inland markets, but he was convinced that Welsh farmers might do much more than they have done. Two crops might easily be got from the ground. A sunny bank, cultivated at an expense of £1 per acre, might, if within a mile of the coast, produce a splendid crop of new Potatos by June 20. The ground should then be cleared at once, and sown with Turnips.

That would mean sending the crop away to a distant market and involve heavy carriage?—Yes; but unless that was done, you could not get the Turnips sown in time.

What if the grower sold locally, say at his own shop?—In that case a second crop of Mustard or Vetches might follow.

What do you say as to the pecuniary results?—Much depends on the season. Last year when a spring frost destroyed the early Potato crop in Cheshire, Welsh growers might have made a lot of money. We had no such frost on the coast.

A brief tour through the grounds brought my visit to a close. Even the severities of last winter had left the shrubs and trees comparatively unscathed. Twenty-five years ago he planted saplings of Californian Cypress (Cupressus macrocarpa) and Californian Pine (Pinus insignis). Both sorts have done well. They grow as big as Larch; and Mr. Walker regards them as peculiarly adapted to the coast. *A Correspondent in "Chester Chronicle," May 24, 1895.*

Orchid Notes and Gleanings.

COCHLIODA NOËZLIANA AURANTIACA.

A noteworthy departure in colour from the usual form of the pretty light vermilion Cochlioda Noëzliana has flowered in the gardens of His Majesty the King of the Belgians at Laeken, and was exhibited by Mr. Knight, His Majesty's gardener, at the meeting of l'Orchidéenne of Brussels on June 9, the inflorescence being afterwards forwarded to us by Messrs. Linden. The spike bore fifteen flowers, in colour of a rich orange, which in the case of the sepals and petals was tinged with scarlet, and the column tipped with pale rose. The more striking differences from the type consisted in the prominent lip being wholly orange, and the other parts of the flower showing the same tint distinctly beneath the darker surface colour. Cochlioda Noëzliana is always beautiful, and this pretty variation from the usual form is a charming novelty.

Odontoglossum coronarium.

This handsome species has the reputation of being difficult to grow and flower, and it was therefore a pleasant surprise to receive a noble flower-spike with some twenty fine chestnut-red and yellow flowers upon it. The sender informs us moreover that the plants had "flowered with him several times during the past ten years." The sender of the flowers is Mr. H. Bailey, gr. at The Briars, Reigate, who is entitled to much credit for blooming this beautiful but difficult species. A cool house, a medium amount of shade, and a very liberal supply of rain-water at the roots form the chief points of good culture. *J. O'B.*

FROGMORE.

Gloxinias.—At the last meeting of the Floral Committee of the Royal Horticultural Society some very showy named Gloxinias of excellent quality came before that body, and there was a proper degree of hesitation in granting awards of merit, on the ground that strains of seeds produce such fine varieties, that naming is now superfluous. As a matter of course, any seedling variety showing anything approaching to a novel and fine type would be duly recognised, and there can be no harm in making an award to strains, though almost every strain in cultivation in the present day would merit an award.

The need of caution in the matter of making awards to named varieties is well shown by an inspection of the fine collection Mr. O. Thomas has in bloom. There would be no difficulty in picking out two dozen plants worthy of awards, judging by the standard of merit of the named varieties which recently came before the Floral Committee. Among them is a magnificent pure white self, which appears to be a counterpart of the fine white Messrs. Sutton & Sons are in the habit of exhibiting in such splendid character: large, stout, pure and waxy in its superb substance. Another white flower has a small spot of delicate pinkish-rose arranged in a circle round the throat; and then of flowers—violet, mauve, purple, rose, crimson, &c., or some mixture of all, having well-defined Picotee edges of white, there is an abundance. The size and solidity of the flowers are especially noticeable; they are borne on admirably grown plants. They are one of the floral features at Frogmore at the present moment; and they will, no doubt, remain in bloom for at least

two months to come. It must be admitted that as such splendid varieties can be raised from seed, the day for naming any, unless something of very special significance is produced, has passed away.

ROSES.

Mr. Thomas has recently made a long, broad border, and planted it with some of the best hybrid perpetuals and Teas. Each line of plants from the front to the back consists of from nine to twelve plants of one variety; these plants are now blooming freely and finely—so freely, indeed, that Mr. Thomas remarked he could cut—and does cut—bushels of flowers. The plants are mulched with farmyard manure, and the soil is kept in a moist state. The growth of the plants under this kind of treatment is admirable. On a slight elevation on one side of the bed is a long line of the common China Rose, in glorious bloom; indeed, all kinds of Roses appear to do well in the heavy soil of these gardens. Turner's Crimson Rambler growing freely and blooms abundantly here, as do likewise the Polyantha Roses in beds and borders. On the right hand of the broad gravel walk leading from the entrance to the gardens and Mr. Thomas's residence, he has placed over some circular beds iron frames, 6 feet or so in height, in the form of tents, and Roses are being trained over them; which when they have covered the framework will have the appearance of a line of floral mounds. Against the wall of the garden-offices Roses have been planted, and among them a number of what he received under the name of the Crimson Malmaison, a vigorous variety, with large full carmine-coloured flowers; and strikingly like to, if not identical with H.P. Edouard Morren. As a garden Rose it is excellent, whether new or old; or an old friend under a new name. *R. D.*

COLONIAL NOTES.

RICHARDIA PENTLANDI IN ITS NATIVE HABITAT.

As I have recently introduced this variety into England, it may be of interest to those who possess any of these plants to know a little about the manner in which they grow in the wild state. This variety is not to be found growing like the old R. æthiopica in large clumps in low-lying swampy land, but occurs only in rocky mountainous districts as isolated specimens, and always close to large boulders. The tubers are always from 9 to 18 inches (more often the latter) deep in the soil, and wherever it is possible for it to do so, they get underneath the boulders. The soil is mostly a good loam, with a surfacing of leaf-mould and rotten wood. The only place in which I have found them is what is known as the Low or Fever Country, with a very hot and rainy summer, and a very mild, dry winter. This tuber, like the Caladium, loses all its fibrous roots annually. *Chas. Ayres, Nurseryman, Cape Town.*

JAMAICA.

We have received the *Bulletin of the Botanical Department, Jamaica*, edited by Mr. William Fawcett (published Kingston, Jamaica, Government Printing Office, 79, Duke Street). The issue for April, 1895, contains the Report of the Director for the year which ended March 31, 1894, and comprises the Reports of the Superintendents of the various Botanic Gardens in the Island, notes on the uses of botanic gardens in introducing plants to suit various localities in the experimental cultivation of plants, the preparation of products for market, scientific study, distribution of plants and seeds, and dissemination of information by correspondence, printed matter and by practical training, also information on the conditions necessary for successful working, &c.

TRINIDAD.

The Bulletin of Miscellaneous Information, Royal Botanic Gardens, Trinidad, April, 1895, contains various short papers on such subjects as Piper ovatum, Simaba Cedron, Spathelia simplex, Sabal mauritiiformis, Oreodoxa regia, a sunshine recorder, the botany of a tree, Aristolochia gigas, flowering of the Bamboo, Roses, Yams, Attalea Cohune, Kola, and Eucalyptus. The value of Eucalyptus plantations as a defence against malaria is vigorously questioned. The *Annual Report for* 1894 of the Royal Botanic Gardens, Trinidad, by J. H. Hart, F.L.S., Superintendent, includes a record of much work done and is an evidence of the increasing importance and value of the various departments of the gardens. A meteorological report is included, also notes on the more important plants under cultivation. As regards the Brazil nut, Bertholetia excelsa, the writer says, that "Our trees have given an excellent crop during the past year, and we have been able to supply many of the neighbouring islands with plants and trees. The shells [capsules?] are especially sought for as *souvenirs* by visitors. The 'nuts' are for the greater part used for raising seedling plants. They are larger in size than and fully equal in flavour to the Brazilian product, as generally seen on the markets." Altogether the report is a highly satisfactory one.

OUR POULTRY.

BY HARRISON WEIR.

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(Continued from p. 625.)

HAVING shown that the old Kent, Sussex, and Surrey five-toed, white-legged, Barn-door fowls were of many colours, and that the variety called the Dorking was a white fowl, and all of these were reputed as among the best table poultry in the world, one is led to ask, "What has become of all these rose or single-combed breeds that used to adorn our southern homesteads arrayed in all their varied tinted feathering?" Why simply this: When the poultry shows began, there were classes for coloured Dorkings, but as some of the judges preferred grey to bays or brown, speckles or spangles, these colours, not winning, soon ceased to be shown, and thus became gradually "stamped out." Even at the present time, though the prizes are not unfrequently offered for *coloured* Dorkings, they are put aside, and *grey* preferred as being the right colour, when often these very colours and size are the result of crosses with Bramahs, and the partridge-coloured Cochin, especially so in former days, hence come the sooty legs and feet, and the red deaf-ear; when, as now, these are again crossed with the so-called Indian game, the muddle is worse to contend with, and the mischief done cannot be eradicated.

It has been contended that crossing with the two first breeds gave greater size. But this is not so in reality, for those of the old breeds have been known to weigh as much as those of to-day, and this with smaller bones, and less offal, though generally, the old breeds did not exceed 10 lb. for the cocks, and 8 lb. for the hens. Yet this was considered to be full large enough for a really good fowl, and rightly so, without becoming coarse like most of the large-boned, loose-feathered fowls now bred for "the table."

Again, a table-fowl may be far too large, even though of fair quality, the wing, for instance, is said to be the epicure's choice. Now fancy anyone having this portion given him, weighing about three quarters of a pound; what an awkward position to be placed in, when possibly the small sized delicate-fleshed wing of an old English game fowl was expected. No, the large-boned, coarse-fleshed poultry of to-day are a decided mistake, and the sooner we revert to the old breeds—the plump full-breasted, square made, short thighed old English five and four-toed white-legged one—the better it will be, for then we can not only contend against foreign imports, but possibly, may also find other markets than our own for our superior "goods" in this respect.

What is wanted is that all the pure white-legged five-toed fowls should be placed on an equal footing regardless of colour, and quality, that size should not be the first consideration; then there might be classes for large sized four-toed white-legged varieties, and for smaller such as the old English game.

It has often been stated that the old English five-toed fowl did not breed true, but it did when true bred itself, for there is no point more persistent than the fifth toe. It will appear again and again where the breed has been crossed out some generations with Cochins, Polish, Hamburghs, and others, and thus it is that it has been maintained so long, and thus it is that fowls with little of the old English form and blood in them have won or been kept as pure, simply *because they had the fifth toe.* There is no doubt, however, but that the old five-toed breeds were crossed with the old English white-legged game fowl, and thus it was that a sturdy race of medium-sized, four-toed, fine quality fowls, hardy in the extreme, sprang into existence, and was maintained in all its usefulness and beauty until the coming of the Cochin-China. When the rage for the "coarse and big" set in, quality was forgotten amid the craving for size, bone, and useless—or worse than useless—offal. What is to be recommended is the breeding of fowls for the table of the stamp of the true old southern sorts: square, broad, full-breasted, white-legged, tight-made, and fairly close-feathered bodies, with white meat and white fat. If 10 lb. is the maximum, it is well; let them be any colour that suits the fancy of the owner, but let them be of the highest quality for the table. If four toes of the same kind are wanted, these can be got as good by crossing with the pure white-legged old English game, and fine they are in all points, fatting evenly and well, with small bones, and but little offal, and though somewhat small, delicate, epicurean eating. Then there is the old Game, pure and simple, unsurpassed and unsurpassable; thus it stands, the old (so-called) coloured and other Dorking (five toes), the cross breed with the old English Game, and the true old Derby red white-legged English game.

Now another craze has sprung up, that of crossing the Dorking with the Indian game (a cross-bred fowl), and this instead of the English game, but it is to be avoided. True it is that it produces a long breast, but it does not fatten on the breast, nor is it so round, broad, and full, nor does it carry more flesh than the Dorking without a cross, or English Game cross, the cross of centuries; and, again, the egg production is much less, and the tendency to sit much greater. It is a mistake that is doing great harm, and, it is to be hoped, will soon be rectified, and the pure breeds resorted to as perfect for "the table."

(To be continued.)

THE BULB GARDEN.

WHITE MARTAGONS.

IT is not long since I wrote to complain that White Martagons failed in my garden, as often as introduced into it from Ireland. They did well for two or three years, and then dwindled past recovery. This year, however, they seem to have taken a new lease of life, and clumps which have been *in situ* for nearly ten years are again as fine as ever. Whether the cause is the long rest of last winter, or the unusual wetness of last summer, I cannot say. It is difficult to assign causes for the behaviour of Lilies, which cannot be made to thrive by following any regular method or theory. Some of them, as L. colchicum and Martagon dalmaticum, often seem to spring up suddenly in flowering condition in any corner or border of the garden, as if they had grown from seed to flowering-size without ever appearing above ground. Others, as L. Hansoni and L. canadense, after disappearing entirely for a year or two, reappear and pay off their arrears by cumulative flowerings, whilst others, as L. candidum and L. chalcedonicum, are discontented with all my efforts to please them. But if I imitate as closely as possible all the conditions which seem to ensure success in other gardens, the result is as likely as not to be disappointing. Lilies are most capricious in their likes and dislikes, which can be reduced to no rule.

"——quæ res
Nec modum habet neque consilium ratione modoque
Tractari non vult——."

—C. Wolley Dod, Edge Hall, Malpas.

Fig. 115.—Rheum moorcroftianum. (see p. 762.)

A, Inflorescence, half-size, including leaves; B, Top of spike, real size; C, Section through spike, real size, to show hollow stem and groups of flowers; D, Side and top of flower, × 4.

CLIVEDEN.

The month of May was approaching its end when we found ourself plodding along four and more miles of dusty highway in the direction of Cliveden and Dropmore. The change from the floriferousness of Azalea and Rhododendron-adorned Dropmore and its Conifers, to the cool umbrageous greenery of the former, was extremely grateful on this occasion. The estate, not an extensive one, although rich in beautiful views over the surrounding country, and including the Castle at Windsor, has some pleasing features within its boundaries. A new proprietor to an estate nearly always means some "improvements," and at Cliveden there are several which have been carried out, and others are contemplated. Some of these are called for by the different use the place is being put to, compared with what it was in former years. Then it served as an occasional place of resort for the Duke of Sutherland's family, and was, in fact, a dower-house; now it is more continuously occupied. This, of course, involves increased means of supply in the matters of vegetables, indoor and outdoor fruits, and pot plants.

The new kitchen garden near the mansion of less than 2 acres (we did not see the much larger one across the Thames) will doubtless grow as good vegetables and fruit as that which Mr. Ellam, the late gardener, made some years ago, and which Mr. Wadds, the present head gardener, has dismantled. It is nicely walled-in, the walls being constructed in an excellent manner with the best of red bricks. It is all very new looking, and, as yet, incomplete; but will doubtless form a useful addition to the resources of the place. We should like it better without the row of iron spikes on the top of the wall that seems to transport one to a garden in a London suburb. Another "improvement" is the electric light, for which we noticed a shed to hold an enormous steam boiler, and the necessary machinery is being constructed at a point in a dell not far distant from the mansion. How bizarre this all seems to us in this quiet retreat! We think any means of lighting preferable about such grounds as these, as this glaring search-light.

Several new structures have been put up within a quarter of an hour's walk of the principal entrance to the place, notably, a roofed-in tennis court and a laundry. These new buildings have been built in the Gothic style and partly of wood, with quoins, &c., of white stone, and harmonise admirably with their woodland surroundings, at the same time that they impart a habitable appearance to an otherwise lonely bit of road.

In the famous spring garden we saw little change; the same large masses of sky-blue Forget-me-not, of pink Silene and Saponaria, and of Viola in blue and purple were remarked. Dutch bulbs are as largely used as ever, perhaps more so, but these were out of bloom. In the raised borders and clumps immediately beneath the terrace, the gardener had planted a quantity of charming varieties of Viola, Wallflower, Daisy, Myosotis, and other things. From these stocks of Viola plants he is hoping to get enough to fill some of the large beds in the spring garden. Industrious propagation by offsets and cuttings will do much before October goes out, and we trust that he may be able to realise his hopes.

We remarked Viola Waverley Blue, of two shades of colour, and V. Souvenir, which is a lilacy-blue; these look well when planted together. V. Golden Prince is an excellent yellow, being pure in colour; as is V. White Swan in the same way, i.e., without radial lines of another colour, as is common with many self-coloured Violas. This fault is slightly noticeable in V. The Dove, but which, in spite of the defect, is a good bedding variety. This blemish in selfs detracts from the effect made by a mass, the want of pureness being the more visible in proportion to the size of the mass. V. Archie Grant, a dark purple flower, is good for summer-flowering, and Cliveden purple still remains without an equal of its colour. Harbinger and Canary Bird are varieties of Wallflower that have much to recommend them.

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Two large beds forming a part of the spring garden had been planted in the autumn with a variety of Thermopsis; but last winter's severe frosts had been too much for them, and every plant was killed.

In the glass-houses much still requires to be done to make them equal to modern requirements—new borders, new Vines and stone-fruit trees, repairs and improvements of various kinds; and Mr. Astor's gardener will have his hands full for a year or two longer. The fault of situation can never be got over, and as the glass-houses are crowded together, with but little air space between them, it is very difficult to afford sufficient ventilation to the fruit-houses; and, as one of the consequences, the soil of which the fruit-borders consist is apt to spoil from their being but little exposed to the sun.

We could not but notice the admirable good keeping of the whole of the gardens and grounds, and this, too, notwithstanding the many calls on the gardener's time and resources incident upon the new work of various kinds that has been undertaken since the estate passed into the hands of the present owner.

FORESTRY.

HOW TIMBERS ARE TESTED IN AMERICA.

THE following particulars regarding the exhaustive tests to which the various native timbers are subjected by the Forestry Department of the United States show that the staff of that Department is not idle, however great the apathy of the general public on forestry matters may be.

It appears from the preliminary report entitled *Timber Physics*, published in 1892, that the investigations are divided into seven different branches of research, as follows:—

1. Xylotomy, or Structure of Woods: (exterior forms of trees, macroscopic and microscopic examination of woods, researches in the field of timber growth with respect to the anatomical and physiological conditions, abnormal formations, &c.).

2. Physical Properties: (colour, grain, texture, specific weight, shrinkage and expansion).

3. Chemical Properties: (qualitative and quantitative analyses, quantities of carbo-hydrates, resin, extractive substances, and Ash constituents, applicability to the preparation of alcohol, vinegar, vanilla, &c., antiseptic substances which increase their durability).

4. Mechanical Properties: (investigation of the different kinds of solidity or hardness).

5. Technical Properties: (applicability for practical purposes).

6. Faults or Defects and Diseases, which occur in living trees or felled timber.

7. Discussion of the comparative condition of different properties.

The mechanical or technical tests are carried out at St. Louis, and the physical properties are investigated at Ann Arbor by different experts. The specimen blocks are collected by an experienced person from characteristic groups and situations within the range of growth or zone of the respective species. On every selected spot five mature trees are felled, which illustrate the average growth of the species, other stems being also cut when possible to confirm this point. The selected stems are cut into lengths of 10 to 16 feet, from the lower ends of which test sections are cut. These are at once weighed, wrapped in oiled paper, and forwarded for further examination in the laboratories.

The second part of the report was published in 1893, and deals exclusively with the long leaf Pine (P. palustris)* of which the following is a summary of the conclusions arrived at:—

1. The different kinds of solidity, or strength, increase with the decrease of water in the wood, the only exception being the cohesive strength.

2. The variations in the strength of the wood go, in general, hand in hand with the variations of its specific weight.

3. The heaviest wood occurs in the lowest sections, and generally about one-third of the radius distant from the pith; in the upper sections the innermost layers appear to be the hardest (corresponding with the observations with regard to P. sylvestris, in which the hardest wood is found to be formed about the sixtieth year).

4. In general, the strength of the wood of the lower stem portions (20 to 30 feet) is usually constant, and decreases from that height more or less regularly, until at 60 feet it shows only 20 to 40 per cent. of that of the lower portions.

5. The different kinds of strength (hardness, bending, and pressure-resisting strength) show no important deviations in their correlative proportions.

6. Strong stems appear to possess about 10 to 20 per cent. less strength than weak ones.

7. The pressure-resisting strength proves to be the best standard for judging the quality of the wood, as Bauschinger has already demonstrated. When only one quality is investigated, the one named is the most suitable. Special importance was attached in these experiments to the determination of the influence exercised by the resin upon the quality of the wood. Of the stems examined, sixteen were resinous, and ten non-resinous, or had been tapped artificially. The unanimous conclusions arrived at were, that resin extraction does not unfavourably affect the quality of the wood. This harmonises with the discoveries of Roth, which have disclosed the fact that the wood-merchant and engineer are not usually in the position to distinguish between tapped and untapped trees, nor can they judge by superficial examination of its strength and durability.

It appears from the *Zeitschrift für Forst und Jagdwesen*, from which the above extracts were obtained, that these elaborate investigations have been checked by lack of funds. It is, however, to be hoped that they may be resumed ere long, for their contributions to our knowledge of tree physiology are invaluable. Undertaken, as they are, for the express purpose of determining the technical properties of the timber of certain species, they open up fields of research which can occupy the attention of both the practical man and the man of science. But beyond fixing the relative values of different timbers, it is doubtful whether sufficiently definite conclusions will ever be arrived at which will enable the carpenter or builder, by means of simple and easily applied tests, to draw any trustworthy inference as to the durability of a particular piece of timber under given conditions. The conditions of growth are so varied and so liable to fluctuations, that investigations carried out with one or a dozen samples do not warrant one in coming to any conclusion upon which to generalise. Every fresh discovery in the field of cause and effect will, however, render our chances of arriving at definite and practically reliable conclusions greater, and it may yet be possible to judge timber on its real instead of on its apparent merits and properties. *A. C. Forbes.*

* Pitch Pine of commerce (P. australis, Michaux).

BELGIUM.

HORTICULTURAL MEETING AT GHENT.

CERTIFICATES of Merit were awarded, on June 9, to M. Em. Lossy, for his group of Pelargoniums, among which should be mentioned M. Harrisson, Bush Hill Beauty, Duke of Fife, Captain Raikes, and a variety Purple Emperor, of a splendid purple-violet colour, quite different from the other tints in the group; to M. L. De Smet-Duvivier, for Anthurium Scherzerianum pomponatum rubrum, with a spadix bearing very many small red spathes of varying sizes and shape, forming in their entirety a kind of crest or even tuft; to the same exhibitor, for A. Scherzerianum pomponatum album, similar to the former variety, but white; to the Ghent Société Horticole for A. Scherzerianum Madame Edgar Wartel: the spathe about 8 inches long, and nearly 4 inches wide, habit very fine, colour very delicate pale rose; Odontoglossum crispum var. Janssens and Vincent, of good habit, specially remarkable for the petals and sepals, which are sprinkled with little rosy-violet specks; O. Pescatorei Janssens and Vincent, flowers of good form, each evenly marked with from twelve to fifteen dark violet spots. These two Odontoglossums were from MM. Janssens and Vincent. M. Jules Hye obtained an award for Lælia grandis tenebrosa; the lip as bright in colouring as that of L. purpurata, petals and sepals broad, clear brown, contrasting curiously with the clear colour of the lip.

Certificates of Merit were allotted as follows:—To M. Petrick, for Philica elegantissima, leaves bordered with pale yellow—a fine well-known plant; to M. A. De Smet, for Anthurium Madame Wallem: on the same plant, when the flowering is prolonged, are pale rose flowers and others dark rose in colour to M. Ed. Pynaert van Geert, for Amaryllis (Hippeastrum) splendens, introduced from Brazil, with flowers of medium size, pale red, centre vivid white—it should be of value for hybridising purposes; to M. Desbois, for Impatiens Sultani var. salmonea grandiflora, flowers salmon-red, quite different from the type, but showing the same floriferous character; to the same exhibitor, for Hypericum Moserianum tricolor, the leaves edged with red and yellow—a capital out-of-door plant; to MM. Edm. Vervaet et Cie., for Odontoglossum crispum guttatum, a large and vigorous truss, bearing very large flowers, with wide, dark violet spots on them.

Certificates for Blooming and Cultivation were awarded to—M. L. De Smet-Duvivier, for Cypripedium Sedeni candidulum, with twenty fine flowers; to M. Paul de Schryver, for Hoya carnosa, bearing a hundred large clusters, each composed of twenty small flowers; to M. F. Desbois, for Spiræa astilboides, with thirty trusses of pure white blooms; to MM. Vervaet et Cie., for Miltonia vexillaria, with a dozen sprays of ten to twelve flowers each; to M. Jules Hye, for Cypripedium Stonei, well grown, and flowering abundantly; to M. Pynaert Van Geert, for Pandanus discolor, the strongest specimen known, excellently grown, the foliage very deep green, thrown up by the brownish-red heart of the plant; and to M. Petrick, for Nidularium acanthocrater, the bracts very vivid violet-blue—a splendid plant.

M. PEETERS' ORCHIDS.

Among them the well-known Lælio-Cattleya Phœbe with two fine flowers, the splendid Cattleya Mendeli Duke of Marlborough, and Lælio-Cattleya Canhamiana are now specially noticeable, as also are Cattleyas Parthenia, Reineckiana, and Mossiæ. One variety of C. Mossiæ had the five divisions of the purest white, the lip streaked with bluish-purple. The Odontoglossum Capartianum which attracted so much attention at the Antwerp exhibition is now again in bloom. Very remarkable are the many specimens of Masdevallia Veitchii grandiflora. *Ch. D. B.*

CULTURAL EDUCATION.

(*Continued from p. 736.*)

WE now cite some further details relating to Horticulture as of special interest. They are taken from the report of Mr. Craigie to the Board of Agriculture as to the work done in the United States:—

HORTICULTURE.

"1. Variation of Plants under Culture. A discussion of the principles which underlie the modification and amelioration of plants under the hand of man. The course includes a consideration of the number and characters of plants under cultivation, the modification of plants by soils, latitude, climate, and treatment, selection, hybridisation, heredity, &c., with some account of the labours of Knight, Naudin, Darwin, Wallace, Weismann, and others. Fall term. Lectures. M., T., Th., 10. Professor Bailey.

Course 1 is open to all students in all courses who have taken courses 1 and 2 in Botany.

2. Landscape Gardening. The subject is treated as a fine art, and illustrated by charts and lantern views. Lectures (in Lincoln Hall). Fall term. T., Th., 10. Professor Bailey.

3. Pomology. Winter term. Lectures and other class work. M., W., F., 10. Professor Bailey and Mr. Lodeman.

4. Olericulture, or Vegetable Gardening. Spring term. Lectures and other class works. M., W., F., 10. Professor Bailey and Mr. Lodeman.

5. Propagation of Plants. A practical laboratory course in nursery work in the Winter term. One hour per week by appointment. Mr. Lodeman.

6. Handicraft. Practical training for students who intend to follow horticulture as a business. An extension of either course 3 or 4, or both. By appointment. Mr. Lodeman.

7. Investigation incident to previous courses. For graduates and advanced students. By appointment. Professor Bailey.

Instruction in horticulture is given at Cornell, as will be seen from the foregoing syllabus, in seven courses. Course 7 affords opportunities for investigation by advanced students, especially for post-graduates who desire to prepare themselves for experiment station work and for teaching. In this course, all subjects and hours are especially arranged for each student; and practice is also given in the preparation and application of the most approved fungicides and insecticides.

The equipment of the Horticultural Department comprises about 30 acres of land variously planted, with forcing-houses, and a museum. The gardens and orchards contain all the fruits which thrive in the north, in considerable variety, and in sufficient quantity to illustrate methods of cultivation. Nursery grounds are also attached, in which are growing many species of economic plants from various parts of the world. The fruits comprise upwards of 60 varieties of Grapes, over 50 of Apples, 50 of Plums, and other fruits in proportion. A dwarf Pear orchard of 300 trees, and other representative orchards, cover the remainder of the field space, excepting such as is set aside for vegetable gardening. There is also a collection of 150 varieties of Roses, and various other ornamental plants.

The forcing-houses are eight in number, and cover about 6,000 square feet of ground. These in connection with storerooms and pits, afford opportunities for nursery practice for the study of the forcing of all kinds of vegetables, and for some kinds of floriculture. The laboratory-house has space for nearly 40 students and is used for instruction in propagation of plants, pollination, and the commoner greenhouse operations.

The museum comprises a garden herbarium and a collection of photographs. The herbarium, which is rapidly assuming large proportions, is designed to comprise all varieties of all cultivated species of plants, and it supplies a most valuable aid to the study of garden botany and the variation of plants. The collection of photographs includes about 3,000 negatives, with prints representing fruits, flowers, vegetables, illustrative landscapes, glass-houses, and horticultural operations. Charts and specimens complete the museum collection. The library possesses files of many of the important horticultural and botanical periodicals, and a good collection of general horticultural literature. There are here to be found over 50 horticultural periodicals on file from all parts of the world."

Mr. Craigie, whilst not shutting his eyes to imperfections, inclines to the belief that a hopeful beginning has been made, and that it is undeniable that good results must attend the cultured thought which is being turned on agricultural and horticultural problems. Great and practical energy is obviously being directed to the best means of extending the field of agricultural and horticultural knowledge side by side with the growth of local stations; and very extensive development of the scientific staff engaged on the special enquiries of the Federal Department at Washington has taken place in the last ten years. "The American Government seems willing to face any cost to the community that promises the better to equip the farmer and horticulturist with a knowledge of his business. The authorities seem assured that in indicating methods of profitable production, and still more by the careful perfecting of the produce of the vast lands of the Republic, in whatever directions of extensive or of intensive culture the economic circumstances of the moment may prescribe, they are providing a solid means of advancing the wellbeing of the nation as a whole." Perhaps some day we may see things in the same light.

FRUIT NOTES.

EARLY STRAWBERRIES.

At p. 717 of the *Gardeners' Chronicle* the early gathering and marketing of Strawberries from Cornwall are commented upon. I should like to inform your readers that fruits of Noble were gathered in the gardens at Mereworth Castle, Maidstone, on May 28, the fruits being truly noble in size and appearance. In fact, I know of no other kind that can equal this variety in these respects, its chief defect, so far as my experience goes, being lack of flavour. This season, however, the flavour is considerably better than usual, an improvement that may be due to the large amount of bright sunshine enjoyed during the ripening period, and to the soil not being very moist. It is only for affording some dishes of early out-door grown fruit that this variety is cultivated here, and for which use, if it be given proper attention, it comes in very nicely, being fourteen days earlier in ripening than any other. To have done with pot Strawberries for even that short space of time is a consummation worthy to be desired by the gardener who has to keep up an unbroken supply of fruits. To have the earliest fruit from Noble, layers must be obtained as soon as possible. The runners should be pegged on to 3-inch pots of soil, planted as soon as the runners are established, selecting for the bed a warm sheltered border which has been properly prepared, that is, deeply worked and well manured. Do not neglect to water the plants on planting them, and follow this with other waterings for a time if the land should get dry. I notice the variety Royal Sovereign is being favourably spoken of, but it must be something very good that will beat for early forcing Vicomtesse Héricart de Thury, La Grosse Sucrée, Sir C. Napier, President, Sir J. Paxton, and British Queen. Oxonian is a good late Strawberry, and Stirling Castle is considered a useful market fruit, and an extensive Strawberry cultivator for the markets, living near London, has this season planted it very extensively. *H. Markham, Mereworth Castle, Maidstone.*

PUBLIC PARKS.

Mowbray Park, Sunderland. — This seaport town, amongst other things, imports timber, pit-props, loam, grain, flour, Esparto-grass, straw, and hay—all articles in which those doing with forest, field, and garden are more or less interested. Like all towns growing in importance, it has its parks and open spaces for the people, showing the desire of the municipality to keep abreast with the times. The principal park is the Mowbray, or People's Park, covering about 26 acres; the portion south of the railway being acquired in 1854, and the portion north of the railway in 1866. Attached to the park is the Free Library, Museum, and Art Gallery, and in juxtaposition to that is a magnificent conservatory, or, rather, winter-garden, about 180 long, adorned with a capacious cupola, which spans about 50 feet. The design is in keeping with the Art Gallery edifice, which confronts it, and the plants do upon the whole well in the interior. Two very handsome Norfolk Island Pines are in the centre position; and various Palms, such as Seaforthia, Phœnix, Chamærops, Cyatheas, Kentias, and the more elegant pinnated-leaved Thrinax and Cocos, fall in well. Dracæna Draco is doing well, and the Ficus elastica is in great specimen size. The large-fronded Pteris serrulata and the depending Woodwardia radicans are the best among the dwarf Ferns; and there is a mixed lot of useful subjects, some Orchids amongst them, a good Dendrobium nobile in a hanging basket being abundantly flowered. Relays of flowering plants, taken from a group of low-span auxiliary houses, are introduced all round the conservatory, and in this way it is always gay and interesting. It is rather a well-got-up house in all its parts, nicely finished in respect of encaustic-tile passages, and there is abundant room for promenading without rubbing against the array of flowering plants that line the front iron stages.

The park itself is prettily laid out, with a lake towards the front, tenanted with the usual web-footed denizens. The grass is well kept, and the borders and beds are filled with plants suitable to a seaside climate. The saline breezes interfere with the progress and dwarf the dimensions of many deciduous and evergreen trees and shrubs, but the Wych Elm and the Ash, and the Service tree and the Thorns seem to have the longest life and are balking into plants of goodly size; the white Abele Poplar does well. There is nothing to beat the Spindle tree, which can stand the severe frost with impunity. Even the gales here have not withered it; whereas, alongside of it, the Aucuba leaves are like black soap after the severity of winter. The green Hollies withstand well, particularly Shepherdii and laurifolium, which are thriving. Rhododendrons, particularly the hybrids, that have any sort of shelter about them, are doing well. Laurustinus and Escallonias, which grow and revel in a seaside climate, had suffered partially from the gales; but as summer warmth returns, they again recuperate. The park is diversified in contour; in some portions the hills of rock rise up, and nothing of consequence will grow thereon. The magnesian limestone is prevalent, and there are some crystals to be seen which are said to be unequalled in the locality. One beautiful piece we measured had quite a radius of 29 inches, and there were lots of miniature ones on the rocks. The walks are, upon the whole, of easy, sweeping outline, suited to the undulations of the park, and where at all practicable, they are coated with asphalte and spar. Mr. Hall, the park superintendent, discountenances facing up the sloping walks with this material as being dangerous for promenading, and often tempting many to move on the grass. On the high ground is a monument erected to General Havelock of Lucknow, and Jack Crawford, of Camperdown fame, two of the district's most illustrious sons. There is a suitable and touching memorial erected to commemorate the loss of 182 children who lost their lives during the panic some years ago in the Victoria Hall, quite adjacent to the park. Along with these objects of interest there are bowling-greens and tennis-courts, thus giving opportunities to all citizens to while away time either in the reading-room, picture-galleries, or at innocent and exciting games of skill.

The smaller fry of vegetation is limited in winter, but gay in spring and summer with bulbs and bedding plants; still, it is wonderful to see how bravely the popular Wallflower battles against the breeze. Curiously enough, last season Mr. Hall said, the Stocks stood out, and the Wallflowers in a measure collapsed. It has been quite the converse during this season of 1894, attributable in some measure, it was said, to the summer brightness of 1893. A collection of plants after the botanical arrangement has been formed, and varying beds are filled with divisions in their natural orders, but it does not seem to be much appreciated, so that there will be the less disappointment if it goes down. Pinks, Irises, and Carnations do uncommonly well; indeed, all these plants do well either in town or country, in smoke or out of smoke, so that all amateurs ought to prize them accordingly. Daisies go along in good health, and so do some of those Saxifrages and Sedums that

delight to get their roots in the chinks of a piece of rockwork. The bulbs in these public gardens are always a sight—indeed, more is spent in this way than in many important private establishments. The people have therefore as much variety to look upon in the parks, which by their pence in the shape of rates they assist to maintain, as either lords or squires. What a step in advance has been made in this way, and all within the last twenty years, particularly about all our cities, towns, and townships in the United Kingdom. It is a great pleasure to see the working-classes so thoroughly in earnest, not only in enjoying the beauties of Nature set before them at no great distance from their homes, but in conserving and maintaining them. *Viator.*

FLORISTS' FLOWERS.

THE FINAL POTTING OF CHRYSANTHEMUMS.

THE month of June is the usual period for placing the plants in the pots in which they are to flower, although late-struck plants that will afford the latest bloom may be potted in July; but there is no fixed rule. The best guide in this matter is the condition of the plants. When the pots in which they have been growing become filled with roots, then is the proper time to repot, never letting the roots get matted before repotting. The risks of getting the roots matted together are great growth is checked, and the plants may lose their lower leaves when their retention is most useful to them.

To the inexperienced, the potting of Chrysanthemums may not appear of any more importance than the potting of any other soft-wooded plant, but first-class blooms cannot be obtained from stems that are soft and sappy, the result of improper potting. When Chrysanthemums are loosely potted they grow strongly, and produce large leaves, but such growth is generally wanting in solidity and firmness, and without these attributes no first-class plants can be produced. Firm potting induces slow growth, which is solid, and therefore likely to mature perfectly. The potting compost needs care in preparation; and although it is of much importance, it is not the sole element of successful culture, after-management playing a great part also. Chrysanthemums having but a short season of growth, and much to do in a few months, all the nutriment they can assimilate should be afforded. Soils differ so much in different parts of the country, that no rule can be laid down as to what mixture is the best. Loam, as it is called, should, of course, form the principal part, and the more turfy or fibrous the better. Some loams contain much more of nutritive ingredients than others, and where this is the case Chrysanthemum culture is simplified. Rich pasture loam is the best, but that from poor pastures is of little use. Lime, in some form or other, is essential to Chrysanthemums, and must be supplied, if not present naturally in the soil. Pounded oyster-shells form a convenient means of affording this mineral, and quicklime is useful in small quantities in destroying worms present in the soil; for by incorporating a few handfuls when turning over the compost-heap, the worms are destroyed, and the lime intimately mixed with the soil. Charcoal is of much value as a sweetener of the soil, and as a means of storing ammonia for the plant's use, and is also very useful for mixing with heavy loams. Heavy loam is improved if the fine particles are sifted out of it, the turfy part only being used for potting purposes. To three parts of loam, add one part of partially decayed leaf-mould, one part of stable manure, prepared as though for forming a Mushroom-bed; adding charcoal, silver sand, and wood-ashes in quantity according to the nature of the loam. To every bushel of the compost, add 2 lb. of Thomson's Vine Manure. The pots, of 9 inches in diameter, should be well crocked with lumps of fibry loam above the crocks, or what is better still, some freshly-cut turf, thoroughly soaked in liquid manure.

Some gardeners err in using pots of very large size, for no variety requires one larger than 9 inches in diameter. If the stock consists of 10 or 11-inch pots, it is better to place two plants of one variety in a pot. Pot firmly, especially those of the incurved section. If the soil is moistened throughout when the potting is done, the plants should not require to be watered for several days afterwards, but the foliage should be moistened at least twice daily—night and morning. *E. Molyneux.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

THE LATE VINERY.—The Vines in this vinery, consisting chiefly of Lady Downes, have made strong growth, and have been steadily pushed on without the use of too much artificial heat. The amount of ventilation of the vinery will now be abundant, the Vines having a long season in which to mature their wood. It is my practice to leave a little air on all night, increasing it early in the morning if bright, scalding of the berries being usually brought about by the early morning sun shining on the glass whilst the air within is very humid.

PEACH HOUSE.—Any trees from which the fruit has been gathered should receive generous treatment to keep them in a healthy growing condition during the long season before them. The numerous cases of bud-dropping on early-forced trees of which one hears, are more often due to the premature ripening of the previous year's growth rather than to any other cause. When the Royal George and Noblesse varieties of Peach used to be forced to produce ripe fruit by the end of May, bud-dropping was practically unknown, as with the portable roof-lights then in vogue, the gardener could afford his trees full exposure to the weather after the crop was gathered, and the wood, with good treatment, never got too forward before rest ensued in the autumn. Such varieties as Early Alexander, and others which are now forced very early to obtain a few dishes of fruit in April, are best when cultivated in pots, such portable trees being easily removed from under glass to a spot out-of-doors, after the crop is taken. These pot trees, with the free use of the syringe, and plenty of water at the roots, will retain their foliage a long time, and wood-ripening will therefore be very gradual, as it should be.

THE LATE PEACH-HOUSE.—The final thinning of the fruits to about 1 foot apart should be finished, and the fruits that are in the least degree shaded by the leaves, carefully raised above the trellis. Lay in new shoots thinly, mulch the inside and outside borders, and afford water copiously if the season should remain hot and dry, as at the present time. Trees growing in wallcases not provided with hot-water pipes sometimes suffer from mildew—a malady for which a watchful eye must be kept, syringing the trees with flowers-of-sulphur, mixed with water, as soon as signs of it are noted, and increasing the amount of ventilation during the night.

MELONS.—Where fruits are nearing the ripening stage, less moisture at the root and in the atmosphere is necessary; but there should be no sudden alteration in these matters during the ripening stage, or the flavour of the fruit will not be good. Affording less water at the roots hastens the ripening; but this lack of moisture should not be carried to the extent of causing the foliage to flag. Later crops in various stages of development will require a brisk temperature, and moist air, all the water used for syringing and root-watering being of not less than 80°. Sowings of Melon seeds may still be made. These late crops should be accommodated in pits or houses provided with means of heating them, the weather in September and October being too cool for Melon-growing in unheated structures. Stop and regulate at short intervals, the growth of plants in frames; for these plants, as a rule, make much gross growth as the roots find their way into the fermenting material. Continue to close the lights early, with plenty of moisture in the frames until such time as the fruit changes colour, when the plants should be treated in the same manner as advised for Melons in houses.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

CATTLEYAS.—The plants of some of the tall-growing species, viz., C. intermedia, C. Harrisonæ, C. amethystoglossa, C. Alexandræ, C. Schofieldiana, and Lælio-Cattleya Harrisi, now starting to grow, should be placed in the best and lightest position in the house; and any of these species which stand in need of repotting may now be taken in hand, carefully affording water afterwards, neither letting them become very dry nor too moist till well rooted. Shrivelling of the pseudobulbs must be averted, as it is more injurious to them than to the short pseudobulbed species. This will also apply to Lælia Dormaniana, L. Perrini, L. Lindleyana, L. Schilleriana, espatha, and the varieties of L. elegans. These have also begun to grow, and should be generously treated. Cattleya Bowringiana, a species that flowers in the autumn, has begun to make new growth, and should be placed in the warmest part of the house; and like most of the long pseudobulbed Cattleyas and Lælias, this species is benefited by having the pot in which it is growing raised on an inverted pot, which has the effect of bringing the shoots near to the light and affording it more air. Over-watering of this plant must be avoided, moderate quantities of water sufficing till the growths have made progress. When the young pseudobulbs have become about half-grown, the interior of the soft fleshy-sheaths which encircle them should be examined, as it is here that a small yellow thrip finds a hiding-place. These insects, if not detected in time, are capable of greatly disfiguring and checking the growth of the plant. They are easily destroyed if taken in time, and there is no better remedy than ordinary Scotch snuff or flowers-of-sulphur lightly dusted into the sheaths, which will drive them out, after which a fumigation with the XL All vaporizer will complete their destruction. The roots of Cattleya Bowringiana should not be disturbed at this season, the proper time for repotting it being about two weeks after flowering, as it is then that the new pseudobulbs emit a great number of roots.

LÆLIAS.—L. purpurata, L. tenebrosa, L. grandis, Lælio-Cattleya Arnoldiæ, and L.-C. Canhamiana should, now that their flowering season is past, be placed in a very cool and airy part of the house, where they may remain during their short period of rest, nothing being done that will induce growth to start. The same kind of treatment as regards rest is applicable to L. purpurata, a plant which if forced into growth immediately it has flowered, has no time allowed it to regain its strength, consequently the growths made are seldom satisfactory, whereas the autumn and early winter growths are strong and floriferous. Cattleya Warneri is another plant which should find a place in the coolest part of the house during rest, and the present is the proper time to repot it, that is, as soon as roots are seen to push from the last-made pseudo bulb.

MILTONIAS.—Miltonia Roezli does well during the summer months under like treatment. It will now be in full growth, requiring abundance of water at the root. M. Schroderiana and M. Warcewiczii are now sending up their flower-spikes, and should be placed well up to the light, the flower-spikes being carefully protected from insect pests. By this time the popular M. vexillaria will be passing out of flower, and should be removed to the cool-house, where there is plenty of air. Thrips are partial to this species, and in the warm-house they soon disfigure the foliage. Sometimes, too, the plants become sickly from too high a temperature and too much moisture. When located in the cooler division, keep them rather on the dry side than on the wet.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

VIOLETS.—During the present dry weather, the watering and stirring of the surface soil and the destruction of weeds among the plants should receive due attention. The past few weeks have not been favourable for newly-planted Violets, and least of all, for delicate-growing varieties like Marie Louise, Neapolitan, and New York, which on light soils are apt to be injured by red-spider. It is well to mulch Violet beds on light land with strong loam and rotten manure, and previous to affording water or during showery weather, to lightly sprinkle nitrate of soda between the plants; little and often is the safest rule with this substance.

CARNATIONS AND PICOTEES in beds and borders, if the plants have been secured to small, neat sticks, may be top-dressed with rich soil which will also prove of use at layering-time. For this purpose there is nothing better than one pailful of finely-sifted loam, two of leaf-mould, and plenty of rough pit or sea-sand. Afford the plants abundance of water in dry weather, and remove the lateral flower-buds if extra-good flowers are wanted.

FLOWER BEDS.—These should have regular and constant attention in the matter of affording water, which is better done in the evening, unless, as is the case at the time of watering, the wind is northerly with a clear sky, or the district is low-lying, where the temperature gets very low; then it is better done early in the day. Fill up any blank spaces from the reserves which should always be kept of the plants that are used in the beds. The pegging-down and staking of Verbenas, Petunias, Dahlias, Nasturtiums, &c., should be well and early attended to, or the plants will get damaged by wind.

HERBACEOUS BORDERS.—To give these a neat appearance, decaying flower-stems and leaves should be removed. The oriental Poppies have been a blaze of colour during the past fortnight, and the numerous seed-pods of these plants should be gathered as soon as ripe, the seed being sown at once. The staking of plants of Lilium, Delphinium, Sunflowers, &c, should have attention, and recently-planted subjects well watered. Do not crowd the herbaceous border with half-hardy plants, but afford the hardy plants sufficient space for perfect development. The workmen in cleaning the border should be careful not to inflict damage to any of the plants with hoe or rake. A good deal of injury is often done by persons cutting flowers who are unacquainted with the habit of growth of the various plants. It is best for a steady careful man to have the border under his charge, and he alone to do what work or flower-gathering is required.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

WINTER-FLOWERING BEGONIAS.—Cuttings of these plants which may have filled their pots with roots, should be re-potted without delay, using for the shift large 60's; remembering that if Begonias are allowed to get pot-bound, they never grow freely afterwards. A warm greenhouse will be a suitable place for them during the summer, the plants being shaded during bright weather. Continue to put in cuttings of such varieties as Gloire de Sceaux, John Heal, Winter Gem, Gloire de Lorraine, and Socotrana, if the stock of them is low. As cuttings, the strong suckers that arise at the base of old plants are the most suitable, and they usually make the finest plants.

CARNATION SOUVENIR DE LA MALMAISON.—Old plants, past flowering, which have been standing out of doors for a season, will now have shoots that are firm in texture. These shoots are in the best condition for layering; which may be done either in cold frames or out of doors, the former being preferable, the plants are then more under the control of the gardener. After layering them keep the frame somewhat close for a time, and shade the plants during bright weather, syringing them lightly three or four times a day. Young plants, as fast as all the flowers are cut, should be stood outside to ripen their shoots before proceeding to layer them, or to pot on for early flowering next year.

EUPATORIUMS.—Old plants may be repotted, not affording them too large a shift at one time, or rank growth will ensue, and they will require too much staking and tying. Young plants should be shifted into 32's, and the shoots pinched at each second joint for a time; the pinching not being begun till the plants have rooted into the fresh soil and begun to grow anew, otherwise a check will be given them. A cold frame, and a place close to the glass, will suit them. When nicely rooted, afford water sufficient for their needs, increasing the quantity as the soil fills with roots; and syringe them daily. They may be gradually hardened off and stood outside at the end of the present month.

CINERARIAS.—The first batch of seedlings may now be potted into 48-pots in loam, leaf-soil, and well-decayed cow-manure. Place them close to the glass in a cold frame facing north, not affording them water for a few days, but syringe the leaves lightly, and keep a watch for slugs. Another sowing of seed should now be made in boxes or pans. Double-flowered varieties should have the offsets removed, placing these in small pots of sandy loam and leaf-soil, and keeping them closely shaded till roots form, afterwards affording the same kind of treatment as that recommended for the single-flowered varieties.

CRASSULAS.—These very useful and ornamental plants are not grown nearly so extensively as they deserve to be; C. coccinea being especially worthy of cultivation, the scarlet-coloured, fragrant flowers being very attractive. The present time is suitable for getting up a stock of these plants. If any plant that is in stock has become leggy, it should be cut down, and the resulting cuttings placed three or four in sandy loam and mortar rubbish in small pots, merely watering the cuttings once to settle the soil, and not again until rooted. Place the pots on a shelf in the greenhouse in the full sun. The old plants will soon break anew, and should then be re-potted, and placed on a light shelf in the greenhouse when there is much sunshine.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

CHERRIES, PROTECTING, ETC.—Trained Cherry trees on walls and espaliers should, without delay, be carefully protected by means of nets, from blackbirds, thrushes, &c., which are sure to devour the fruits as soon as only slightly changed in colour. Nets on walls should be secured all round the edges, a few forked twigs, about a foot long, being placed so as to cause the net to stand out away from the wall, thus preventing the birds reaching the fruit through the meshes. Espaliers require a light framework of sticks along the top at each side of the trees, bringing the nets tightly over these, and pegging the edges securely to the ground, or fastening them by means of tacks to strips of board placed on edge. Bushes or pyramids may be protected in like manner, by placing four or six long flexible sticks round the tree to be covered, fastening cross-pieces at the middle, or at the widest part, bringing the uprights together, and fastening them at the top, nets being stretched over all. Should black-fly be found on the tips of any of the shoots, dip such shoots into a fairly strong mixture of water and tobacco-juice, or other kind of good insecticide, before putting on the nets. Occasional copious root-waterings will be of great benefit to Cherry trees if afforded whilst the fruit is swelling.

THINNING FRUIT, ETC., OF PEACHES AND NECTARINES.—The trees should now be finally thinned, reserving the fruits on the upper sides of branches generally, and where they will enjoy full sunshine. Examine all ties and fastenings, loosening those which are tight; and remove any wall-nails which are likely to press hardly on the rind or fruits. Failure to do this causes gumming and other evils. Syringe the trees well and frequently on the evenings of bright days, which will tend to keep red-spider in check, and free the trees from other insect foes. If aphis has caused curling of the leaves, the shoots should be dipped in diluted tobacco-juice, if they are long enough, as it is difficult to remove these insects with the syringe when they are rolled up in the leaves. Fumigation may be practised if proper sheets are at command to fasten over the trees, doing this twice or thrice on successive nights, following it with heavy syringings with clear water each morning. Continue to remove and destroy by burning all blistered leaves (see fig. 120, p. 779).

APPLES.—If bush pyramid or espalier Apples are thickly set with fruit, they should be freely thinned if size and good quality be considered, taking small and deformed fruits first. All maggoty fruit should be burnt without delay. Clusters of large size or late varieties may be reduced to one or two fruits, exhibition fruits being thinned still more severely, according to the size and vigour of the tree. One to each foot of surface will be sufficient for most trees to carry for show purposes, these trees being well mulched and copiously afforded liquid-manure, and occasionally overhead syringing in the evenings of warm days. Small early varieties, such as Irish Peach, Juneating, Lady Sudeley, &c., need not be severely thinned, deformed and useless fruit being those chiefly removed. These early varieties appear to suffer, as a rule, but little from heavy cropping, and the fruits coming to maturity so quickly affords the trees plenty of time to recuperate before the fall of the leaf.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

CARDOON.—If the seed of this plant was sown as advised, that is, in 4-inch pots, and the seedlings reduced to one in each pot, they should now be in a fit state for planting in the trenches prepared for them. Cardoon trenches should be a little larger than those made for one row of Celery plants, a good dressing of cow-manure being dug into the bottom soil of the trenches; and on the top a dressing of spent Mushroom-bed manure lightly forked in, and the soil well pulverised. The plants should be transferred to the trenches before they get the least degree pot-bound, placing them in a single line at about 1½ feet apart, affording them heavy watering to settle the soil about the roots as soon as planted.

BROCCOLI.—Broccoli for autumn use may now be planted. Sutton's Michaelmas White, Winter Mammoth, and Veitch's Self-protecting Autumn are excellent for consumption in the early autumn months; and Snow's Winter White amongst others for later cutting. These Broccoli will furnish heads well into the winter, at which season other varieties may be expected to turn in. Broccoli should always be planted on firm land of no great richness. If planted at too early a date or upon land the contrary of that named, they grow of large size, but are too succulent for withstanding the winter.

CABBAGES.—Continue to make new plantings from the seed-beds or of the pricked-off plants, choosing good rich soil, so as to obtain quick growth and mild flavour.

SAVOYS.—The Early Ulm and other early varieties of Savoy may now be generally planted, affording the larger growing varieties a space of 2 feet apart each way and others 1½ feet.

SWEET BASIL AND OTHER POT-HERBS.—The first-named may now be transplanted from the boxes or pans into which it was pricked-out, taking care that it is first properly hardened-off. A finely-worked rich soil and a warm position suit this plant. Sage, Fennel, pot Marjoram, and other kinds of pot herbs should not be left in the boxes and pans to get drawn up by crowding, but be planted out whilst short and stocky. The leaves of Chives and Sorrel should be cut down, a few roots at a time, so as to afford tender young leaves for cutting.

FIELD POTATOS.—Advantage should be taken of dry weather to scuffle the land and free it from weeds when the rows can be made out, following the scuffling in a day or two with a hoeing, so as to kill the weeds found in the lines. After cleaning the land, the plants may be earthed up with the moulding-plough, the rows on the headlands being ridged up with the hoe. Potatos if not earthed up forthwith will be injuriously affected by the dry weather.

GENERAL WORK.—Make successional sowings of Spinach, Radish, Horn Carrot, Lettuce, Onion, Cauliflower, Cabbage, Turnip, &c. Prick off all kinds of fibrous-rooted plants from the seed-beds, preparatory to planting them out in the open quarters. Watering and syringing crops, will require much attention should the weather continue without rain, and these are operations that are followed by the best results if they are carried out in the evening. The staking of the rows of Peas should have timely attention, bearing in mind the fact that no variety will grow to its normal height if the drought continues. For training Runner Beans, various contrivances are adopted, and one of these is thatching cord, which may be arranged in a variety of ways. The bine clings well to the rough surface of this kind of cord.

German East Africa.—Mr. Dietrich Reimer, Berlin, is publishing in parts an important work on the Flora of Eastern Tropical Africa, *Die Pflanzenwelt Ost-Afrikas*. The work is edited by Professor Engler, Director of the Berlin Botanic Garden, and will contain an introductory treatise on plant distribution in East Africa by the Editor. This will be followed by chapters on the Economic Plants by Dr. Schumann, Warburg, Dammer, Gilg, Taubert, Harms, and others; and a catalogue of the plants of the region by various botanists. The work is to be copiously illustrated, and when complete will cost about £3 10*s*.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 25—Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

FRIDAY, JUNE 28—Royal Botanic Society, Lecture.

SHOWS.

TUESDAY, JUNE 25—Isle of Wight Rose and Horticultural, at West Cowes.

WEDNESDAY, JUNE 26—Richmond Horticultural Society, in the Old Deer Park.
Royal Botanic Society, Musical Promenade.

THURSDAY, JUNE 27—National Rose Society, Southern Show, in connection with the Gloucester Horticultural.
Canterbury Rose and Horticultural.

FRIDAY, JUNE 28—Devon and Exeter Horticultural and Rose, at Exeter.

SALES.

WEDNESDAY, JUNE 26—Unreserved Sale of the Broomfield Collection of Established Orchids, by order of M. Wells, Esq., by Protheroe & Morris (two days).

FRIDAY, JUNE 28—Imported Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°.2.

Watering the Flower-beds and Lawns in London Public Gardens.

THIS is a matter that receives but scant attention from those responsible for the good keeping of the public gardens about the Thames Embankment. For want of timely watering, the turf has taken on a sadly burned-up appearance, and the growth of shrubs is seriously checked, if not quite brought to a standstill. Nevertheless, the much-required rain, if it fall before the end of July, would still ensure some growth in such species as make a second growth in late summer. The average Londoner may well wonder that the gardeners, with a river flowing alongside these gardens, besides an unlimited water supply from the water-mains, should allow the turf to get brown at all. The reason is not far to seek, as anyone may discover who happens to stroll through the gardens in the morning hours. The sun is then shining brightly, and the men are busy with water-hose and pot applying water to the thirsty soil; but so dry is the latter that little water goes below the surface more than an inch, and that little is speedily evaporated. instead of these morning dribbles the water were afforded from 6 to 9 P.M., even though that might mean a trifle extra money in the shape of payment for overtime, it would be really economical, less water being required and paid for and the grass and various plants, trees, and shrubs would derive increased benefit from the water afforded. By engaging a few strong girls, we should imagine readily obtainable from the neighbouring working peoples' quarters, the men's labours need not be extended beyond the usual hours of work; the watering would be probably more cheaply done than by paying the latter for overtime, which in most trades is in excess of the usual day rate.

Another matter that deserves attention is the affording of nutriment to the grass at this season. The repeated waterings impoverish the land, and slight dressings of Guano, or if applied once a fortnight throughout a dry summer, would do much to maintain the freshness of the turf. There are other kinds of manure that would do this as well or better, but they have objectionable odours that would be sure to give offence.

The Gardeners' Royal Benevolent Institution.

WE may remind our readers that the fifty-sixth anniversary festival dinner in aid of the funds of the Institution, will be held on Friday, June 28, at the Hôtel Métropole, under the presidency of the Duke of FIFE.

We have so often advocated the claims of this Institution that we have nothing new to add now, but we may repeat that it is in a sound condition, excellently and economically managed. It is based on the two principles of self-help and of aid to the necessitious and infirm. It is doing a great amount of good, and might do much more did funds permit. As it is, the list of disappointed candidates each year is a saddening one. It should induce everyone interested in gardens and gardening to do their utmost to remove what is really a reflection on the craft. The fund finds generous supporters in the trade, and outsiders are munificent in their donations. It is the multiplied mites of the rank and file that are specially required. The more of these the larger will be the contributions of others with larger means. The following list gives the names of contributors up to the present time, in addition to those mentioned in the previous issue:—

The Worshipful Company of Gardeners, per N. Sherwood, Esq., Renter Warden	£5	5	0
H.R.H. Prince Christian (annual) ...	1	1	0
Per S. Osborn—			
Sir F. Wigan (acknowledged in last list as £1 1s. 0d. in error)	5	5	0
G. C. Raphael ...	5	0	0
George Wythes ...	10	10	0
Bailey Wadds ...	16	10	0
Miss G. Carter (annual)	1	1	0
W. Elphinstone ...	1	1	0
G. Morphett	6	8	0
J. Taylor	17	10	6
W. Cobb	2	2	0
J. Amys	5	0	0
A. Bullen	10	10	0
J. E. Cater (annual) .	1	1	0
J. Seward	3	8	0
Ditto (annual) ...	2	2	0
H. J. Clayton... ...	2	0	0
Jas. Smith	2	1	6
D. Inglis	10	0	0
F. Bassett	2	2	0
J. Condy	3	5	0
R. Parker	0	10	0
W. Bowman	13	1	0
W. Bain	1	10	0
E. Beckett (annual) .	£1	1	0
Ditto	0	5	0
Per E. Beckett:—			
Messrs. Pulien & Sons (annual) ...	1	1	0
M. Gleeson (additional)	0	17	0
H. Aiton	2	2	0
Jas. Douglas (additional)	1	10	0
J. R. Heasman ...	1	1	0
F. Lowton	1	16	0
J. Webber	1	10	0
P. Harpley	1	5	0
Geo. Pritchard ...	1	3	6
W. Salcombe (additional)	0	17	0
T. Taylor	0	12	0
J. C. Geiselbrecht ...	1	1	0
H. Mossop	0	15	0
J. Mallender	2	7	0
W. Howe (additional)	1	10	0
Saynor, Cook & Ridal	2	2	0
F. N. Cox	2	2	0
D. Roberts	21	0	0
J. Lockyer	21	0	0
N. F. Baines	2	14	0
Ditto (Annual) ...	1	1	0
W. Denning (additional	1	1	0
R. Henty	1	1	0

We shall be glad to receive additional donations; or they may be sent to the Secretary, GEORGE J. INGRAM, Esq., 58, Parliament Street, S.W.

The Duke of BEDFORD'S Experimental Fruit Farm at Ridgmont.

AT the invitation of His Grace the Duke of BEDFORD and Mr. SPENCER PICKERING, a number of gentlemen paid a visit to what has been christened the "Woburn Experimental Fruit Farm," on Tuesday, June 18. Among those who attended were Messrs. J. Assbee, E. J. Baillie, Alex. Cheal, Geo. Gordon, W. G. Head, Kinch, W. B. Latham, W. Laxton, E. Luckhurst, Meldola, Geo. Nicholson, A. H. Pearson, T. F. Rivers, Strawson, Spooner, J. Wright, J. Weathers, besides Dr. Voelcker and Mr. Caine of the Royal Agricultural Society's Experimental Farm at Husborne-Crawley, and Mr. Harrison, of the *Bedfordshire Standard*.

Owing to an unlooked-for mandate from the War Office, the Duke himself was unfortunately unable to attend. Mr. Spencer Pickering, however, who takes a keen interest in the farm, and, we believe, directs the experiments, conducted the visitors over the grounds and lucidly explained the nature of the experiments. That an inspection of the farm should have been arranged at the very beginning of the experiments is highly commendable, as it will be easy to judge, say, in twelve months or two years' time, what progress has been made, and in what directions the various experiments will tend.

It may be mentioned that the Woburn Experimental Fruit Farm was only established in June, 1894, just twelve months ago. It is 20 acres in extent, and within 200 yards of Ridgmont Station on the L. & N.-W. Railway. The altitude is about 250 feet above sea-level, and the ground, which is bounded on the south-western extremity by Husborne-Crawley brook, has a gentle slope.

The soil consists of a heavy loam on a bed of stiff blue clay. At the time of the visit, owing to the drought, great fissures were conspicuous in parts, and the lumps of earth were as hard as brick bats. The soil is not therefore what one would call rich, or even good; but for experimental purposes this is just the kind of soil to begin with, as it will be easier to observe with greater accuracy the results produced by cultural operations, manures, &c., than if the experiments were carried out on better soil.

The experiments with Apples are on a large scale, and are being chiefly carried out with Bramley's Seedling, Cox's Orange Pippin, and Potts' Seedling, and occasionally Stirling Castle, and Lane's Prince Albert, grafted on the broad-leaved Paradise stock. At present the plants are not more than 2 or 3 feet high, and have nearly all been pruned with the *sécateur*. They look well, considering that they were nearly all only planted this year, and have been subjected to the deleterious effects of the drought. It is proposed to compare the results of cutting hard back, moderate pruning and pinching the branches during the summer and autumn months. The roots of some trees will also be pruned annually, others every second or fourth year, and some only when considered necessary.

The effects of good and bad planting are also being demonstrated. Indeed, this experiment has produced the most evident results so far. Trees which had been badly planted, that is, just dumped into a small hole with the roots twisted, bore traces of their ill-treatment. This was particularly noticeable with the specimens allowed to grow "anyhow" in soil, choked with weeds—chiefly Camomile—and specimens, though badly planted, still had the soil kept clean and well cultivated.

Young Plums are planted in squares at right angles, and in triangles, with a view of determining which is the best position. Others are sur-

rounded with four or six canvas screens, the object in these cases being to test the effects of shade and shelter on the plants.

Strawberries are being tested on a large scale, and judging by the appearance and crop on this year's plants, are likely to do well. Unfortunately they are subject to attacks from the little beetle, Otiorhynchus sulcatus; but it has been discovered that a little liquid tar in a condensed-milk tin will attract hundreds of them and other beetles to their doom, if sunk in the soil at intervals among the plants. This fact may be worth noting.

In addition to the above experiments, about 3600 feet of hedge-rows have been planted, with the primary object of shelter, and with the secondary object of ascertaining the economic value of different fruit trees grown in this way. Among the kinds used for this purpose may be mentioned Damsons, Cherry-Plums, Shepherd's Bullace, American, Dartmouth, and Siberian Crabs, Pearson's Prolific Filbert, and Kentish Cob Nuts; Prune and white Damsons, Medlars, Rivers' Early Prolific Plum, &c.

Raising stocks is also an interesting experiment. At present the kinds include Crab, Paradise, Pear, Quince, Hawthorn, and Cherry-Plums; and it is contemplated adding Ribes aureum for Gooseberries and Currants, besides certain species of Cratægus outside the Hawthorn.

At present the farm is in a very exposed situation, but on the north-western boundary Abele Poplars, Maples, and Limes have been planted, to afford some protection in time to come.

It is, of course, at present impossible to draw any conclusion from the numerous experiments only just commenced; but it is certain that the Woburn experimental fruit farm must be regarded as an important centre, from which much reliable information, valuable to fruit-growers, may be obtained. The Duke of Bedford and Mr. Spencer Pickering are to be congratulated on having devoted themselves to the carrying out of these experiments, which ought to prove of great national value.

The farm is managed by Mr. L. Castle, whose labours, in changing what was, twelve months ago, practically a piece of waste land, choked with weeds, into a clean and well-appointed fruit farm, have given great satisfaction to the Duke of Bedford and Mr. Spencer Pickering.

It should be added, that after inspecting the farm, Mr. Pickering had an excellent luncheon prepared for the visitors. A letter was read from his Grace regretting his inability to attend, and Mr. J. Wright and Mr. E. J. Baillie on behalf of the visitors expressed the pleasure and interest which everyone had taken in viewing the various experiments which were being carried out with so much exactness and on such a scientific basis.

Cirropetalum robustum. — Cirropetalums are epiphytal Orchids, included by Reichenbach under Bulbophyllum, but now classed by themselves. They produce their flowers at the sides of the pseudobulbs, in the form of an umbel. The pseudobulbs are one-leaved. They are evergreen plants of small size, growing either in pots filled with fibrous peat and sphagnum moss, or on wooden blocks with moss When growing, they require much water, but when at rest very little is required. The East India-house is the best place for them. The plant of C. robustum (fig. 116) shown by Messrs. J. Veitch & Sons, of the Royal Exotic Nursery, Chelsea, at the meeting of the Royal Horticultural Society on June 11 (when it received a First-class Certificate as a new plant), possessed one inflorescence of eight flowers, the prevailing colours being yellow and ruby, the dorsal sepal yellow on the inner side, and greenish above.

Fig. 116.—Cirropetalum robustum.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, June 25, when special prizes will be

offered for hardy herbaceous flowers. Mr. THISELTON-DYER being unable to lecture on "The Uses and Organisation of National Botanical and Horticultural Gardens," as previously announced, a conversational lecture will be given on some of the most interesting plants in the day's exhibition by Prof. HENSLOW.

ROSE SHOW FIXTURES FOR 1895.—The following list of dates was kindly furnished by Mr. ED. MAWLEY:—June 25 (Tuesday), Isle of Wight (Cowes); 26 (Wednesday), Richmond (Surrey); 27 (Thursday), Gloucester (N.R.S.), and Canterbury; 28 (Friday), Exeter; 29 (Saturday), Windsor; July 2 (Tuesday), Diss, Maidstone, and Sutton; 3 (Wednesday), Brockham, Croydon, Ealing, Farningham, Lee (two days), and Sittingbourne; 4 (Thursday), Eltham and Norwich; 6 (Saturday), Crystal Palace (N.R.S.); 9 (Tuesday), Ipswich, Westminster (R.H.S.), and Wolverhampton (three days); 10 (Wednesday), Chelmsford, Farnham, Hitchin, and Redhill (Reigate); 11 (Thursday), Bath, Great Malvern (Hereford Rose Society), Helensburgh, Woodbridge, and Worksop; 17 (Wednesday), Derby (N.R.S); 18 (Thursday), Canterbury (Kent Hospital Fête), and Halifax; 20 (Saturday), Manchester; 23 (Tuesday), Tibshelf; 24 (Wednesday), Chesterfield, and Newcastle-on-Tyne (three days); 25 (Thursday), Trentham; August 3 (Saturday), and 5, Liverpool (two days).

STRAWBERRIES, SCARLET QUEEN AND ROYAL SOVEREIGN.—We have received from that champion cultivator, Mr. R GILBERT, of Burghley House Gardens, Stamford, samples of the above varieties, admirably grown and packed. Of the two, Scarlet Queen has the best flavour; Royal Sovereign is very large, with a fine bright colour, sprightly acid flavour and firmer pulp, and for marketing we should prefer it, but for home consumption our prepossessions are in favour of the former.

THE CINERARIA.—The correspondence on this subject seems likely to assume large proportions. We trust our correspondents will, so far as possible, confine themselves to facts which can be tested, and not indulge in hypotheses which occupy space which would be better filled with evidence. In the meantime we may mention that we have been kindly supplied by Mr. LYNCH and by Mr. POË with specimens (accidental seedlings) which are in some respects intermediate between Senecio (Cineraria) Heritieri syn. lanata and one of the garden forms. We shall give descriptions of both of these specimens in another number. Mr. ROLFE's article on the subject, was, as he tells us, not written with any special reference to the matter of hybridity. He accepted without question, as we did ourselves, the opinion prevalent at Kew as to the origin of the Cineraria from S. cruentus. A more critical examination of the historical evidence, and especially of the new facts which are being brought forward, may ultimately render some modification necessary; but for the present we reserve what we have to say till a future number.

FLOWER-SHOW AT SOUTHEND-ON-SEA.—This took place on the 12th inst., in connection with the annual meeting of the Essex Agricultural Society. A representative schedule of prizes had been provided, but the competition fell short of what had been expected, leading to the supposition that in the absence of any horticultural society in that part of the country, the cultivation of plants and flowers for competition is but little followed. Messrs. Saltmarsh & Son, nurserymen, Chelmsford, were exhibitors in some classes, being placed 1st with six good specimen show Pelargoniums, and also of Begonias; while they were also placed 1st with twenty-four bunches of hardy herbaceous plants, a very fine and showy contribution. They also had some excellent Fancy Pansies, which were highly commended. It was the cut Roses in association with Messrs. Saltmarsh & Son's exhibits which provided the leading features. In the class for thirty-six trusses, there was a very keen competition among the Colchester growers; Messrs. D. PRIOR & SONS being placed 1st, followed by Messrs. B. R. Cant and Frank Cant in the order of their names. So close were the stands, that "pointing" had to be resorted to. Some very fine blooms of Hybrid Perpetuals and Tea-scented were staged. In the class for twenty-four blooms, there was again a very close competition, the 1st prize being a Silver Cup given by the Mayor, which was secured by Mr. Frank Cant; Mr. B. R. Cant being 2nd; Messrs. D. Prior & Son, 3rd; and an extra prize was awarded to Mr. W. Taylor, of Hampton. In the amateur's division for twenty-four varieties, Mr. Perry, the Gardens, The Middletons, Brentwood, took the Silver Cup given by the Mayoress; Mr. F. Claydon, gr. to E. W. Barnett, Esq., The Lawn, Southchurch, being 2nd; and the latter was 1st with twelve varieties. Table decorations, fruit, and vegetables, were also shown, and there were certain classes for cottagers. Despite the drought, the exhibits were on the whole good. Southend-on Sea has grown so largely of late, that there appears ample room for a horticultural society, especially as many visitors go there during the summer months.

THE COMING CARNATION SHOWS.—July promises to be a busy month for Carnation growers and exhibitors. The Southern Section of the National Carnation and Picotee Society commence with an exhibition at the Crystal Palace, Sydenham, on July 24; having for once severed its connection with the Royal Horticultural Society. On the following Saturday, July 27, the Carnation and Picotee Union will hold its annual exhibition as usual in the late Mr. DODWELL's garden in the Stanley Road, OXFORD; and on July 31, the Midland Carnation show will be held at Birmingham. The Northern show of the National Society will hold an exhibition in Manchester, but the date is not yet announced. Leicester show on August 6 will have several classes for Carnations and Picotees, and there is always a good competition. So far the promise of bloom points to an early season, and it is said the plants appear to be spindling in growth a good deal. This being so, small and thin blooms may be forthcoming. Plants grown in pots are under good control, and the Carnation growers generally give a good account of themselves whatever the character of the weather.

NURSERYMAN AS J.P.—Mr. P. C. M. VEITCH, of the firm of ROBERT VEITCH & SON, Royal Nurseries, Exeter, was last week made a Magistrate and Justice of the Peace for the city of Exeter.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The usual monthly meeting was held at the Caledonian Hotel on Monday evening, June 17, Mr. N COLE presiding. Four new members were elected. It has been decided by the committee that the increase of sick pay from 10*s.* 6*d.* to 12*s.*, and from 16*s.* to 18*s.* per week in the two classes respectively, shall commence from the half-year (July 8). The treasurer reported that he had invested £200 in West Bromwich 3 per cent. Stock.

THE WINTER IN THE RIVIERA: FOURCROYA BEDINGHAUSII, *K. Koch.*—Commendatore HANBURY writes under date May 28:—The effect of the heavy snow and repeated frosts at the end of January was most disastrous in this garden, and I have to deplore the loss of many rare and interesting plants that have withstood previous winters. Others that appeared dead are, after being cut down, shooting again, the roots not having been killed; this is the case with Datura arborea, Cestrum aurantiacum, Ferdinanda eminens, and many more I could name. The season is about a month later than usual, the Olives usually in blossom at the end of April not being yet in flower. Most copious rains have recently fallen, infusing new hope into the hearts of the peasants, who have been most sorely tried by the almost total loss of their crop of Lemons, owing to the severity of the winter. No fewer than twenty-three well-developed examples of Fourcroya Bedinghausii are now in flower in the Mortola gardens; they were received from Kew fourteen years ago, and until this year only one specimen had flowered. The stem beneath the rosette of leaves is generally 6 feet high, above which is the flower-stalk, 15 or 16 feet high, bearing sixty to a hundred gracefully pendent branches, from 1 to 3½ feet in length, covered with a profusion of star-shaped flowers of a greenish-white colour, which hang from the branches. For a further description of this plant, see *Botanical Magazine*, pl. No. 7170—*vide* also photograph sent herewith.

THE HUGH NETTLEFOLD ALPINE GARDEN AT THE BIRMINGHAM BOTANICAL GARDENS.—Advantage was taken of the first day of the Pansy and Viola exhibition at Birmingham, to open the newly-formed alpine garden, which has yet to have certain finishing touches put to it. It occupies a prominent position towards the middle of the grounds, and though to some extent affected in its construction by the hot dry weather, the planting is nearly completed by Messrs. BACKHOUSE & SON, of York. The area is nearly half an acre. In its construction 250 tons of millstone grit from Yorkshire, has been employed in masses up to 5 tons in weight. It is to be known as the Hugh Nettlefold Alpine Garden, as it was mainly the conception of this deceased gentleman; and at the lower end, the smooth face of a large slab of millstone bears the following inscription:—"To commemorate invaluable services to the Society, first as Honorary Secretary, and later as Chairman of Committee, this portion of ground laid out for the reception of rock and bog plants is named the Hugh Nettlefold Alpine Garden; opened May 29, 1895." The opening ceremony was performed, in the presence of a considerable number of subscribers, by Mr. GEORGE H. KENRICK, Chairman of the Improvements Sub-Committee, who delivered an address suitable to the occasion, and afterwards declared the garden open. In outline, the rockwork consists of one big projecting peak, with an outlier at its base flanked on either side by a subsidiary mass, partially surrounded at the base by a large waterpool. The vertical dimensions of the whole are little short of 30 feet. The water supply is mainly due to two springs, which were tapped during the progress of the work. Attached is a bog garden, and among other plants there are Sarracenia, Parnassia, Trollius, &c.; and on the slopes of this are large patches of Cypripedium, Calceolus, and other Orchids. Owing to the exceptionally dry season, the planting is by no means complete, many subjects being postponed until autumn. The Improvement Sub-committee are in charge of a scheme which commenced with a considerable extension of the Exhibition Hall last year, adding a lecture platform and auditorium; and it is intended to include, among other things, the lighting of the houses and terrace by electricity, and the institution of a system of popular botanical and horticultural lectures.

CHESHUNT, WARMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The closing meeting of the spring session of this Society, of which Mr. WM. YATES, 4, Occupation Road, Warmley, is the Hon. Secretary, was held on Thursday, June 6, in the National School, Warmley; when Mr. W. EASLEA, of Waltham Cross, read an interesting paper on the Rose, descriptive, historical, and cultural. A discussion followed, and a hearty vote of thanks was accorded Mr. EASLEA. The Society was started last February, and has a membership of nearly one hundred. The papers which have been read have given general satisfaction, and the meetings well attended. The committee intend to spend £10 in horticultural books, and begin the formation of a library. The autumn session will commence on July 4.

THE MUMMY PEA AGAIN.—We note that the *Daily Chronicle* of June 7 gives publicity to a story of Mummy Peas found in a sarcophagus at Assaseef, in Upper Egypt, growing at the present time in a garden at Bromley Common, Kent. If the Peas are really those that were found in the mummy case, we wonder who the joker was that put them there, and should not be greatly surprised if they

turned out to be of the variety William I., seeing that the reputed find was made in the Valley of the Kings.

"BOTANICAL MAGAZINE."—The following plants are figured in the current number:—

Crinum Schimperi, Schumacher (in *Garten Flora*, 1889, p. 561, t. 1309), t. 7417.—A fine Crinum with umbels of funnel-shaped white flowers, with segments reflexed at the apex. Native of Abyssinia.

Trichocladus grandiflorus, Oliver, t. 7418.—A greenhouse shrub from the Transvaal. It has shortly stalked stellately-puberulous lanceolate leaves, and terminal clusters of white flowers, each with five long, wavy, strap-shaped petals.

Ribes bracteosum Douglas, t. 7419.—A hardy shrub, native of North Western America, with palmately-lobed, glabrous leaves, and long, erect, many flowered racemes of greenish-red flowers.

Peraphyllum ramosissimum, Nuttall, t. 7420.—A shrub with the habit and general appearance of some species of Pyrus. Leaves narrow oblanceolate; flowers in subsessile corymbs, calyx-tube cylindric; petals orbicular, pink; fruit globose, edible. Native of N. W. America.

Rosa Luciæ, Franchet, t. 7421.—A Chinese and Japanese Rose like R. multiflora, but prostrate, with rounder leaflets, larger flowers and pisiform fruit. It has been tried in America for covering rocky slopes and for similar purposes, and is a most desirable plant.

HORTICULTURAL CLUB.—The last dinner and conversazione for the season 1894-95, were held on Tuesday last, at the Club Rooms, Hotel Windsor, Victoria Street, Westminster. The chair was occupied by Mr. GEO. GORDON, and amongst those present were Messrs. G. Paul, G. Laing Paul, J. Walker, A. H. Pearson, J. E. Cockett, H. Selfe Leonard, T. W. Girdlestone, the Rev. J. H. Pemberton, and the Secretary. The subject for discussion was, "Single Roses for Garden Decoration," which was opened by an interesting paper by Mr. George Paul, jun., who dealt with some of the most valuable Roses for this purpose, both species and hybrids. A very animated discussion followed, in which most of those present took part, and a desire was expressed that more prominence should be given to this class at our earlier Rose shows, as the Roses belonging to it are mostly over by the beginning of July, except, it may be, in the North of England. A cordial vote of thanks was given to Mr. Paul for his paper, which will, we believe, appear in the *Rosarian's Year Book* for 1896. We believe it is in contemplation to revive the excursion, and it was proposed that it should this year embrace one or two of the market gardens in North Finchley, and a visit to Hatfield House and gardens.

MR. HUGH F. MCMILLAN, of the Royal Gardens, Kew, has been appointed Curator of the Royal Botanic Gardens, Peradeniya, Ceylon. Mr. MCMILLAN will sail on the 25th inst.

COMING OF AGE OF MR. J. W. WATT.—There was an interesting gathering at the Knowefield Nurseries of Messrs. LITTLE & BALLANTYNE, Carlisle, on Tuesday evening, June 11. Mr. JAMES WILLIAM WATT the eldest son of Mr. WATT, the head of the firm, attained his twenty-first birthday on that day, and the employés, over 200 in number, seized the occasion to present him with a writing-stand and writing-cabinet, as a mark of their respect for him personally, and of the good relations which exist between them and the gentleman who has secured for the firm its present high position.

MEETING OF THE BRUSSELS ORCHIDÉENNE.—The sixtieth meeting of the Orchidéenne, held on June 9, was a great success, and participated in by almost all the leading Orchid-lovers of Belgium. L'Horticulture Internationale (MM. LINDEN) obtained, *par acclamation*, and with the congratulations of the jury, a special Diploma of Merit for their magnificent group of Lælia purpurata and Cattleya. The vast mass of these splendid flowers was artistically arranged under the dome of the great centre hall, and was overtopped by Corypha Sieboldi, the fine Palm imported by VON SIEBOLD, and which has grown to a great height. Among all the many varieties of Cattleya Mossiæ was one with a flower of unusual dimensions; and C. Mossiæ with a lip where various shades of yellow predominated, especially golden-yellow. Some of the specimens attained exceptional size, as, for instance, one which measured 2½ feet in diameter by about 2 feet in height, and bore 100 fine flowers. From this collection I would select for mention a C. Mossiæ alba var. cœlestis, the variety amethystina, C. Reineckiana exquisita, &c. A fine specimen of Thunia Marshalliana, very dwarf, bore twelve racemes of pretty flowers. The mass of flowers was edged with a hundred delightful specimens of Adiantum Claesianum. Dr. CAVANT showed a fine Cypripedium selligerum majus, with a very full lip, and some fine Cattleya Mendelii. M. MITEAU staged some good Lælia purpurata, of excellent colouring. M. MADOUX exhibited several fine specimens of Odontoglossum crispum, well marked and spotted: one bore very large

[FIG. 117.—PROTEA CYNAROIDES: FLOWERS PINK, 12 INCHES IN DIAMETER.

brownish-red spots, and dots of purplish-lilac; another was remarkable for its pure white ground, distinct spots, and its lip, with a large spot in the centre bordered with a series of lines of dots of the same colour; a third specimen was noticeable for the striking contrast of its violet and white colours. M. MADOUX also staged a Phalænopsis Luddemanniana, of splendid colouring; an Anguloa Madouxiana, distinct in colour; some remarkable C. Mossiæ and Mendeli; on one of the latter plants the lip was half-bright yellow, widely bordered with cream-white, and with a pure white tube. M. VAN WAMBEKE, in addition to some fine Cattleya Mossiæ—among them C. Mossiæ chirguensis, with a spreading bloom of good shape and form, with a splendidly-coloured lip—showed two very large specimens of Lælia purpurata with immense trusses of flowers. Mr. H. KNIGHT, Director of the Royal Gardens at Laeken, won praise for his interesting exhibit of Cattleya Mossiæ; his Cochlioda Noezliana has an orange-yellow lip, with little horns of bright yellow. Fine also were Cattleya maxima Leopoldi, with its splendid lip; and Lælia purpurata, the middle and terminal lobe of which were beautifully velvety. M. A. Van IMSHOOT staged a well-flowered specimen of O. Phalænopsis, Cattleya Alberti (C. intermedia × superba), remarkable for the delicacy of colouring and size of the flower; Lælia tenebrosa, a fine dark tint, and Odontoglossum polyxanthum in full flower. M. DE LOMBARDE a very pretty variety of O. crispum, the petals plentifully dotted with red, and the lip well marked. Lastly, M. LINDEN was again represented by some noteworthy plants:—Baibophyllum Dearei, this new floral gem, as well as the miniature B. anceps, obtained a Botanical Certificate. Very interesting were the hybrid of Odontoglossum crispum × luteo-purpureum, and Vanda Marriottiana, in which the flower has a white centre, shading into purplish-rose, which deepens gradually into chestnut-brown, and, moreover, it bears a pretty dark purple lip. Acineta eburnea bore a truss of nineteen flowers. Lælia princeps, a fine bloom, the very broad petals of which are a charming lilacy-rose colour, veined with purple, and the dark lip is of unusual size; a Certificate of Merit, *par acclamation*, was awarded for a Cattleya Mendeli var. Emperor, the flower of good size, the lip gorgeous, fringed, waved, with a wide white border and background splendidly marked. Very much noticed also was a Lælia elegans of unusual size, the anterior lobe of the lip very dark, the lateral lobes much developed, the colouring of the whole splendid. One plant of Saccolabium ampellaceum bore four fine flower-sprays. Also I must allude to a Cattleya Mossiæ from M. VANHERVENY; the flower white, shaded with lilac, half of the lip of a tender yellow tint. *Ch. De Boschere.*

FRUIT FROM THE ANTIPODES.—The Peninsular and Oriental Company's steamer *Macedonia* arrived on Monday last with the following consignments of Apples:—From Hobart, 16,615 cases, 106 small cases, and 100 half-cases; from Melbourne, 208 cases; and from Adelaide, 146 cases; or a total of 17,244 cases, large and small.

WYE COLLEGE.—Old Kentish men—we beg pardon—"Men of Kent" will be interested in the new development of this establishment, which forms so prominent a feature in the old village of Wye. The church, the college, the Downs with their Orchids and other rarities, the little river meandering through rich pastures, must all be well remembered by those whose lot was cast in that pleasant locality. And now, it appears, the old grammar-school is converted into an Agricultural College, with an "hereditary governor," "a survival," we presume, a board of other governors, presumably non-hereditary, appointed by the County Councils of Kent and Surrey, and other public bodies. The objects of the College are to provide a thorough education in agriculture and the sciences upon which it depends, to act as a centre of light and leading, and as head-quarters, whence trained instructors may be sent into the highways and byeways to show the more excellent way. We sympathise with all attempts to extend knowledge and promote skill, and cordially wish all success to the old college in its new guise. A journal is to be published three times in the year The number before us contains, among other things, an article on the eel-worm disease of the Hop.

LONDON PANSY AND VIOLET SOCIETY.—A meeting of the members of this Society took place on the 17th inst. In the unavoidable absence of the President (Mr. WM. ROBINSON), Dr. SHACKLETON, of Sydenham, occupied the chair. A large number of new members was elected, and final arrangements were made for the annual show of the Society, which will take place at the Crystal Palace on Saturday, July 6.

PROTEA CYNAROIDES.

PROTEACEOUS plants, in spite of their noble foliage and gorgeous flowers, find little favour with gardeners now-a-days. Even in our Botanic Gardens they are poorly represented. This arises probably, in most cases, from insufficient space, and from the inordinate demand for cut flowers and plants for decorative purposes. These latter are, no doubt, very beautiful, but they are monotonous, and relatively devoid of interest.

Our illustration (fig. 117), taken from a pho-

tograph forwarded by Mr. B. H. South, of Graham's-town, shows a plant of Protea cynaroides as growing in its native wilds. It is, however, not necessary to go to South Africa to see it, as there is a fine plant now in bloom in the Succulent-house (No. 5) at Kew. Here, indeed, it flowers most years. It will be seen that the plant flowers when of relatively small stature, so that the objection on the score of space is in this case not tenable. The flowers are disposed in heads of the size of those of a Sunflower, but the bracts are of a lovely shade of rose-pink, and the foliage itself is highly effective.

THE APIARY.

HONEY PROSPECTS.

THE continuance of dry weather does not augur well for a good honey harvest this year, although some good takes have already been reported in some places, and a nice lot of new honey was staged at the Essex Agricultural Society's Show at Southend on the 12th and 13th inst. The white Clover plant is beginning to suffer severely from the drought, and if rain does not soon come in sufficient quantity to hasten plant growth, very little honey will be gathered from this source. Few bee-keepers were fortunate enough in getting much honey from the fruit bloom, as the cold spell that came about the middle of May completely stopped the in-gathering from such a wealth of Apple blossom as has rarely before been equalled, with at the same time, such favourable weather for the bees to work it. Stocks, owing to the severe winter, were not very forward this spring, and a much larger percentage of lost colonies has been reported than usual. The increased mortality was caused in many instances by dysentery, through the bees being confined for so long a time to the hives, and not having a chance of a cleansing flight for weeks together. Stocks well provided with stores perished from this cause, and it has been a puzzle to some beginners in the craft to divine the reason of their bees dying out with an abundance of food about them.

SWARMING.

Swarming has now become general, and the predilection of the bees for coming out on Sundays has been maintained. Why they should prefer this day of all others has never been satisfactorily explained, although many theories have been advanced to account for it. In dealing with swarms, it is an important matter to know the most profitable way of going to work. Formerly, swarms were almost invariably put into fresh hives, and the bees set to work to build new combs. They would seldom be able to do more than this, and perhaps store enough honey to keep them through the winter. No surplus would therefore be available either from the swarm or the old stock depleted of bees. By moving the swarmed hive to a fresh stand, and putting the swarm into a new hive in its place, first fitting it with about seven frames containing full sheets of foundation, and then transferring the supers to it, honey will continue to be stored in them to almost as great an extent as if nothing had occurred. If an increase in the number of colonies is desired, two or more nuclei may be made by dividing up the combs in the swarmed hive, and giving each a queen cell. In any case, perhaps, this would be the better plan, as spare queens would thereby be produced, and any nuclei not wanted could be united later on. *Expert.*

ROSES.

A ROSE SPORT.—Mr. G. W. Ewen sends us an interesting sport, the nature of which will be evident from the following letter:—"I send you by this post two Roses, both borne on the same stock. In 1888 I had budded on an ordinary Briar stock the dark crimson Henry Bennett, which has thrown out several strong shoots more than 6 feet long. Last year (1894) one of the previous year's shoots produced eleven sprays of the pink Rose, in clusters of five to seven buds, of strong fragrance, and all splendid blooms. As the display is this year equally good, I propose to name the Rose Duchess of York. This is not a case of "budding." The shoot is above the place where the original bud was inserted (by my present gardener), and there are other shoots of Henry Bennett close to it. I shall be glad to show it to anyone who may wish to satisfy themselves that this is a real "sport," as I believe it to be.—I am, Sir, yours faithfully, *George W. Ewen, The Lodge, Farnborough, Hants.*

LORD PENZANCE'S BRIARS.

Those who may not have seen these plants in growth should pay a visit to Kew, where, on one of the lawns, are two beds of these Roses. Editors generally find it necessary to avoid superlatives themselves, and desirable to eliminate those of their correspondents, but in this case their use might be well justified, as anyone will admit who sees them.

GRACE DARLING.

This hybrid Tea is, as seen at Kew, one of the noblest Roses of its kind. Its large double rosy-pink flowers are produced in profusion and for a long period.

ROSA RUGOSA ALBA.

A charming double variety of this species is now in bloom at Kew. The plant is of relatively low growth, and covered with large double flowers of a peculiarly pure white colour.

ROSA SULPHUREA, HORT.

Mr. Gilbert sends us a fine spray of this noble Rose. It is one of the oldest of Roses in cultivation, but there are few even now to exceed it in beauty. It is stated to be tender, difficult to grow, and rarely to expand its flowers properly. Mr. Gilbert's specimens were, however, magnificent. The wood is of a rich cinnamon-brown, with strongly recurved, scattered prickles, and slightly glaucous leaves, with oblong or elliptic toothed pinnæ, and small adnate stipules. The flower-tube is sub-globose, thinly covered with small glands. The flowers are 3 inches across when fully expanded, globular, very double, and pure yellow. It was known to Clusius and Parkinson. According to Crépin, the wild form of this Rose is Rosa Rapini of Boissier and Balansa, a plant comparatively recently discovered in Asia Minor and Persia. See Boissier Flora Orientalis, ii., 1872, p. 672. This is the Rose which garden tradition in former days said originated from a Rose having been engrafted on a Broom stock. We are afraid this is an instance of the untrustworthiness of some horticultural literature. It is well figured in *Botanical Register*, t. 46. The mention of this Rose induces us to recall to our readers the specially interesting Rose Conference at Chiswick in July, 1889, the report of which will be found in the *Journal* of the Society. These Conference reports are most valuable documents for those who are interested in the history, progress, and present condition of the plants treated of.

VICOMTESSE HÉRICART DE THURY STRAWBERRY.

THIS is a variety which during the last twenty-five years has been almost universally employed for forcing purposes, and is peculiarly adapted for early forcing, the plants flowering and succeeding generally with less light than almost any other. It is a sure and abundant cropper, and the fruit is of fair size and fine flavour. It is also known in British gardens under the name of Garibaldi. The photograph from which our illustration (fig. 118, p. 775) was taken, was sent by Mr. Joseph Corbett, gardener at Mulgrave Castle, Whitby. In his communication accompanying the photo, he says, "The ten pots of Strawberries shown were forced in the gardens at this place. The fruits number 155, and weighed 3 lb., the heaviest fruit weighing 5 dr. 1 scruple. It is yet hard to beat as a forcing Strawberry, or outdoors. For jam making I regard it as the Strawberry above all others. The outdoor crop of the variety is very promising, and it is likely to be a heavy one."

HOME CORRESPONDENCE.

THE ORIGIN OF THE CULTIVATED CINERARIA.—It is with some surprise that I have seen Mr. Dyer's letter in the *Gardeners' Chronicle*, June 15, p. 742. Mr. Dyer states that Mr. Nicholson has called his attention to an article by James Drummond, written in 1826, in which Drummond gave his experiences in cultivating C nerarias, and describes his efforts to improve C. cruenta. This article Mr. Dyer reproduces, claiming it as evidence that our Cinerarias arose from cruenta alone. As this may cause misconception in the minds of those who have not followed the discussion in *Nature*, let me point out (1) that in my first letter (*Nature*, April 25, of which I send a copy for your inspection) in questioning Mr. Dyer's assertion that our Cinerarias are pure descendants from cruenta, I myself referred to this article of Drummond's, and quoted the essential parts of it verbatim; (2), that, as I then pointed out, the history shows that the first recorded efforts to hybridise Cinerarias were made by Drummond after the publication of his article in the *Gardeners' Magazine* for 1827; (3), that in proof of this I quoted amongst other evidence, a passage from Mrs. Loudon's *Ladies' Magazine of Gardening*, 1842, p. 111, to the effect that C. cruenta "was long a favourite in greenhouses, and was generally propagated by dividing the roots; but about 1827, Mr. Drummond, Curator of the Botanic Garden, Cork, having raised it from seed, and found the seedlings vary considerably, conceived the idea of hybridising it with C. lanata [Heritieri], C. geifolia and C. amelloides. The trials, however, with C. geifolia [a true Cape Cineraria] and C. [Agathœa] amelloides do not appear to have succeeded; but between C. cruenta and C. lanata some handsome hybrids were raised. Since that time numerous experiments have been made and hybrids raised," &c. Of some of these I gave particulars. Moreover, I threw out the suggestion that Drummond may have been prompted to make his experiments in hybridising with lanata by the results obtained by Bouché of the Berlin Botanic Garden. The latter had recently (1824) given an account of his success in raising seedlings from C. hybrida, Willd., finding that they differed widely from their parent, and in certain respects resembled lanata. A reference to this paper of Bouché's was given in the same volume of the *Gardeners' Magazine*, in which Drummond's article appeared. The fact that, up to 1827, Drummond had not tried to hybridise his Cinerarias is in precise accord with the history of the hybridisation, for, as I showed in the letters to which I have referred, there is abundant evidence that it was between 1827 and 1840 that Cinerarias, much as we know, then came into existence. I may add, that the case of the Cineraria was not in the first instance chosen by me as an example of the effects of hybridisation, but was brought forward by Mr. Dyer, wrongly, as it appears to me, to illustrate what could be done by the accumulation of small variations without hybridisation and without sudden variation. *W. Bateson, St. John's College, Cambridge, June* 16, 1895.

—— I have been much interested during the last few years in noting the variations in the flowers and habits of the plants of the garden Cineraria, and the article at p. 742 has been to me very interesting reading. It is only by historical evidence, backed up by modern practice and careful investigation, that we can get at the truth, or, at least, anything near the truth, when garden flowers of remote origin are in question. Your readers will doubtless remember the re-introduction of Cineraria cruenta by Mr. Charles Green, when gardener to the late W. W. Saunders, Esq. The plant exhibited by Mr. Green some twelve or fifteen years ago seemed to have rather larger flowers than the specimen exhibited by the authorities from Kew quite recently; but I question much, in fact I think it improbable that our present garden Cinerarias have been obtained from this species by ordinary generation, that is, by selection. The question then arises, what was the parentage? Amongst those cultivated by Mr. Drummond, C. amelloides may be left out of it. This is nothing but the Agathæa cœlestis, or Aster rotundifolius of Thunberg, as a glance at the coloured plate in the *Botanical Magazine*, t. 249, will sufficiently prove, and will prove also that it could have nothing to do with the parentage of our Cinerarias. A much more likely plant is C. lanata [Heritieri]. It is figured also in the *Botanical Magazine*, t. 53; but, unfortunately, the early plates of the *Botanical Magazine* do not

give enough of the plant to show what it really is; in this case one flower only is shown. The following remarks, taken from Mr. Curtis's description, will be interesting for comparison with the paper at p. 742:—"In the beauty of its blossoms, Cineraria lanata, lately introduced from Africa, by far eclipses all others grown in our gardens; its petals exteriorly are of the most vivid purple, interiorly white—this change of colour adds much to the brilliancy of the flower. What renders this plant a more valuable acquisition to the greenhouse is its hardiness, its readiness to flower, and the facility with which it may be propagated. Certain plants are particularly liable to be infested with aphides; or, in the vulgar phrase, to become lousy—this is one. The only way to have handsome, healthy, strong-flowering plants, is to procure a constant succession by cuttings, for there is no plant strikes more readily; these should be placed in a pot, and plunged in a bed of tan." C. cruenta is figured at t. 406 of the *Botanical Magazine*. It was introduced to the Royal Gardens, Kew, so long ago as 1777 by Mr. Masson, from the Canary Isles. I also find, on referring to the *Hortus Kewensis*, published in 1813, that C. lanata was likewise introduced by Masson from the same place in 1780. Curtis possessed very little information about this plant, and remarks of C. cruenta that its seeds usually prove abortive. On the other hand, Mr. Drummond's experience in the Cork Botanic Garden goes to prove that it could be raised freely from seed; but he predicted that fine double and single varieties of different colours would be obtained. Those who can refer to the *Botanical Magazine* plates will observe that C. cruenta is a purplish-red self-coloured flower, and that C. lanata is much larger, of nearly the same colour, but the base of the petals are white, internally forming a ring of white round the anthers, as in many of our present garden varieties. If any attempt is made to cross the species of Cineraria, I would advise the two I have named above. I have hunted up a large number of other species, but none of them seem to have the characteristics of our beautiful garden plants. There is constant reversion to the normal forms amongst the thousands of seedlings I raise every year, but their numbers are few—not above one or two in five hundred plants. I had one this year which made a distinct tall growth more like C. cruenta than the dwarf or rather low-growing varieties of the florist's type. This was destroyed at once, as its lanky habit was objectionable as a garden variety. The standard of excellence in the form of the garden flowers is broad slightly recurved over-lapping ray-florets, while the characteristic of the typical forms is narrow and straight ray florets, with spaces between. It would be easy I think in a few years to select varieties that would bring the garden Cineraria back to the form of flowers and habit of plant of the original species, by merely selecting the lanky habited plants, and badly formed flowers as seed-bearers, instead of ruthlessly destroying them. If plants of C. lanata and C. cruenta can be obtained, and no one else cares to cross-fertilise them, I should be pleased to do so. The paper on the "Origin of the Cineraria," contains some most interesting and pregnant passages. What we call species is, I think, more likely to be produced from cross-breeding than by selection. This has been exemplified in many genera of Orchidaceous plants. Many species have been introduced from their native habitats, and their names published in the *Gardeners' Chronicle* by the greatest Orchid authority, and the same specific forms have been produced by cross-fertilisation in England. We have a good example in Odontoglossum excellens, quite distinct as a native species, but produced in our own gardens by crossing O. Pescatorei and O. triumphans. Garden varieties may frequently be, and doubtless are, produced by selection; but how far these have been influenced by cross-fertilisation it is impossible to say. I have been looking through Darwin's book on *Animals and Plants under Domestication*, and he deals with such garden flowers as the Dahlia, Rose, Carnation, Hyacinth, Pansy, &c.; but he does not seem to be able to trace any of them distinctly to a specific source, or to show how varieties have been produced. Even the garden Pansy is supposed to have been produced from several wild stocks, besides V. tricolor. Cultivators obtain distinct species, and by bringing intelligence to bear upon them, they obtain certain expected results from crossing, and by selecting the best varieties as seed-bearers, the produce of these hybrid forms is more

Fig. 118.—VICOMTESSE HÉRICART DE THURY STRAWBERRIES IN POTS, AT MULGRAVE CASTLE. (SEE P. 774.)

likely to vary than seedlings from any of the original species. So I believe would seedlings from any hybrid forms of Cinerarias. Supposing that Mr. Drummond cultivated C. cruenta and C. lanata in the same house, even if no attempt were made to cross-fertilise them by artificial means, the bees would be busy flying from one flower to another. Mr. Drummond could not be sure that the seed he saved from C. cruenta had not been cross-fertilised by the pollen of C. lanata. It is significant that he cultivated both species, probably in the same house, and that Mr. Curtis declares that the seed of C. cruenta usually proves abortive. Gardeners, seventy years ago, were not likely to be careful in making correct observations, but Mr. Drummond distinctly states that his object was to have C. lanata in flower with C. cruenta, and most likely he arranged the plants side by side, in that case cross-fertilisation was inevitable. Mr. Drummond also made a mistake in culture. He put his plants about the end of May on a dry shelf in a greenhouse, supplying them very sparingly with water. No wonder they did not grow so strongly as seedlings. The better place for them would have been a garden-frame facing the north, the plants on a damp cool bottom, and fairly well supplied with water until it was time to divide them. But the matter of culture has been so often dealt with by myself and others, that it merely suffices to say that a cool position during hot summer weather is best, ample ventilation, sufficient water to keep the soil comparatively moist, and frequent fumigations to keep down thrips and green-fly. *J. Douglas.*

EARLY PEAS.—This year, I gathered my first dish of green Peas from plants growing out-of-doors on the 20th of May, only two days behind my earliest record during the past twenty-three years or so, the variety being First Crop (Carter's). Since the 20th till up to the present time (June 11), I have been gathering from three to nine gallons of well-podded Peas weekly, first from plants growing in a border in front of a wall having a south-west aspect, the supply being afterwards continued by plants growing in the open ground of Lightning, William the First, and Telegraph, and which plants had been transplanted out of 3-inch pots and shallow boxes into their present quarters as soon as frost had relaxed its hold of the soil about the middle of March. I gathered my first dish of Telegraph Pea this year on the 10th inst., a fair sample of which I sent up to the Fruit Committee of the Royal Horticultural Society at Westminster the following day, this date being about a fortnight earlier than I had hitherto made gatherings of the Telegraph type of Peas from plants out-of-doors, although the seed was sown about the same time as heretofore, and that the cultural treatment was the same, the only difference being that this year the plants were transplanted out-of-doors about one month later than usual. I may add that the plants were moulded up, staked, and mulched as soon as planted, Spruce boughs being stuck firmly in the ground on each side of and close up to the plants. Within three days after planting them, the boughs were removed from the warmer side of the rows, replacing them at night, afterwards removing the boughs from both sides of the rows in fine weather, replacing them at night as before, and removing them entirely about twelve days from the time of planting. In ordinary winters—say, the beginning of January—I fill from 1800 to 2000 3-inch pots with Peas (including Carter's Telephone, Telegraph, Stratagem, and Pride of the Market), but this year, owing to the ground remaining frost-bound for such an unusually long period of time, I was obliged to make two sowings in pots and boxes in order to prevent a break occurring in the supply of green Peas in June and the early part of July; seeing that the ground was not in a fit state to sow Peas during the interval from the end of December to the middle of March. *H. W. Ward.*

NECTARIES ON THE CARPELS OF CALTHA PALUSTRIS.—I have read with interest Professor Henslow's courteous reply to my query. I had read his remarks on the subject in his "Origin of Floral Structures" in which he seemed to, partially at least, confirm Müller. Acting on the Professor's suggestion that Caltha might bloom longer in Germany than in this country, I wrote at once to a correspondent in Germany, asking him to send me flowers. I duly received his reply dated June 8, in which he says—"I have tried to get some flowers of Caltha palustris, but regret to find that they are all gone." Next spring, if all is well, I shall try to get flowers from Germany earlier for comparison with those grown in this country. *Wm. Cuthbertson, Rothsay.*

DIVIDED PSEUDOBULBS OF ORCHIDS.—Apropos of this occurrence in Orchids, we wish to say that we had two breaks on a D. nobile which are both divided, although not to the extent of the one shown in the figure published in the *Gardeners' Chronicle;* it seems to have formed two eyes after growing about 1½ inches. *H. H. & Co.*

INJURY BY SQUIRRELS TO RED-FLOWERED CHESTNUT TREES.—On Saturday last, whilst walking in the Kew arboretum with Sir John T. D. Llewelyn, we came across a young red-flowered Chestnut tree (*Æsculus rubicunda*) that had many of its terminal branches broken and hanging by shreds. Our first idea was that a heavy branch had fallen from above, or that someone had wilfully injured the tree. Mr. Bean, the foreman of the arboretum, to whom we mentioned the matter, suggested that the injury was done by squirrels. Later, when passing the same tree, we saw a squirrel running from it in the direction of a large Beech tree close by. We therefore regarded Mr. Bean's suggestion as probably the right one. Further examination has confirmed this. Several of the Red Coestnut trees growing in this part of the arboretum have suffered in the same way. The trees are very healthy and vigorous, and about 5 to 8 feet high. The injury is all of the same character. The stout and somewhat succulent shoots have pieces bitten out of them in places, whilst many have the pith scooped out, as shown in the specimen enclosed with this note. The marks of teeth are clearly traceable everywhere. The cause of the attack, no doubt, is the exceptionally dry weather, and the consequent scarcity of food and moisture. It is probable also that there are young to feed. Some of the Chestnut branches can be seen lodged in the fork of the Beech tree above. The remedy is not far to seek. Either the squirrels must be killed, or some means adopted to supply them with food. In view of the great interest taken by visitors to Kew in the wild life of the Gardens, we wish to keep the squirrels as long as we can. If it is possible to break them of the present habit by giving them food, we may tide over the present difficulty, and save both the squirrels and our trees. *D. Morris, Royal Gardens, Kew, June* 17.

CEDAR OF LEBANON.—Mr. Wm. Whalley, head gardener at Addington Park, Croydon, has been kind enough to furnish the following particulars regarding the specimen of Cedrus Libani referred to in the *Gardeners' Chronicle,* June 1, as "the biggest Cedar of Lebanon in Britain." The tree is about 50 feet high, and branches out of the ground. The main trunk is 22 feet in circumference, the largest branch 10 feet 6 inches, and the next 7 feet 6 inches. The tree has a diameter of 121 feet (or say, 360 feet in circumference), is very noble-looking, and quite healthy. From the notes in the *Gardeners' Chronicle,* therefore, during the last few weeks, it may be assumed that some of the largest Cedars of Lebanon are to be found at (1), Langleybury, Herts; (2), Methven, Perthshire; (3), Bretby, Derbyshire; and (4), Tapley, near Teignmouth. Perhaps "W. T." would be kind enough to give the height of the specimen at this latter place. *John Weathers, R.H.S.*

INULA GRANDIFLORA, *Willd.*—In your last issue is stated that the committee of the Royal Horticultural Society has awarded a certificate to Inula Hookeri exhibited by Messrs. Paul & Son. Moreover, I beg to state that, according to description given, the plant in question must be I. grandiflora, *Willd.,* which also occurs in the Himalayas. I. Hookeri has smaller flowers, paler in colour, as may be seen by the figure in *Botanical Magazine,* 105, No. 6411. *Max Leichtlin, Baden-Baden.* [The plant shown seemed to be a form of I. glandulosa, certainly not Hookeri.—ED.]

HYBRID POPPIES. — In Dr. W. O. Focke's *Pflanzen Mischlinge* (Berlin, 1881), a work which contains a vast amount of information about hybrids, both natural and artificial, a number of hybrid Poppies are recorded. It will suffice to quote one instance, "P. dubium ♀ × orientale ♂, produced by Godron; flowers very freely, is perennial, and entirely sterile." No fewer than fifteen others are mentioned, most of which were raised by Godron. *W. H. Beeby.*

THE LATE SEVERE FROST IN YORKSHIRE.—The frost that we experienced on the morning of June 15 was 7°, and on the following morning 4°. The results to vegetation are most disastrous, French Beans being destroyed, particularly those growing in the middle of the garden; Scarlet Runners, which were 3 to 4 feet high, are killed down to about 1 foot, and the haulm of Potatos, where much exposed, are black 3 to 4 inches down the stems. In the flower-garden the Dahlias are also hit very hard, some being blackened half-way down; Heliotropes are nearly killed, Perilla is quite dead, Ageratums very badly injured, and tuberous Begonias are past recovery this season. It is very disheartening. *A. J. Temple, Ashton Hall Gardens, Gargrave.*

—— *In Scotland.*—I am sorry that I must report myself as an untrustworthy weather prophet, as in my previous note to you I said that if we got past the moon that was full on the 7th without frost we might consider ourselves safe for this season. Well, we got past that period safely—but you may judge of the consternation of amateurs and gardeners alike this morning, to see everything white with rime. At Monteviot we registered on a thermometer hanging in the kitchen-garden 6° of frost this morning, and Potatos and French Beans are sorely blackened; the Dahlias are killed to the ground; some Cannas, Begonias, and Tropæolum badly hit; and Pelargoniums will lose their leaves. We were busy bedding out, having started on the 9th, with the wind in the west. We had some hail showers fall yesterday, and about 7 P.M. the wind shifted due north, and the sky became very clear, not a cloud to be seen. I hope this cold snap has not been general. Mr. Fish spoke of passing the rubicon on May 20, but he would find he had not passed it on this side the Border for a month after that date. The wind has been in the west all day, but is due north this evening, with an overcast sky. *John Page, The Gardens, Monteviot, Jedburgh, N.B., June* 13, 1895.

—— *At Belvoir Castle.*—This morning (June 15) we had a hoar frost; the thermometer on grass registered 28°, or 4° of frost, and in a Glaisher screen 36°. I cannot see any damage to French Beans, Potatos, or Vegetable Marrows in these gardens. Tender bedding plants are also safe, and we have escaped much better than our neighbours in the surrounding villages, which are at a lower elevation, and possibly the frost was more severe there, as I find that Potatos are severely damaged in many of the village gardens and allotments. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

NURSERY NOTES.

MESSRS. CHARLESWORTH AND CO.'S, HEATON, BRADFORD.

THE fine collection of showy Orchids which is to be seen at this pleasantly-situated nursery enjoys the advantages of a specially, and perhaps expensively, built block of houses, fitted with every modern appliance. One of the aids to good Orchid culture which the firm have for some time adopted is the lath roller-blind shading, which has been in vogue on the continent for a long time, and is fast becoming common in this country, especially for the shading of Orchids. There is no doubt but that for preventing injury from the sun's rays without seriously obstructing the ingress of light, these lath blinds are all that could be desired.

Odontoglossums, Cattleyas, Lælias, and other showy Orchids imported direct through their own collectors are the special subjects dealt in, but, as with most of the leading firms, the preparations being made in the private houses for crossing and raising crosses and hybrids, point to garden-raised novelties being one day an important feature in the establishment. Already in various stages of growth was noted a large number of curious crosses in Cattleya, Lælia, Epidendrum, Sophronitis, &c., which can hardly fail to be beautiful. The work of crossing is being carefully prosecuted, the parentage of the crosses accurately recorded, and the results so far as germination goes, carefully placed against the cross in a register, and some very curious facts as to good or bad parents are therein disclosed—facts which are not lost sight of by the operators.

In a cool house we found a large part of the central stage filled with specimens of Oncidium macranthum—many in bloom. The strain cultivated here of this plant is said to have a much less rambling flower-spike than the ordinary form; and certainly those we saw in flower were well-bloomed, and they were trained round sticks placed in the pots. A

batch of plants of Thunia Marshalliana were also furnished with their large nodding heads of flowers; one of Epidendrum vitellinum majus; a fine lot of Odontoglossum cirrosum; O. Hallii, &c., was in bloom, and at one end of the house a quantity of the rare Epidendrum Frederici Guilielmi was remarked with some fine heads of flowers; and E. radicans and its hybrid, E. O'Brienianum—graceful plants—were profusely in bloom. In this same cool house Oncidiums of the O. Marshallianum class thrive admirably, and splendid spikes of this species, O. concolor, and others, were full of beauty. The singular chocolate and white coloured O. nigratum and O. globuliferum were likewise found in this house.

The next house visited had many hundreds of unflowered plants of the typical Cattleya labiata, among which a few marked "white" by the collector are being watched. Good batches of Cattleya Harrisoniæ, C. Schilleriana, and C. Mendelii are also found in this house, among the last-named being C. M. Meteor, a large form with a singular development of the lip, which in front is carmine-crimson, and at the base yellow, with some light red lines, was in flower. Some unflowered importation of Cymbidium, resembling C. cyperifolium, and some strong plants of Cattleya Warscewiczii were noted. Of the last-mentioned species it was said that although the plants were strong and healthy, they could not be induced to flower in a satisfactory manner in that house. A house filled with Miltonia vexillaria on one side, and a very fine batch of Cypripedium Spicerianum on the other was entered. It is remarked that this last-named plant is again becoming scarce. Alongside of this batch another of the fine introductions of the firm C. Charlesworthii, comparatively new and beautiful though it be, is a plant that is getting common enough. Good examples of C. caudatum Wallisii, C. Chamberlainianum, scarlet Sophronitis all of a row, a quantity of the brightly-coloured Lælia harpophylla and L. cinnabarina, and great-branched spikes of the insect-like Oncidium phymatocheilum were among the flowers noted here. The occupants of the next house were principally Cypripediums, and among the best of those in bloom were some grandly-grown plants of C. bellatulum with very large flowers; some of C. Curtisii, also large; a few good Phalænopsis, the pretty Cymbidium tigrinum, the fringed-lipped Lælia Digbyana, Cœlogyne speciosa major, &c.

A division in the next range entered was nearly filled with Vanda Kimballiana, V. Amesiana, and the Brazilian Miltonias. Next to this was a division containing a grand lot of Lælia purpurata, many of them in splendid bloom; and among them one was remarked with five large flowers of fine form; another flower had pure white sepals and petals and a purplish maroon-coloured lip, with a lilac-lined tip, the contrast between the white segments and the lip being striking. Plants of L. purpurata Russelliana and the supposed hybrid L. Wyattiana were in bloom; and in the fine batch of Lælia tenebrosa, L. t. Charlesworthii stood out prominently by reason of its large, dark, bronzy sepals and petals, and the lip of dark purple and rose—a remarkably beautiful variety. The next division had a number of small specimens of Cattleya aurea, varieties of Dendrobium nobile, and many specimens of the new Dendrobium Hildebrandtii, which proves to be a worthy introduction, and a very pretty and free-growing plant. Its lax fascicles of pretty primrose-yellow flowers, which are sometimes rose-tinted, are attractive.

In the next house—a warm one—Dendrobium Phalænopsis Schroderianum and D. Dearei are grown, the plants of the latter being furnished with many sprays of flowers. Heat and plenty of moisture D. Dearei must have, and these being afforded, it is not difficult to grow. In the principal Cattleya-house was seen a good show of C. Mossiæ and other species, a variety called C. Mossiæ versicolor with singular looking flowers variegated with rose and purple; the plant perfectly healthy, and the variegation therefore not the result of disease, as is usually in variegated-flowered Cattleyas. A few good Lælia elegans and L. Schilleriana and a plant or two of the true Lælia Jongheana are also in the same house.

Odontoglossums of the best strain of O. crispum are a specialty of the firm, and their importation have produced a fair share of fine spotted forms. In the several houses devoted to these plants, a goodly number were in flower of finely spotted forms. Mr. Eichel, the managing partner of the firm, however, says that neither with them or any other growers known to them has the quality of the flowers of O. crispum been up to the standard of former years—probably the late severe winter may account for it. In bloom here we remarked some plants of the best form of Odontoglossum Uro-Skinneri, also O. Œrstedi, O. Krameri, Epidendrum oncidioides, and a pretty variety of Phaius Humblotii.

The catalogue sent out by Messrs. Charlesworth has been compiled with great care, and at the end of the enumeration of the species of each genus a list of the garden hybrids obtained from that genus is added, a plan which is both useful and interesting. Among the natural hybrids Vanda Charlesworthi (cœrulea × Bensoniæ) is a very rare and handsome plant.

NEW INVENTION.

THE MONARCH FUMIGATOR.

This is said to be a genuine novelty in fumigators, and those who have given it a trial speak in terms of admiration of the device for properly consuming tobacco-paper and cloth. No hot cinders

Fig. 119.—A new fumigating machine.

are required. The fumigator is filled with tobacco-paper or cloth, torn up, and thrown in loosely. A lighted match is then applied to the material at the bottom of the fumigator; when well alight, the aperture at the top is closed almost entirely, when the fumigator may be left to itself. This is necessary to prevent too rapid combustion, and possibility of flame. The inventor is Mr. H. Eve, 29, Christopher Street, Finsbury, London, E.C.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

June 11.—*Present:* Dr. M. T. Masters (in the chair); Mr. McLachlan, Professor Müller, Dr. Bonavia, Rev. W. Dod, Mr. Michael, and the Rev. G Henslow, Hon. Sec.

Injury by Salt.—With reference to this subject, discussed at the last meeting, Mr. Dod observed that it was reported from Lancashire that while Evergreens had been uninjured during the severe frost, yet they succumbed to a storm which conveyed much salt from the sea.

Asparagus fasciated.—Mr. Arthur Sutton sent a remarkably fine specimen of this not uncommon phenomenon in Asparagus. Mr. Dod observed that it was probably the result of over-nourishment, as he had fertilised Primula rosea with superphosphates, and fasciation resulted from it.

Beetles and Orchids.—Some specimens of cockroaches were received, said to be very destructive to Orchids and Ferns. Mr. McLachlan named them as Blatta lapponica and germanica. They were doubtless imported with the plants. Any method usually adopted for destroying cockroaches should be applied.

Dried Orchid flowers.—Mr. Chapman, gr. to Mr. Measures, sent some remarkably well prepared specimens of dried and varnished Orchid blossoms, retaining their colours.

"Barbarossa" grape.—Dr. Masters exhibited specimens of Grapes which had burst, and apparently showing another in the interior. This has been the usual interpretation; but an examination of the monstrosity in the young state proved that the interior "Grape" was really a seed, but coated with a succulent membrane, something like the seed of a Gooseberry. Dr. Masters observed that Robert Brown had noticed the same phenomenon to occur in Leontice, Berberis, and Crinum.

Double Daisies.—Some fine specimens of double white Daisies on very long peduncles were received from MM. Lambert, Trèves. It was suggested that they may have been derived from Bellis sylvestris, which has very similar scapes, and not from B. perennis.

Ustilago primulina disappearing.—Mr. Dod remarked that plants formerly badly infested with this disease gradually recovered, and were now quite free from it. He observed that the remedy so often given of total destruction by burning of plants infected by certain fungi might be sometimes too drastic a measure. Dr. Masters corroborated this observation, as he had heard of a similar recovery in Lilies.

Infected soil from New Zealand.—With reference to this matter, the report from Kew is as follows:—"The root-fungus sent to Kew for investigation from Cambridge, New Zealand, is known as Dematophora necatrix, Hartig, the cause of the much-dreaded 'root-disease' in vineyards and orchards, and is widely distributed throughout France, Italy, Austria, and South-west Germany. The fungus also attacks young Maples, Oaks, Beeches, Pines, Spruces, and Laburnums; Beans and Beet are also attacked. The fungus can live in the soil as a saphrophyte, and there forms at least two forms of reproductive bodies, which are dispersed by wind, birds, or small animals. When the mycelium comes in contact with the rootlets of a living tree it becomes parasitic, and spreads rapidly in the living tissues.

"All diseased plants should be burned, and the soil where infected plants have grown should be thoroughly mixed with quicklime if available; if not the soil should be burnt, so as to destroy all remnants of roots which contain the mycelium. Diseased patches of ground should be isolated by digging a trench about 1 foot deep, and left open. Wood-ashes or manure containing potash, but no acid, dug into the soil among the roots is a preventive.

"The disease has probably been imported with trees from Europe. If the roots of imported trees are made very moist, and kept in a warm place for three days, the fungus, if present, will show itself under the form of snow-white strands and tufts of mycelium."

A vote of thanks was unanimously given to Mr. Massee for his important investigation.

EDINBURGH BOTANICAL.

June 13.—This Society met on Thursday evening, at half-past 6 o'clock, in the Lecture Hall of the Royal Botanic Garden, the Rev. Dr. Paul in the chair.

Mr. R. Lindsay, Curator of the garden, in his monthly report on the vegetation in the garden, stated the month of May to have been generally favourable to the growth of trees and shrubs, and as no frost had occurred while fruit trees were in bloom, a heavy crop of fruit might be expected. During the month, no fewer than 346 species and varieties of plants came into flower, as against 227 in May of last year. A fine collection of Alpine and herbaceous plants was exhibited, amongst which were Collinsia sparsifolia, Linaria multipunctata, Veronica Prenja, Erigeron glabratus, Senecio lanatus, Dianthus neglectus, D. alpinus, and several pretty hybrids, Alsine pinifolia, Ionopsidium acaule, Wahlenbergia gracilis and others.

Mr. Boyd, Faldonside, in a few remarks upon Sagina Boydii, stated that although distributed through the country freely, the plant had never produced seeds, although flowering profusely. The only mode of propagation was by division.

In the meteorological report, taken in the garden, and given by Mr. A. D. Richardson, the following items were recorded during May: The mean reading of the barometer, reduced to 32°, and taken at 9 A.M., was 30·042 inches, being 0·197 inch above the average of May for the four previous years. Self-registering thermometer, maximum, indicated 74·2° on the 30th; minimum, 39·0° on the 2nd and 5th. Mean of maxima, 60·3°; mean of minima, 44·0°. Mean of month, 52·1° = 3·6° above average for May for four previous years. The mean of hygrometer, dry bulb, was 52·3°; mean of wet bulb, 48·4°. Dew point, 44·5°; and humidity, 74·8° per cent. The maximum of radiation thermometers in the sun indicated 126·0° on the 28th. Minimum on grass 28·0° on the 8th and 11th. Frost occurred on grass on seven days. The sunshine recorded was 180 hours 30 minutes. On the 8th, 12 hours sunshine was recorded, or 76 per cent. of possible amount. Rain fell on 11 days. Total fall, 1·000 inch, the greatest fall on the 25th, being 0·380 inch.

Mr. Grieve exhibited a fine display of Violas, both early and recent hybrids, to the crossing of which he has spent a long number of years.

Mr. R. L. Harrow gave his "Notes on Plants in Plant-houses," and exhibited several specimens therefrom.

YORKSHIRE GALA.

June 19, 20, and 21.—The thirty-seventh exhibition, held under the auspices of this Committee, was again a great success in all departments. Perhaps the specimen plants were not quite so numerous as they have been on some former occasions, yet they were very good.

Foliage Plants.

Mr. Letts, gr. to Lord Zetland, Aske Hall, was not a competitor this season, but his place was fairly well filled by Mr. Nicholas, gr. to the same nobleman at Upleatham Hall, Redcar, in his county. Mr. Cypher, of Cheltenham, was 1st

in this class, his best plants being Anthurium Scherzerianum Wardii, Ixora Prince of Orange, Bougainvillea glabra; Lord ZETLAND was 2nd.

In the class for six stove and greenhouse Plants, Mr. CYPHER was again 1st.

For single specimen stove plants, G. WHITEHEAD, Esq., Deighton Grove, York, was 1st.

In the class for groups of miscellaneous plants arranged for effect, occupying a space not exceeding 300 square feet, Sir JAMES LECKITT, Brough (gr., Mr J. Wilson), was 1st, with a splendid arrangement of Orchids, Palms, foliage and flowering plants, the whole forming a very fine picture; 2nd, the Duke of St. ALBANS, Bestwood Park, Notts (gr., Mr. Edmunds), with a very choice arrangement; 3rd, Mrs. GURNEY PEASE, Darlington (gr., Mr. McIntyre); 4th, E. BECKETT FABER, Esq., Harrogate (gr., Mr. Townsend).

PELARGONIUMS.

In the Pelargonium classes, which are always a special feature at York, J. HINGSTON, Esq., Clifton, York (gr., Mr. Macintosh), was 1st for twelve varieties, with a very fine lot; 2nd, Mrs. TETLEY, Leeds (gr., Mr. Eastwood). For six varieties and for three varieties the same persons were winners in the same order.

There was good competition in the classes for eight double-flowered varieties and for four varieties, and in the classes for Ivy-leaved varieties. It is pleasing to see new exhibitors coming forward in these classes.

ORCHIDS.

There was a magnificent display of Orchids. The principal prize-winners were Mr. CYPHER, T. STATTER, Esq., Stand Hall, Manchester (gr., Mr. R. Johnston); Dr. JESSOP, Leeds; E. H. WOODALL, Esq., Scarboro (gr., Mr. Hughes); Lord ZETLAND, and Mr. JOHN LUMLEY MONK, Fryston Nurseries. Dr. JESSOP was the winner of the Veitch Memorial Medal for an amateur's collection of miscellaneous Orchids in bloom.

CUT FLOWERS, INCLUDING ROSES.

The display of cut flowers was splendid, especially of Roses. For seventy-two Roses in not less than thirty-six varieties, Messrs. HARKNESS, Bedale, were 1st; and Messrs. D. PRIOR & SONS, Colchester, were 2nd; Mr. B. R. CANT, Colchester, was 3rd. For forty-eight varieties, distinct, Mr. H. MERRYWEATHER was 1st; and Mr. B. R. CANT, 2nd; Messrs. HARKNESS being 3rd. For thirty-six varieties, distinct, Messrs. BURCH were 1st; and Messrs. PRIOR & SONS 2nd.

FERNS.

There was a very fine lot of Ferns exhibited in all the classes. Lord Zetland, Mrs. Letty, Rev. G. Yeats, Mr. H. Bushell, and Mrs. Gurney Pease, were the principal exhibitors and prize-winners.

FRUIT.

Fruit is generally a very important feature at York, and this year the display was fully up to the average. For a collection of ten varieties, Sir JOSEPH PEASE (gr., Mr. McIndoe), was again 1st with an excellent collection. His best dishes were British Queen Strawberry, Bellegarde Peach, Melon Best-of-All, with Black Hamburg and Foster's Seedling Grapes. The Duke of ST. ALBANS was a good 2nd.

For six dishes of fruit distinct, Sir J. ROSE was again 1st, and the Hon. Mrs. MEYNELL INGRAM 2nd.

For four dishes, A. WILSON, Esq., Tranby Croft Hall (gr., Mr. Leadbetter), was 1st. The best Pine was from Lord BARNARD, Raby Castle (gr., Mr. Fullett).

For three bunches of Black Grapes Mr. HICKSON, Clifford Vineyard, Tadcaster, was 1st, and Mr. JOHNSTON, Boston Spa, 2nd.

The best white Grapes were from Lord HOTHAM, Dalton Hall, Hull (gr., Mr. Allsop), and C. H. WILSON, Esq., Warter Priory, Pocklington (gr., Mr. Pitte), was 2nd.

For six Peaches W. SHEEPSHANKS, Harrogate, was 1st, and P. SNEYD, Esq., 2nd.

Lord LONDESBOROUGH was 1st for six Nectarines, and L. SNEYD, Esq., 2nd. For scarlet fleshed Melon, F. C. FLETCHER Esq., was 1st; and also for a green-fleshed variety. For a white-fleshed variety, Mrs. GURNEY PEASE was 1st. For a single dish of Figs, Lord DERAMORE (gr., Mr. Hornby) was 1st.

There was a fine lot of Strawberries exhibited, many of them having been grown outdoors. The 1st prize lot were from W. H. B. WRIGHTSON, Esq., Doncaster (gr., Mr. Reywood).

The miscellaneous exhibits from nurserymen and others were an important exhibition in themselves, but notes on these must be left for another week.

EAST ANGLIAN HORTICULTURAL CLUB.—At the monthly meeting of the East Anglian Horticultural Club, held at the Club-room on Wednesday, June 12, Mr. W. G. GILBERT, gardener, Sennowe Hall, Guist, read a very useful paper on "The Culture of the Chrysanthemum;" an unusually large number of members was present to listen to the result of his practical experience. Next month Mr. UPSTONE will read a paper on "Gardeners and their Grievances, with some Suggested Remedies;" while papers on "Speculative Gardening," "The Culture of Roses," "Bulb Culture in Holland," and other subjects are in abeyance.

Obituary.

MR. ROBERT CREASER KINGSTON.—It will be with great regret that many gardeners, friends, and horticulturists, will hear of the death of Mr. R. C. Kingston, who died after a very brief illness, on Thursday, June 6, at the Gardens, Brantingham Thorpe. R. C. Kingston, who was born at Saltmarshe, Yorkshire, in 1818, received a good education, went as under gardener to Stapleton Park, under the late Mr. Seymour. From Stapleton he went to the Horticultural Society's Gardens, Chiswick, where he served for some years as foreman. He left Chiswick in the year 1841 to become head gardener at Brantingham Thorpe, then belonging to the late R. F. Shaw. In a few years he became known in the district as a very successful gardener, and for upwards of a quarter of a century was one of the leading exhibitors in Yorkshire. The collection of Orchids, the stove and greenhouse plants at Brantingham Thorpe was at that time one of the best in the North of England; and in after years summer and carpet-bedding became prominent features of the gardens. Since the estate passed into the possession of Christopher Sykes, Esq., about thirty years ago, much of it underwent improvement at Mr. Kingston's hands, and from time to time he received the highest praise from his employer and distinguished visitors for his labours in that direction. The deceased gardener had a good knowledge of botany, and was no mean entomologist, there being scarcely a plant or fungus or an insect found in the East Riding of Yorkshire that he was not acquainted with, and many were the miles he tramped (sometimes for nearly the whole of the night) in search of some rare specimen. He was courteous and kind to everyone, and numbers of his brother gardeners will be able to recall with pleasure happy hours spent in his company, and the hospitable welcome extended to them at his home. He was ever urging his young men on in the pursuit of knowledge, and when the time came for them to leave Brantingham, it was always with great regret that they did so; but he seldom lost sight of them, and was ever ready to afford assistance if they needed any, and a successful career always afforded him the utmost satisfaction. To his young men, now scattered far and wide in the world, the news of his death will be received by them with much regret. He was buried on Monday, June 17, in Brantingham churchyard, Mr. Christopher Sykes and numerous friends of the deceased being present. *C. L.*

[His son, Mr. R. C. Kingston, who died in 1872, took a high position in the examinations at the Society of Arts, and at the time of his death, was an assistant in the Herbarium. His memory is still cherished by those who knew him]

MARKETS.

COVENT GARDEN, June 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Calceolaria, per doz.	6 0	9 0
Coleus, per dozen ..	4 0	6 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	7 6
— various, doz.	12 0	24 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz. ..	6 0	10 0
Heliotrope, per doz.	4 0	6 0
Hydrangeas, p. doz.	12 0	42 0
Ivy Geraniums, doz.	6 0	8 0
Lobelia, per doz ...	4 0	6 0
Marguerites, p. doz.	8 0	12 0
Mignonette, p. doz.	4 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, doz.	9 0	15 0
Rhodanthe, per doz.	5 0	7 0
Schizanthus, p. doz.	6 0	9 0
Spiræas, per doz. ...	8 0	10 0
Stocks, per doz. ...	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	4 0	6 0
Azaleas, per dozen sprays	0 6	10
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	4 6	5 0
Lilies of the Valley, doz. sprays ...	0 9	1 6
Lilium Harrisii, per dozen	3 0	4 0
Maidenhair Fern, per 12 bunches ...	6 0	8 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Pelargoniums, scarlet, per 12 bunches	6 0	8 0
— 12 sprays ...	0 8	1 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun. ...	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	4 0	8 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	4 0	6 0
— red, per dozen	2 0	6 0
— (French), red, per dozen... ...	2 0	3 0
Iris, per doz. buns.	9 0	12 0
Stephanotis, dozen sprays	2 0	4 0
Tuberoses, 12 blms.	0 4	0 6

ORCHID-BLOOM in variety

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Figs, per dozen ...	2 0	4 0
Grapes, 1st quality, black, English, lb.	2 0	2 6
— 2nd quality...	0 9	1 0
— Muscats ...	3 0	4 0
— Guernsey ...	1 0	2 0
Melons, each... ...	1 6	2 0
Peaches, 1st size, doz	10 0	12 0
— 2nd size ...	3 0	6 0
Pine-apples, St. Michael, each ...	2 0	6 0
Strawberries, morning gathered, lb.	0 3	0 6
— per peck ...	2 0	2 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	1 6
Beans, Broad, per half sieve ...	2 0	2 6
Cauliflowers, p. doz.	2 6	3 0
Cucumbers, per doz.	2 0	3 0
Mushrooms, per lb.	0 6	0 8
Peas, white, p. bush.	3 0	4 0
— blue	4 0	5 0
Tomatos, Home-grown, per lb. ...	0 4	0 6
— Guernsey, lb.	0 4	0 4½

NEW POTATOS.

Demand increased. Prices still up to last week. All the arrivals have been heavy.

OLD POTATOS.

Prices much lower. Prospects for a bad finish. *J. B. Thomas.*

SEEDS.

LONDON: *June* 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market, as is usual at this season, was bare alike of both buyers and business. New French Trifolium hardens in value; sowing Mustard and Rape seed are obtainable on moderate terms. Haricot Beans continue scarce, and realise full prices. For Blue Peas, the sale is slow. Hemp seed keeps very firm, available supplies being now extremely meagre. Canary seed, with for the moment a quiet demand, exhibits, nevertheless, a stronger under-tone. Linseed is steady. There is no quotable change in either Buckwheat, Millet, or Dari.

FRUITS AND VEGETABLES.

BOROUGH: *June* 18.—Quotations:—Carrots, 1*s.* 9*d.* to 2*s.* per bag; Peas, 4*s.* to 4*s.* 6*d.* per bushel; Horseradish, 1*s.* to 1*s.* 2*d.* per bundle; Apples, Tasmanian, 6*s.* to 8*s.* per case; Gooseberries, 2*s.* to 2*s.* 6*d.* per half-sieve.

STRATFORD: *June* 18.—The trade at this market during the past week has been brisk, there being plenty of buyers, and an abundance of all kinds of produce. Quotations: Cabbages, 2*s.* to 5*s.* per tally; Greens, 1*s.* to 2*s.* per bag; Cucumbers, 1*s.* 6*d.* to 3*s.* per dozen; Spinach, 1*s.* to 1*s.* 6*d.* per bushel; Horseradish, 1*s.* per bundle; Gooseberries, 2*s.* to 2*s.* 3*d.* per half-sieve; Strawberries, 2*s.* to 3*s.* per peck; Mangels, 13*s.* to 16*s.* per ton; Onions, Egyptian, 120*s.* per ton.

FARRINGDON: *June* 20.—Quotations:—Apples, Tasmanian, 11*s.* per case; Strawberries, 3*s.* to 3*s.* 6*d.* per half sieve; Gooseberries, 2*s.* do.; Grapes, 10*d.* per lb.; Peaches 1*s.* per box; Cherries, 5*s.* per basket; Asparagus, 1*s.* 3*d.* per bundle; Cucumbers, 2*s.* to 2*s.* 6*d.* per dozen; Peas, 4*s.* 6*d.* per bushel; French Beans, 3*s.* per flat; Carrots, 7*s.* per dozen bundles; Cabbages, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bunches; Turnips, 4*s.* do.; Onions (spring), 3*s.* per dozen bundles; Horseradish, 9*d.* per bundle; Radishes, 1*s* 3*d.* per dozen bunches; Marrows, 5*s.* do.

POTATOS.

BOROUGH: *June* 18.—Quotations ranged from 60*s.* to 100*s.* per ton for old; for new, the prices were from 6*s.* to 14*s* per cwt.

STRATFORD: *June* 18.—Quotations:—Old: Fenland, 40*s.* to 50*s.*; Magnums, 40*s.* to 80*s.*; Bruces, 40*s.* to 80*s.*; Yorkshire, 90*s.* to 100*s.* per ton. New: Jersey kidneys, 180*s.* to 220*s.* per ton; rounds, 7*s.* to 8*s.* per cwt.

FARRINGDON: *June* 20.—Quotations:—Main Crop, 80*s.* to 90*s.*; Bruces, 70*s.* to 75*s.*; Imperators, 60*s.* to 70*s.* per ton. New: Jersey Kidneys, 9*s.* to 10*s.*; Flukes, 10*s.* to 11*s.* per cwt.

LONDON AVERAGES: *June* 19.—New: Maltese, 11*s.* to 12*s.*; Jersey, 10*s.* to 11*s.*; Cherbourg, 8*s.* to 10*s.*; Lisbons, 4*s.* to 5*s.* per cwt. Old: Dunbars, 70*s.* to 120*s.*; Magnums, 55*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, best, 90*s.* to 115*s.*; do., inferior, 50*s.* to 80*s.*; hay, best, 80*s.* to 92*s.* 6*d.*; do,, inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 34*s.* per load.

CORN.

Averages. — Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending June 15, and for the corresponding period last year:—1895: Wheat, 26*s.* 2*d.*; Barley, 19*s.* 4*d.*; Oats, 15*s.* 11*d.*; 1894: Wheat, 23*s.* 10*d.*; Barley, 24*s.* 11*d.*; Oats, 18*s.* 9*d.*

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending June 15.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 —	43	1	+ 85	+ 264	1 —	100	15·4	35	31
1	3 —	60	1	0 aver	+ 415	3 —	78	9·3	48	36
2	2 —	75	0	+ 31	+ 277	3 —	84	10·4	44	33
3	3 —	80	0	— 2	+ 283	2 —	76	8·3	46	38
4	2 —	83	0	+ 18	+ 372	4 —	65	8·4	34	34
5	1 —	99	0	— 44	+ 333	2 —	63	7·4	48	37
6	3 —	69	0	+ 39	+ 364	6 —	80	10·4	56	34
7	3 —	77	0	+ 16	+ 302	4 —	73	10·2	53	35
8	0 aver	97	0	— 10	+ 337	2 —	68	11·8	64	44
9	2 —	73	0	— 20	+ 275	5 —	89	10·9	57	35
10	1 —	89	0	— 65	+ 195	2 —	77	13·1	43	36
*	0 aver	109	0	— 44	+ 248	3 —	81	10·5	70	48

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

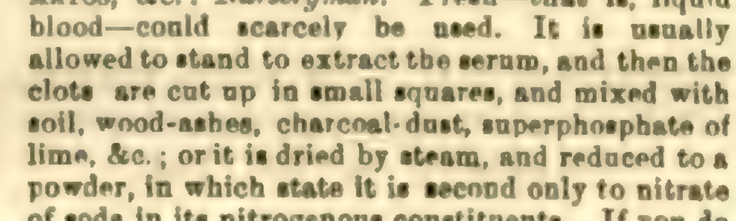
The following summary record of the weather throughout the British Islands for the week ending June 15, is furnished from the Meteorological Office:—

"The *weather* continued fine and very dry over the Kingdom as a whole, but slight falls of rain occurred almost daily in the extreme north of Scotland, while about the middle of the week rather considerable quantities of rain were experienced at a few of our southern and south-western stations, and a very slight fall in most other localities. Thunder and lightning were reported in different parts of England during the latter part of the period.

"The *temperature* just equalled the normal in 'England, S.W. and the Channel Islands,' but in all other districts it was below, the deficit ranging from only 1° in 'England, S. and Ireland, S.,' to 4° in 'Scotland, N.' The highest of the maxima were recorded on the first day of the period, when they ranged from 85° in 'England, S.,' 82° in 'England, S.W.,' and 80° in the 'Midland Counties,' to 71° in 'England, N.W. and Ireland, S.,' 66° in 'Scotland, W.,' and 65° in 'Scotland, N.' The absolute minima, which were registered during the latter part of the week, were low generally for the time of year, and exceedingly low at most of the inland stations. In 'Scotland, W.' (at Glenlee on the 15th), the sheltered thermometer fell to 29°; and in 'Ireland, N.' (at Edenfel and Markree on the 13th), to 30°. In the 'Midland Counties' the lowest readings reported were 32° at Loughborough, and 29° at Tean, near Cheadle. In the other districts the minima ranged from 33° in 'England, N.E.,' and from 34° in several other districts, to 37° in 'Ireland, S.,' and to 49° in the 'Channel Islands.' The lowest grass minima reported were 24° at Edenfel, 25° at Tean and Ochtertyre, 26° at Loughborough, 28° at Strathfield Turgiss, and 29° at Oxford.

"The *rainfall* was less than the mean in all districts.

"The *bright sunshine* again exceeded the mean, the percentages of the possible duration ranging from 70 in the 'Channel Islands.' 64 in 'England, S.W.,' and 57° in 'Ireland, N.,' to 44 in 'England, N.E.,' 43 in 'Ireland, S.,' and to 35 in 'Scotland, N.'"



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.*

A White-flowered Broad Bean: *Notting Hill.* It is merely a sport, and not of common occurence.

Books: *P. M.* Write to the author, A. D. Webster, Boxmoor, Hertfordshire. Price, not much.

Ballikinrain Ant Destroyer: *J. W.* This can be obtained from Alex. Cross & Sons, 19, Hope Street, Glasgow.

Blood manure for Fruiting Vines, Roses, Tomatos, &c.: *Nurseryman.* Fresh—that is, liquid blood—could scarcely be used. It is usually allowed to stand to extract the serum, and then the clots are cut up in small squares, and mixed with soil, wood-ashes, charcoal-dust, superphosphate of lime, &c.; or it is dried by steam, and reduced to a powder, in which state it is second only to nitrate of soda in its nitrogenous constituents. If you do not dry the blood that you obtain from the slaughter-house, you should treat according to the first method, and employ it as a top-dressing to the plants, say, once a fortnight or three weeks, during active growth. We have seen it used in a much diluted state as a liquid-manure for Strawberries in pots, doses being afforded once a week.

Cerbus grandiflorus: *W. T.* The flowers of this plant are fragrant only at intervals, giving out puffs of odour every half hour whilst they remain open; that is from 7 or 8 P.M. till midnight.

Cucumbers: *Nurseryman.* Several things might cause the injury described. The artificial fertiliser may have been too freely made use of; the manure-water may have been too strong; bottom-heat may be deficient. Are there eel-worms in the soil?

Cucumbers going off: *M. B.* It is probably caused by eelworms present in the soil of the new garden. Kindly let us examine roots, shoots, leaves, and fruit.

Gardening a Profession: *J. M. B.* "A Professor is one who professes knowledge; the occupation if not mechanical, agricultural or the like, to which one devotes oneself: the business which one follows for subsistence;" *vide* Webster's "*International Dictionary.*" In that sense a gardener is a professor, and gardening a profession. You may be a professor of dancing, cookery, phrenology, and other ologies without number. We think that the term "gardener" clearly indicates what trade a man follows; and it is, morever, of very respectable antiquity, which "professor" as a term applied to those who garden, is not.

Mustard and Cress: *A. J. W.* It is usually grown for market as a catch-crop in forcing-houses, whilst Vines, &c., are being treated to heat and moisture. Sloping beds of soil are thrown up of any convenient width. These are made firm by treading, the surface levelled and smoothed, and the seeds are sown thickly and beaten into the soil with the back of a spade, or pressed in with a wooden roller. The bed is then watered and the surface kept moist. The seed soon vegetates, and care must be then exercised in regulating aërial and root moisture, or the seedlings may "tog" off. During late summer and autumn seed may be sown in cold frames, the soil being treated in the same manner. One good watering is then sufficient, if the frames are shaded till the plants appear, during bright sunshine, and matted at night when the air is cold. The frames must be kept close till germination has taken place. The crop is cut before a true leaf is made. The same beds will serve for a long time if the surface be dug over after each crop is removed, and a dressing of sifted fresh soil, and a mild fertiliser of some kind be raked into the surface. It is unadvisable to make use of much leaf-mould, or rich manure of any kind. Rape seed is often employed instead of Mustard, but the leaf lacks the agreeable pungency of the latter.

Names of Plants: *W. R. F.* Colutea arborescens.—*T. W. R., Westonbirt.* Acer circinatum, Pursh; California, &c.—*S. S., No* 2 Pyrethrum roseum superbum, probably.—*W. H. D.* 1. Rhododendron (probably R. campylocarpum); 2, Vincetoxicum officinale; 3, Melittis melissophyllum; 4, Archangelica officinalis; 5, Rosa cinnamomea, fl.-pl.; 6, Boursault Rose, R. indica × alpina.—*R. A.* 1, Phygelius capensis; 2, Phyteuma comosum; 3, Leptospermum scoparium.—*W. L.* Statice Armeria, and the copper-coloured Austrian Briar.—*W. J. P.* 1. Orobanche major; 2, Antennaria tomentosa; 3, Colutea arborescens; 4, Kalmia latifolia; 5, Gualtheria Shallon; 6. Sedum lydium.—*W. W.* Lonicera tatarica; Cattleya Forbesi.—*W. T. T.* Climber, Thunbergia Harrisii; shrub, Laurus Sassafras.—*R. C. B.* Saxifraga hypnoides; Festuca (next week).—*Amateur.* 1, Ailanthus glandulosa; 2, Staphylea pinnata; 3, A Plane, Platanus acerifolia; 4, An evergreen Oak. It may be Q. suber; 5, Liriodendron tulipiferum, Tulip tree; 6, Quercus coccinea.—*R. Robbins.* Your fungus is a specimen of the common Mushroom.—*R. C. B.* Lolium perenne. *E. A. T.* Not Cypripedium bellatulum, but C. Godefroyæ leucochilum, illustrated in the *Gardeners' Chronicle*, June 30, 1894, p. 815. The other is a very handsome form of Lælia majalis.—*W. W.* Cattleya Forbesii.—*A Lover of Wild Flowers* 1, Valeriana officinalis; 2, Polygala vulgaris; 3, Orchis Morio. The shrub is the common Cornel, Cornus sanguinea.—*Long Subscriber.* 1, Cratægus coccinea; 2, C. tanacetifolia; 3, Gladiolus; 4 Fuchsia; 5, Rose; 6 Rose. These are all florists' flowers, which we no not name; ask your nurseryman. 7, Alnus glutinosa.

Peaches: *J. R. R., and C. H. J.* A bad case of Peach blister. It is caused by a fungus known as Exoascus (Ascomyces) deformans, and the only

Fig. 120.—Peach blister: Exoascus deformans.

remedy you have is to remove and burn, as soon as possible, all leaves so attacked. (See fig. 120.) Spraying with Bordeaux Mixture might be beneficial, but we have not tried it.

PEACH-TREES INFESTED BY RED-SPIDER AND MILDEW: *E. G. H.* For the first pest use XL All Vaporiser, it is sure and rapid in its action, and never injures vegetation; but you may have to use it twice or thrice, red-spider never being got rid of at one application. There should be three day intervals between the applications. The mildew can be got rid of by the application of the advertised remedies, or with flowers-of-sulphur in solution, or by moistening the foliage, and dusting the sulphur over all parts of the tree. We should imagine that the treatment afforded the trees has not been free from errors. Mildew and red-spider are nearly always present when the borders are deficient in moisture, and mildew is always favoured if the air in a Peach-house is cool and damp; it also spreads from mildewed vegetation out of doors to the inmates of the houses, and this, if near, should be removed. The red-spider would scarcely have appeared had the foliage been syringed twice daily, first from one side and then the other, from the time the trees set their fruits.

POT POURRI: *A. J. W.* The petals of the Rose alone form a very agreeable perfume, but it is usual to mix them with Tonquin Beans and carraway-seeds; cinnamon bark; gums, such as benzoin, olibanum, and myrrh; Orange-flowers and rind; Cedar and Sandal-wood; patchouli, Myrtle, and Aloysia citriodora leaves; Orris-root, &c. Some of these are to be obtained in our gardens, and all of them of the wholesale perfumers. The leaves, petals, and roots of home-grown flowers and plants must be gathered when dry, and dried in the shade.

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SIX ROSES FOR A GREENHOUSE WALL: *T. J.* Maréchal Niel, Catherine Mermet, La France, Niphetos, climbing Devoniensis, Louis Van Houtte.

STRAWBERRIES: *A. B., Newport.* Fruit arrived, but no letter.

TOMATOS DISEASED: *W. Rowlands.* The plants are suffering from "sleepy" disease. Follow directions given in the *Gardeners' Chronicle*, June 8.

VINES DISEASED: *G. Garner, and Alicante.* The root of the Vine is attacked by a fungus called Dematophora necatrix, a pest too well known in the vineyards and orchards of France and Germany. No cure is possible when the root is badly attacked, as in the present instance, and the only thing left is to dig up and burn the root; also remove the soil and mix it with lime, to kill the mycelium of the fungus. If other Vines are growing in the same border, they should at once be isolated from the diseased plant by a narrow, deep trench, as the mycelium travels in the soil from one plant to another. *G. Massee.*

COMMUNICATIONS RECEIVED.—J. D. S., Baltimore.—L. B., New York.—F. W. O.—A. C. F.—H. S. L.—G. C. (next week).—H. J. C.—G.—H. M.—J. W.—M. B.—M., Long Acre.—J. D —A. J. R.—C. Helmer.—A. C. Roffey.—J. A. (next week).

PHOTOGRAPHS RECEIVED.—W. M.

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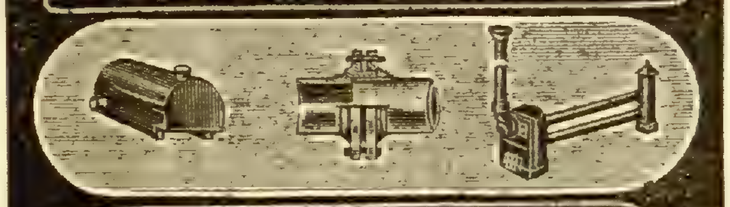
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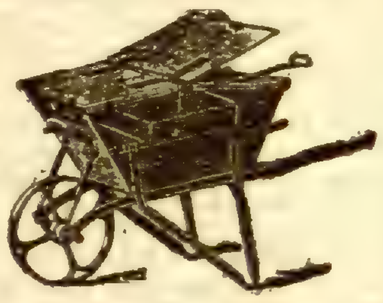

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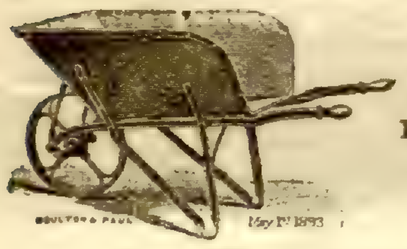

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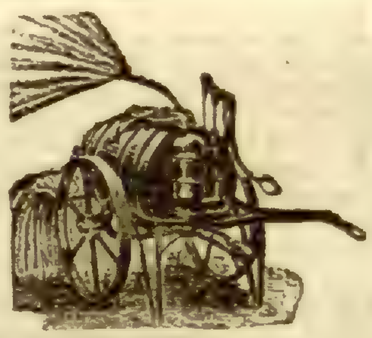

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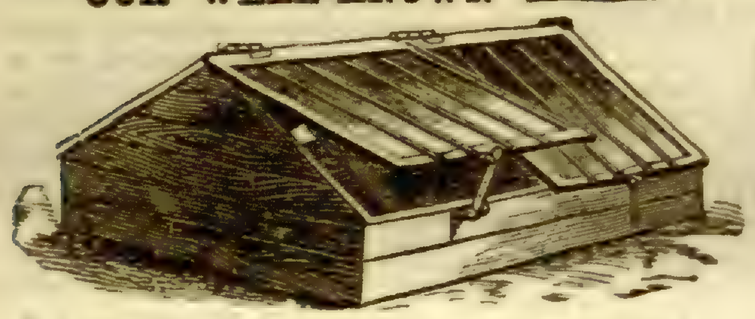

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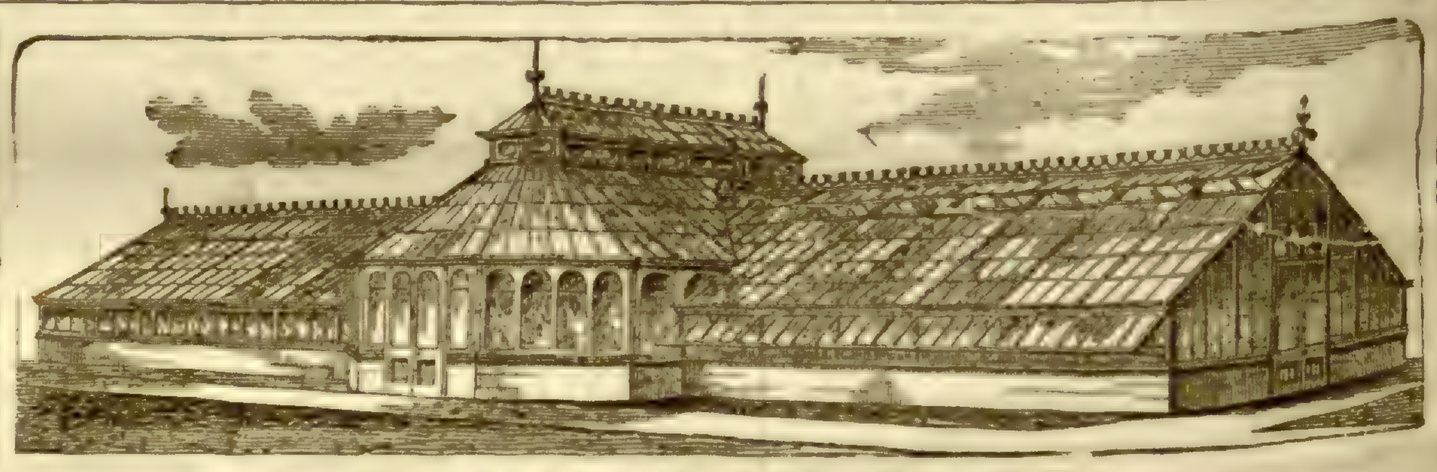

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NOTICE TO ADVERTISERS.

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BOUVARDIAS.—Best Market varieties; Vreelandii, Mrs. R. Green, P. Cleveland, &c., our selection in eight or ten sorts. 2s. 6d. per doz., 12s. per 100; £5 per 1000. Well-rooted stuff fit for 60's. Cash with Order.
CRANE AND CLARKE, The Nurseries, March, Cambs.

Turner's Crimson Rambler Rose.
CHARLES TURNER invites an Inspection of this marvellous Rose, which is now in great beauty at his Langley Nursery, Slough, and will be worthy a visit during the early part of July.

BEGONIAS, Double and Single, for Bedding. Extra superb in quality. Selected large tubers. Also for Conservatory and Exhibition. Descriptive CATALOGUE free.
B. R. DAVIS, Yeovil Nurseries, Somerset.

RARE OPPORTUNITY. — Established healthy CATTLEYAS, LÆLIAS, &c.; good plants and varieties at about a third of dealer's prices. Lists.
Mr. STAMPER, Ulverston.

To the Trade.
FERNS.—Finest Stock in the World. All the most useful sorts in various sizes.
Prices, &c., on application.
H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

NOW is the TIME to PLANT PYRETHRUMS, GAILLARDIAS, DELPHINIUMS, and CANNAS. Catalogue of KELWAY AND SON, Langport, Somerset.

Important to Mushroom Growers.
CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

1,000,000 DRUMHEAD CABBAGE PLANTS, 2s. 6d. per 1000; Myatt's Offenham, 2s. 6d.; Drumhead SAVOY, 2s. 6d.; Covent Garden BRUSSEL, 2s. 6d.; Veitch's Autumn Giant CAULIFLOWER, 4s.; Early London, 4s.
W. HORNE, Cliffe, Rochester, Kent.

NARCISSUS.—Grand Monarque Narciss, and the large-flowering Jonquil, Campernelli, exceptionally fine home-grown Bulbs, at very low prices.
T. GELL, Week Farm, Ventnor, Isle of Wight.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

CAULIFLOWER PLANTS.—Veitch's Autumn Giant, strong and well-rooted, about 100,000. 3s. per 1000, on rail.—R. H. BATH, Osborne Farm, Wisbech.

HENRY RIDES, Salesman, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

WANTED, AT ONCE, BEDDING GERANIUMS and CALCEOLARIAS.
WALKER, Florist, Leyland.

COLEUS.—COLEUS.—COLEUS.—Grand plants, in 5-inch pots, including Mrs. F. Sander and Lottie Eaton, 4s. per dozen.—WALKER, Florist, Leyland.

THRYNAX ELEGANS.—For Sale, a magnificent healthy PALM, 6 to 7 feet, in pot, with twenty-one petioles. A Photo can be sent. Apply to—
J. E. DIXON, Nurseryman, Gainsborough.

DOUBLE WHITE PRIMULAS.—Strong plants, in 6's, 20s. per 100. Strong-rooted Cuttings, 10s. per 100. Cash with order.
D. ANDERSON, Teddington Nursery, S.W.

Petroleum! Petroleum!! Petroleum!!!
BRILLIANT ILLUMINANT.
In casks, carriage paid, 8d. per gallon.
ANDREW POTTER, Melbourne Works, Wolverhampton.
Maker to the Queen and Prince of Wales.

TOMATOS, Chemin Rouge, Sutton's Perfection, Challenger, fit for planting out in 60's, cold grown, 6s. per 100. Apply to—W. IDE, Northumberland Nursery, Northumberland Park, Tottenham.

Paul's Nurseries, Waltham Cross.
WM. PAUL & SON invite inspection of their ROSES, FRUIT TREES, and HARDY ORNAMENTAL TREES, now in perfection of Leaf and Bloom. Many new Roses, not to be seen elsewhere, are now in bloom. South entrance four minutes' walk from Waltham Cross Station, west entrance three minutes' walk from Theobald's Grove Station, G.E.R., twelve miles from Liverpool Street Station, London. Everything for the Garden.

PALMS, FICUS, FERNS, &c., in any quantity.—PALMS, Mixed 6s., 12s., 18s., 36s. per doz.

FICUS ELASTICA...			15s., 18s., 24s.	,,
MAIDENHAIR FERNS			3s., 9s., 12s.	,,
FERNS, in variety		2s.,	6s., 12s., 24s.	,,
CYPERUS ALTERNIFOLIUS ...			2s., 6s., 9s.	,,
ARALIA SIEBOLDI		2s.,	6s., 9s., 12s.	,,
FLOWERING PLANTS, Mixed...			9s., 12s. 18s.	,,
COLLECTION of PLANTS ...		4s.,	6s., 9s., 12s.	,,

Carefully packed, free on rail. Cash with Order.—ALFRED MARTIN, Florist, Wiltshire Road, Brixton, London, S.W.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, Geraniums, in 48's, 6s. doz.; Heliotrope, Fuchsias, Double Petunias, Marguerites, Genistas, in bloom, in 48's, 9s. doz.; Ficus, Palms, Dracænas, Ericas, Hydrangeas, Pelargoniums, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

BARR'S SEEDS.—UNEQUALLED.
VEGETABLE SEEDS, the best sorts only. Much valuable information in our CATALOGUE, FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—General Descriptive Catalogue of the best Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. Also Descriptive Catalogue of special collections not detailed in our general catalogue. FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—
WALKER AND CO., Farnborough, Hants.

NETS—NETS.—Tanned, Oiled, Waterproof, for protecting Strawberry Beds, Fruit Trees, &c., from Birds. Makes excellent Tennis boundaries.
200 yards, 8s.; second quality, 5s.
SPASHETT AND CO., Net Manufacturers, Lowestoft.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Clapham Park, S.W.

CLEARANCE SALE of the CHOICE COLLECTION of ORCHIDS, GREENHOUSE PLANTS and FERNS, also Cow, Hay, and other Effects. By order of the Executors of the late Sydney Laurence, Esq

MESSRS. PROTHEROE AND MORRIS will SELL by Auction, on the Premises, Poynder's Road, Clapham Park, S.W., a few minutes walk from Clapham Road Station, on TUESDAY NEXT, July 2, at half-past 12 o'Clock precisely, the Choice Collection of well-grown ESTABLISHED ORCHIDS, comprising about 650 plants, including fine plants of Cypripedium insigne, and others; Cymbidiums, Calanthes, and others for cool, intermediate, and hot-house culture; also the whole of the STOVE and GREENHOUSE PLANTS, Pancratiums, 60 Azalea indica in various sizes, splendid specimens of Platycerium grande, Eucharis, Lapagerias, Aspidistras, Begonias, Gloxinias, 300 Chrysanthemums. Six good Frames, Hand-lights, Garden Tools, Jersey Cow in Calf, 50 Head of Poultry, small lot of Hay, Galvanised Water Tank, and other Items.

May be viewed Saturday and Monday prior to the Sale. Catalogues may be had of Mr. CHARD, the Head Gardener, on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.

ESTABLISHED ORCHIDS, from a well-known Private Collection, including fine plants of—

Anguloa uniflora Trayerana
Cattleya Wagnerii
,, Rex
,, Lawenceana
Cypripedium Chas. Canham
,, Bartetii superbum
,, Savageanum superbum
,, Leucorrhodum
,, Leeanum superbum
,, Schroderæ splendens
,, Boxallii superbum
Cypripedium Morganiæ
Dendrobium nobile album
,, ,, Cooksonii
,, ,, nobilius
,, Murrhiniacum
Lælia anceps Percivaliana
Odontoglossum Coradinei
,, mulus
,, Andersonianum
Oncidium ornithorhyncum album

and others; together with 300 lots of ESTABLISHED ORCHIDS, comprising a fine assortment of Cattleyas, Cypripediums, Lælias, Dendrobiums, and Cool-house varieties, Orchids in Flower and Bud, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 5, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, July 9.

The COLLECTION of ORCHIDS formed by R. A. Todd, Esq., of "Honeyden," Foot's Cray, who is relinquishing their cultivation. The Collection is well known for its variety of botanical rarities and other choice kinds, which will be enumerated in the Catalogue. All the plants are well grown, and present a unique opportunity for obtaining rare and choice varieties seldom met with at Auction Sales. Amongst others, the following may be mentioned:—

Angræcum virens superbum
,, sesquipedale
Cypripedium Schroderæ Rothschildianum
,, grande
,, Lathamianum
,, Elliottianum
,, Niobe
,, caudatum Wallisii
,, Arthurianum
,, Morganiæ
Dendrobium nobile Cooksoni
,, Cassiope
,, Griffithianum
,, nobile nobilius
,, crassinode album
,, Johnsonii
Cymbidium eburneum
Cattleya exoniensis
,, Mossiæ
,, Mendeli
Cœlogyne Massangeana
,, Dayana
,, Micholetzii
Lælia autumnalis alba
,, anceps alba
,, purpurata
Maxillaria Sanderiana
Phalænopsis amabilis
,, Schilleriana
,, grandiflora
Vanda Dennisoniana
,, Batemanniana

Together with Masdevallias, Pleonies, Dendrobiums, Epidendrums, Zygopetalums, Habenarias, Cœlogynes, Brassavolas, and others in great variety.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, July 9, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

THURSDAY, JULY 11.

A GRAND IMPORTATION OF *CATTLEYAS*,

JUST RECEIVED DIRECT, IN SPLENDID ORDER. WITHOUT RESERVE.

ORCHIDS IN FLOWER, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, July 11, at half-past 12 o'Clock precisely,

N.B.—Gentlemen desirous of including Plants in the above Sale can send lists up till July 8.

Thursday, July 11.

The SECOND PORTION of the Collection of ESTABLISHED ORCHIDS formed by H. B. Mildmay, Esq., of Shoreham Place, Shoreham, Kent.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, July 11.

On view morning of Sale, and Catalogues had.

Freehold Land, near London.

For PLANTING with FRUIT TREES, or COVERING with GLASS-HOUSES.

MR. EDWARD MILLARD will SELL at the Mart, Tokenhouse Yard, E.C., on MONDAY NEXT, July 1, at 2 o'Clock, in Ten Lots, varying from 3 to 45 Acres, about 230 Acres of old MEADOW and PASTURE LAND, situate at Hanwell and Greenford, Middlesex, about 8 miles by road from Hyde Park.

Particulars of the AUCTIONEERS, 47, Finsbury Circus, London, E.C.

Hammerswich House, Hammerswich, near Lichfield, STAFFORDSHIRE.

LARGE SALE of SPECIMEN STOVE and GREENHOUSE PLANTS, &c.

MESSRS. POPE AND SONS have received instructions from Job Evans, Esq. (who is removing to Torquay), to SELL by AUCTION, on the Premises as above, on TUESDAY, July 30, the whole of the STOVE and GREENHOUSE PLANTS, being perhaps the largest Collection ever offered for public Sale in the district, including specimen Azaleas, Cycads, Camellias, Maidenhair Ferns, Orchids in variety, Allamandas, Asparagus, Crotons, Bougainvilleas, Hoyas, Stephanotis, Heaths, Lapagerias, &c., the whole to be sold absolutely without reserve.

Catalogues will be ready in a few days, and will be sent, post-free, on application to the Auctioneers, at their Offices, 6, Phillips Street, Birmingham.

WANTED, to RENT, a GARDEN of 2 or 3 Acres, with some GLASS, and a six-roomed Cottage. Near a station. Full particulars to—
R. LONSDALE, Shepperton Green, Middlesex.

FOR SALE, small high-class NURSERY, near South Coast resort, 300 feet Glass, Dwelling-house, valuable Stock. Lease, rent moderate. Immediate possession. Owner retiring.—FLORIST, 41, Wellington Street, Strand, W.C.

FOR SALE, NURSERY and SEED BUSINESS, 7 miles from Covent Garden, old-established, low rent, nine Greenhouses, all in working order. Full particulars of FLORIST, 13, Frederick Terrace, Lower Edmonton. Also, *Gardeners' Chronicle*, together or separate, from 1885.

GENUINE LITTLE FRUITERER'S and FLORIST'S BUSINESS for SALE, 12 miles from London, on main line L. B. and S. C. and S. E. Railways. Opposite station, low rent, good class trade. Horse, Van, Harness, Fixtures, and Trade Utensils, all at £30. Giving up through ill health. No agents. Address—
HORTUS, 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO BE LET or SOLD.—A capital NURSERY with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

To Fruit Growers, Horticulturists, &c.

TO LET, on Long Lease, nearly 50 acres of LAND, in one or more lots, unusually well adapted for the above. Only a few minutes from Hampton Station.
Apply to Mr. EMBLETON, Suffolk House, Hampton Hill.

TO BE LET, the old-established NURSERY BUSINESS at Hall Santon, Holmrook, in the county of Cumberland, being carried on for seventy years by the firm of J. J. Gaitskell, comprising Dwelling-house, Office, Barn, Packing-house, and 12 Acres of Land, partly stocked with Coniferæ, Evergreen and Flowering Shrubs, Forest and Fruit Trees, &c. The Nurseries are 3½ miles from Drigg Station on the Furness Railway. The Stock can be taken at a Valuation if required. There are also Cottages for workmen on the premises. Any other information can be had from the Executors of the late Jacob Gaitskell.
WM. GAITSKELL, WM. HODGKIN, } Executors.

TO BE SOLD BY TENDER, in one or several lots, TEN SPAN-ROOF TOMATO and CUCUMBER FORCING HOUSES, each 100 feet long and 10 feet wide, 2 feet to eaves, and 7 feet to ridge; door each end, with necessary ventilators, and 21-oz. glass throughout. Perfectly new, and all ready for erecting. Usual price £55 each. Must be cleared, as room is wanted.
WM. COOPER, LTD., 755, Old Kent Road, London, S.E.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CHEAP OFFER of a Few Things to Clear.
LOBELIA, Brighton Blue, true, 6*s.* per 100; 50*s.* per 1000.
AGERATUM, Swanley Dwarf Blue, 5*s.* per 100.
IRESINE HERBSTII and ACUMINATA, 5*s.* per 100.
CINERARIA MARITIMA CANDIDISSIMA, 5*s.* per 100.
DAHLIAS, Double and Single, strong Seedlings, from good strains, 8*s.* per 100.
DOUBLE IVY-LEAF GERANIUMS, good mixed sorts, 5*s.* per 100.

All the above Strong Plants from single pots.
LOBELIA, White Gem
PERILLA NANKINENSIS ATROSANGUINEA
GIANT PERFECTION, Ten Week Stock, splendid strain
} Strong, from boxes, 1*s.* 6*d.* per 100.
WILLIAM POTTEN, Camden Nurseries, Cranbrook, Kent.

FOR PRESENT AND LATER SOWING,

THE THREE BEST

WALLFLOWERS,

DICKSONS GOLDEN BEAUTY,
DICKSONS SELECTED DARK RED,
DICKSONS PRIMROSE DAME.
} Per packet, 6d. and 1s., free by Post.

Choice Mixed DOUBLE WALLFLOWER, MYOSOTIS, SILENES, &c. For Prices and all other particulars, see our ILLUSTRATED CATALOGUE, free on application.

DICKSONS, Seed Growers, Nurserymen, &c., **CHESTER.**

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
GARDENS, REGENT'S PARK,

EVENING FÊTE and EXHIBITION of TABLE DECORATIONS, BOUQUETS, FLOWER PAINTINGS, &c.
WEDNESDAY, July 10.

Gates open at 8 P.M. to 12. The Bands of the 1st Life Guards and the Royal Horse Guards, by permission of their commanding officers, will play, and the Gardens be illuminated from 8 to 12

Tickets to be obtained at the Gardens, and of the principal agents, 10*s.* each; or on the day of the fête 15*s.* each.

GRAND ROSE and BEGONIA SHOW.—BATH, THURSDAY, July 11.

1st Prize, Nurserymen,	72 varieties	...	£3	0	0
1st ,,	,,	36	,,	...	4	0	0
1st ,, Amateurs	36	,,	...	4	0	0
1st ,,	,,	24	,,	...	2	10	0
1st ,,	Group of Miscellaneous Plants				8	0	0

Second and Third Prizes in proportion.

Other Classes for Roses, Bouquets, Strawberries, Cut Blooms, Plants, and Tuberous Begonias. Entries close Friday, July 5.

For Prize Schedules, &c., apply—
PEARSON AND JEFFERY, Secretaries.
2, Northumberland Buildings, Bath.

Trentham Gardens.

THE TRENTHAM and HANFORD HORTICULTURAL SOCIETY will hold their EIGHTH ANNUAL EXHIBITION on July 25.

£400 GIVEN IN PRIZES.

GROUP OF PLANTS, for effect—1st. £20, and Silver Cup, value £10 10*s.*; 2nd, £20; 3rd, £13; 4th, £9.
48 CUT ROSES—1st and Special, £13 7*s.*; 2nd, £5; 3rd, £3.
36 ,, ,, —1st, £5, and National Rose Society's Gold Medal; 2nd, £3; 3rd, £2.
COLLECTION OF FRUIT (9 dishes)—1st, £10; 2nd, £5 3rd, £3.
4 BUNCHES OF GRAPES—1st, £5; 2nd, £3; 3rd, £2.

Schedules on application to Mr. L. T. ALFORD.
Hanford, Stoke-on-Trent.

NORTHAMPTON HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW.
Delapré Park, Northampton, August 5 and 6.
INCREASED PRIZE MONEY.

For Best Twelve Plants, £15, £10, £5. £2 10*s.*; Central Group, for Conservatory Decoration, £12, £7, £3; Collection of Fruit, eight varieties, £3, £1, £2; Twenty-four Roses, £1, £1 10*s.*, £1; Collection of Vegetables, twelve varieties, selected, £3, £2, £1; Table Decoration, £3, £2, £1.

Entries close July 26. Schedules and particulars from—
Northampton, June 15, 1895. W. B. TROUP, Secretary.

SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN.
From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony.
For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden.
O. LAMMERHIRT, 7, Glacisstrasse, Dresden, N.
Die Commission: G. KRAUSE, I. Vors.; T. J. SEIDEL, II. Vors.

WOLVERHAMPTON GREAT FLORAL FÊTE

JULY 9, 10, and 11, 1895,

IN THE PUBLIC PARK.

OPEN CLASSES for PLANTS, ROSES, FRUITS, &c., PANSIES, and VIOLAS.
OPEN AMATEUR CLASSES for ROSES.
GENTLEMEN'S GARDENERS' CLASSES,
Open to All England.
SHOW PLANT ENTRIES close on July 1; FLOWERS, FRUIT, and VEGETABLES on July 4.

Open Air Space to Let for Horticultural Sundries.

SCHEDULES, ENTRY FORMS, &c.
Apply immediately to—
W. A. GREEN, Jun., Horticultural Secretary.

SINGLE BEGONIA SHOW.

H. J. JONES

Respectfully Invites all Begonia Growers (both Private and Trade), to Inspect his Show of Begonias, which is admitted by all who have seen them to be the finest display in the country.

RYECROFT NURSERY, HITHER GREEN, LEWISHAM.

JAPAN LILY BULBS,

PLANTS, SEEDS, &c.

CATALOGUE on application.

TOKIO NURSERIES

Komagomi, Tokio, Japan.
Cable Address: "NURSERIES, TOKIO.
F. TAKAGHI, Proprietor.

BEDDING PLANTS.

Special Clearance Offer. All splendid Stuff.

ALTERNANTHERAS, magnifica, aurea nana, Yellow Gem, versicolor grandis, and amœna spectabilis. In pots, 2*s.* per doz., 12*s.* 6*d* per 100; in boxes, 1*s.* 3*d.* p. doz., 7*s.* 6*d.* p. 100.
AGERATUMS, best dwarf sorts, to name. In pots, 2*s.* per doz., 12*s.* 6*d.* per 100; in boxes, 1*s.* 3*d.* per doz., 7*s.* 6*d.* per 100.
GAZANIA splendens and variegata, 2*s.* 6*d.* per doz.
SALVIA patens, 3*s.* 6*d* p. doz. MUSK Harrisoni, 2*s.* 6*d.* p. doz.
CENTAUREA ragusina compacta, 3*s.* per doz.
IRESINE Lindenii and Brilliantissima. In pots, 2*s.* 6*d.* p. doz., 15*s.* per 100; in boxes, 10*s.* and 12*s.* per 100.
TROPÆOLUMS, named, from cuttings, best dwarf crimson and scarlet, 3*s.* per doz., 20*s.* per 100.
LOBELIAS, finest blue varieties, to name, from cuttings. In pots, 2*s.* per doz., 12*s.* 6*d* per 100.
VERBENAS, best bedding sorts, to colour, 2*s.* p. doz., 14*s.* p. 100.
KLEINIA repens, 3*s.* per doz.
ECHEVERIAS sanguinea and Peacockii, 6*s.* per doz.; agavoides and rosea, 9*s.* per doz.; metallica, 12*s.* per doz.

Catalogues free.

W. CLIBRAN & SON, Oldfield Nurseries, **ALTRINCHAM**

Also at Manchester, Llandudno Junction, &c.

☞ **NOW** is the best time for **STACKING PEAT**

300 Yards of all Qualities, in SPLENDID CONDITION,

Ready for Delivery direct from our Grounds.

SELECTED TURVES for HARDWOOD and STOVE PLANTS.

CARRIAGE PAID to any part of the United Kingdom per Road, Rail, or Steamer.

SEND FOR SAMPLES AND PRICES.

☞ **ORCHID PEAT.** UNRIVALLED FOR PURE BRACKEN FIBRE Free from Waste.

LOAM. THE BEST. FULL OF FIBRE. From Surrey, Kent, and Middlesex, at Special Rates.

SEND FOR SAMPLES AND PRICES.

W. WOOD & SON, F.R.H.S.

Chief Office:—

WOOD GREEN, LONDON, N.

CHAS. P. KINNELL & CO.

Largest and best Stock of HOT-WATER BOILERS, PIPES, VALVES, and HORTICULTURAL SUNDRIES in the United Kingdom. HEATING APPARATUS erected by specially-trained staff of skilled Engineers. Estimates free. New Illustrated CATALOGUE sent on receipt of post-card. Contractors to H.M. Government, &c., &c.

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MADE UP TO ANY SIZE.

SHADING CANVAS and TICKING.

BAMBOO CANES.

GARDEN STICKS and LABELS.

RUSSIA MATS AND RAFFIA.

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TISSUE PAPER. COCOA-FIBRE REFUSE.

ORCHID and OTHER PEATS.

CATALOGUE on application.

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135 & 137, COMMERCIAL ST., LONDON, E.

SECOND-HAND RUBBER AND CANVAS FIRE HOSE.

4*d.* to 6*d.* per foot—2½ in. diam.

In lengths varying from 25 to 100 feet. An exceptional chance for getting good serviceable Hose for Irrigating.

MERRYWEATHERS, 63, Long Acre, London, W.C.

WOOD-WOOL.—WOOD-WOOL.

The Best Material for Packing every description of Goods.

CHAPMAN & CO., Ltd.,

CROWN WHARF, DEPTFORD, LONDON, S.E.

The Largest Manufacturers in the Kingdom.

Large Stock of Standard Qualities. Prompt Delivery.

Samples and Prices upon application.

Genuine Scotch **TWEEDS.**

St. Ronan's SUIT LENGTH 12/6

Where to get them direct at Makers' Prices, saving 30 to 40 per cent. Parcels carriage paid. Patterns post-free, to be returned within seven days. Mention this paper. Unequalled for selection & style. Serges, Trouserings.

Marmion	15/-
Ivanhoe	18/6
Leithen	19/6
Quair	21/-
Flora	22/-
Ettrick	23/3
Yarrow	24/3
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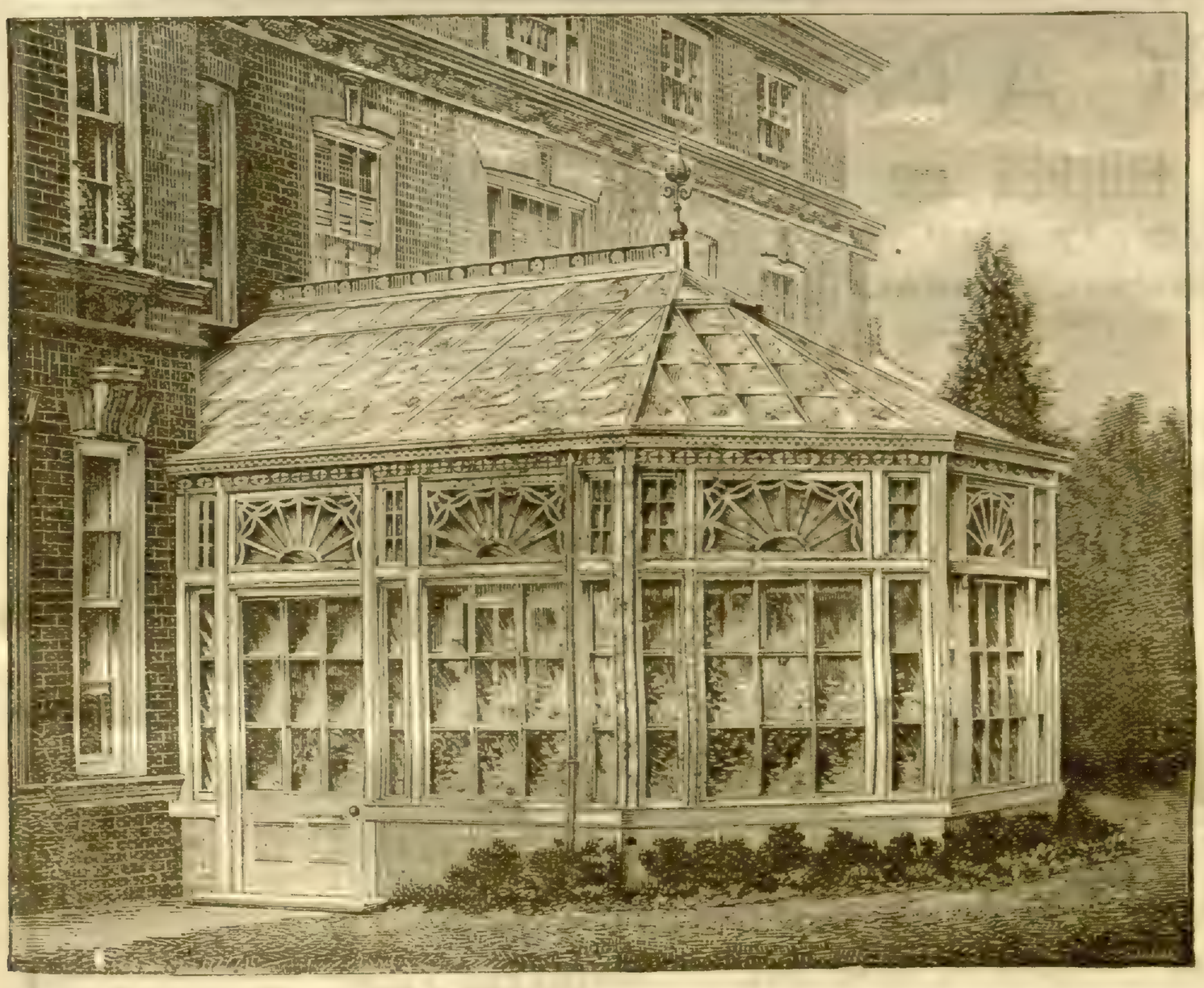

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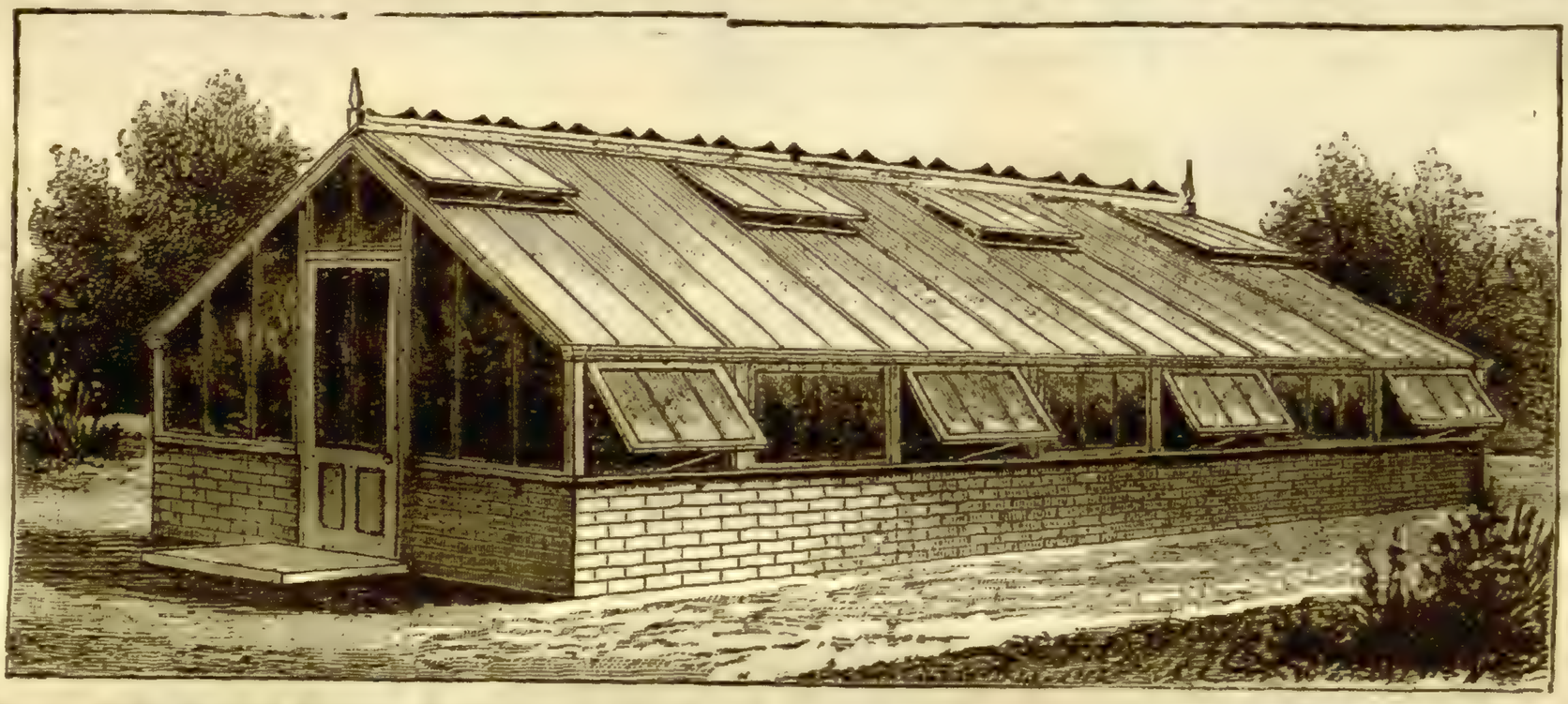

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THE

Gardeners' Chronicle.

SATURDAY, JUNE 29, 1895.

COTTAGE GARDENING.

THE Vice-President of the Committee of Council on Education has added another to the already formidable list of subjects enumerated in the Education Code. It is entitled "Cottage Gardening." In rural schools, at least, where it is possible to give practical demonstration on the soil itself, such instruction should rank in importance even with the "three R.'s." Indeed, one is apt to think that teaching the labourer's son to earn an honest living on the land, and become an intelligent, observant, and skilful workman, is as essential to his well-being and prosperity as the rudiments of letters, and far more so than three-fourths of the "class and special" subjects mentioned in the Code.

Rudimentary agriculture found a place in the schedule some years ago; but little, I fear, has come of it. The range was too wide and indefinite, and no evidence was given as to practical a plication of the theories taught. Cottage gardening is a more comprehensive and significant term, suggestive of a limited area, thorough cultivation, and more varied scope. Agriculture, to the ordinary farm labourer, means only toilsome and uninteresting labour, big fields, brown or green, or yellow, over which he stalked wearily when a boy, in his heavy hobnailed boots, and with clappers to scare the crows; and when a man along the furrow after the jingling teamsters. There was no kindly voice to cheer and encourage him; the land to him was simply a great, rough, tedious road, leading eventually to the workhouse. What a boon it would be to him to have a plot of ground near his cottage, with a fence round it, and a gate! Here he could grow a little fruit and a few flowers. Then let him be taught how to cultivate it thoroughly, to graft fruit trees, and bud Roses, and raise plants from layers, cuttings, and seeds, and so put within his reach the means of helping himself.

If cottage gardening were properly taught it would do this; it would add interest and importance to his ordinary labour, moreover, and his master, instead of begrudging the occupation of his scanty leisure in the garden, would discover that his servant was better worth his weekly wages; but he cannot learn the art of cultivating a garden by hearing a lecturer talk about it—he must see it done, and help to do it.

For years past, at great cost, an attempt has been made by the Science and Art Department of South Kensington to teach agriculture. Little has come of it, as might have been expected. The instruction wa conveyed through lectures and text-books, and the students, for the most part, were

assistant-teachers in elementary schools. After attending a course of lectures and getting up certain text-books, an examination was held and certificates granted to the successful candidates. These certificates entitled the possessors to hold classes, give lectures, and earn government grants themselves Many of the students were assistant-masters in London board schools, and had little, if any, practical knowledge of the subjects they professed to teach. Some of these earned from ten to fifteen pounds in a winter session, and as I remarked, their successful pupils were at once supposed to be qualified to earn grants on their own account!

Surely cottage gardening is not to be taught in this way. One may as well try to teach shoemaking without leather, or carpentry without wood and tools, as gardening without the soil and implements to work it with. No! the South Kensington Department has done good work in Science and Art. The material was present, the apparatus, the teachers, the splendid workshops and studios; but in agriculture, as might have been expected, it has not been successful. One wonders how much could have been done towards teaching rudimentary agriculture, or cottage gardening, if a tithe of the thousands of pounds already expended had been employed in promoting real instruction on the land itself.

It is gratifying to observe the interest taken in technical education by many of the County Councils. Here again, however, there is a danger that the so-called "technical education" will consist merely of talk about it. If here and there, about each county, a plot of land adjoining the school-building could be cultivated under a thoroughly practical teacher, a much more promising start might be made. If the ordinary teacher was qualified, all the better; if not, why not call in the aid of a practical gardener, who could not only talk sensibly of the matter, but give practical instruction in gardening, and explain, in an intelligent way, the properties of the soil, the chemistry of air and water, the necessity for cultivation, and the essential conditions of healthy plant life?

One hears on all sides that cuckoo-cry of "back to the land." For most farm-labourers who leave their cottage homes to crowd into the towns, I fear there is no way back. But when once the farm-labourer has discovered the pleasure and profit to be derived from skilful and thorough cultivation of a cottage garden, he will need little further inducement to remain on the land.

I had the pleasure of listening, lately, to the fourth lecture of a short series on "practical agriculture." It was given in a Bedfordshire village (Turvey), under the auspices of the Bedford County Council. The lecturer, Mr. Norman Evans, was evidently acquainted with the practice as well as the theory of gardening, and was prepared to demonstrate when required to do so by his hearers. It was a small audience—scarcely more than a dozen—but they were apparently anxious to learn, paid great attention, and plied the lecturer with numerous interesting questions with reference to gardening matters. It was a pity, however, that the little bill announcing the lectures did not contain a list of subjects on which the lecturer intended to treat. It is to be regretted that lectures of the kind do not "take on." Except for the dozen would-be-learners present, the lectures had no interest; and, as, a rule, the better the lecturer the more a latent suspicion is aroused as to his actual knowledge and ability.

No! let the County Councils start here and there a school garden, and here and there a model cottage garden and allotment, and there will be a quickly improved cultivation in the locality. Much in the way of improvement in cottage gardens may be done by example and precept, and the best examples are frequently those set by gardeners and their assistants. Close by is a row of a dozen cottages, and the first three are occupied by under-gardeners, who vie with each other in the neatness and bright colours of the spring flowers, and patch of closely-kept turf. Crocus was followed by Snowdrops—great tufts of them by the walk; then came a "host of golden Daffodils," patches of Alyssum saxatile, white Arabis, and a galaxy of brilliant Tulips. Now come the great deep crimson blooms of the Pæony.

Allow me briefly to recapitulate the outlines of a scheme put forward ten years ago in the columns of an evening paper—the *Echo*—above the pen-name of "Luke Ellis." It assumed that the teaching of what was called "Elementary Agriculture," should be of a practical nature. The subject cannot be taught effectively from text-books and *vivâ voce* lessons. The material must be present, the implements and the living plant.

There are at least two systems which might be adopted in the cultivation of what may be called the "School Garden":—I. Work in common under a labour-master or teacher—the plan followed in reformatory and industrial schools. II. Work on separate allotments, each young tenant being held responsible for the proper cultivation of his own plot. The latter system is far preferable.

The land should be rent free, and the implements provided free of charge. The garden should be regarded as an open-air class-room. The work must be done under the superintendence of a properly-qualified teacher, who would decide what vegetables, fruit, or flowers might be grown, and the area allotted to each. The crop should be the absolute property of the tenant, whether for home consumption or sale, as he thinks fit.

Perhaps, however, an extract from the late Mr. Jenkin's report to the Royal Commission on technical instruction will enable the reader to have an idea as to the plan suggested for adoption in rural schools. It is taken from a pamphlet (now out of print) entitled *The School Garden: a means of technical education for the farm labourer*. Each school in a rural district should have, as conveniently accessible as possible, a plot of land large enough to allow every boy over a certain age (say 9) a plot of from three to five poles in area. The size of the plot would, of course, depend upon the area at disposal, upon the staple and quality of the soil, and also upon the physical ability, intelligence, and industry of the tenant.

Half of each plot might be reserved for cereals, roots, or vegetables commonly grown in the neighbourhood, the remaining half should be divided into two equal parts, one of them to be treated as an experimental garden, in which the efficacy of manures and the qualities of new vegetables might be tested. The remaining fourth might be cropped according to the taste of the tenant.

Careful accounts of the time, labour and money expended should be kept, and a diary in which the various operations should be noted. This should be called for and examined by Her Majesty's Inspector on his visits to the school.

I may glance, in conclusion, at some direct advantages that would accrue from practical and experimental teaching of cottage gardening in rural schools:—

1. It would convince the workman's son that his occupation on the land demands the exercise of intelligence and skill.

2. It would familiarise him from an early age with the use of the ordinary garden implements.

It would open up to him a profitable, interesting and constantly available field of observation and study in the growth and development of plant life, and also of natural history of insect, bird and beast in the locality.

But most of all, it would give an impetus to gardening and allotment cultivation, and the significance and importance to the labourer's occupation which it seems to lack. *T. W., H.*

ORCHIDS OF THE SHAN STATES.

There are Orchids of sorts to be met with all the way up to Fort Stedman, the smaller species of Bulbophyllum and Cirropetalum creeping along the trunks and branches of trees, and on the rocks along the road. Every now and again, high up the trees, out of reach from the road, a plant of Vanda cœrulea and many of the commoner Dendrobiums will be seen; but it is not along the road that a collection can be made.

Fort Stedman is built on the eastern shore of Lake Inle (pronounced In-lay), and it is within thirty to fifty miles of this lake, north and south, east and west, where most of the Orchids mentioned below are to be found in plenty, and where all but two or three are found.

The climate is temperate, the height above sea-level from 4000 to 5000 feet, and the thermometer ranges from 80° Fahr. in the summer months to a few degrees below freezing-point in the winter. The annual rain-fall is from 40 to 60 inches, distributed principally in the months from May to November; but showers may also be expected from January to April. The frosts do not penetrate below the surface, and are frequent between the middle of December and beginning of March. There are heavy dews in the winter months, December especially.

Most of the Dendrobiums are met with in the deep valleys and on the slopes of the hills. Dendrobium crassinode is found at the very top of the highest trees, and it is often a very dangerous task attempting to get at them. Saccolabium bellinum is found on trees in deep shade, with water below, and a constant moist atmosphere. I have seen it under these conditions over 5000 feet above the sea-level. I have also seen Vanda cœrulea, of a very dark type, on trees overhanging a stream, at the same elevation, but not in deep shade. Vanda Kimballiana grows mostly on rocks, and in clusters, which break up into single plants on being pulled off. Like V. Amesiana, it likes the sun, and I have seen both species clinging to bare rocks in the full blaze, without any shade. Of Vanda Bensoni there are many varieties, and these have the same habit as V. cœrulea. *I believe* Vanda Vipani is also to be found here. There are Oak woods on the road from Fort Stedman to Taunggyi, but I have never seen Vanda cœrulea growing on the trees there. Vanda Parishii is found near the Salween River, and the variety V. Marriottiana is fairly plentiful east of Lake Inle.

Cypripedium bellatulum is very generally distributed in the area described above. It grows on low hills, in loam, among the under-growth, or on rocks to some extent directly exposed to the sun. Cypripedium Parishii grows in big clusters in the forks of trees, on the middle and lower branches, fairly shaded. It also grows freely on rocks, under the same conditions as C. bellatulum, but not on low hills in loam.

Cypripedium Charlesworthii was discovered by me at a place some twenty-five miles south-west of Lake Inle, high up on a limestone hill, fully 5000 feet above sea-level; and very recently it has been gathered in quite an opposite direction, forty miles north-east of the lake, or some sixty miles from the place in which it was originally found. It appears to make its home on hills of a certain formation only. In a break in a range of hills there are isolated peaks, high and precipitous, inaccessible to Europeans, and it is here that it grows. I have been out with Shans, and on arriving at a particular place they, by looking at the hill, will tell you whether C. Charlesworthii will be found there or not. If it occurs at all, it will be in large quantities, and not a plant will be found on neighbouring hills of different shape or formation. It grows fairly high up on the west and north-west slopes only, never near the base or to the east, south, or south-west. The roots cling to the rocks with extraordinary tenacity, and the bigger plants could only be gathered by cutting through the roots with a dah, or Burmese knife. As a rule, there is plenty of undergrowth around, but I have seen plants growing in the crevices of the bare rock. It grows at a higher level than C. bellatulum; but on one occasion I think I saw C. Charlesworthii and C. bellatulum growing together. I have also seen Dendrobium Dalhousieanum and other Dendrobiums with a piece

of C. bellatulum attached to the roots, and the same thing with C. Charlesworthii.

The places where C. Charlesworthii grows, are, as a rule, far removed from villages; indeed, the whole country is very sparsely populated. It is the home of the tiger, the bear, wild boar, leopard (cheetah), and of huge snakes, and, in consequence, the collecting of the plant is attended with a good deal of danger. The Shans will only go out in parties of about ten, and they take with them gongs, which are beaten to scare away the wild beasts. When I first collected it in quantity, I had thousands of flowers, and some of them were of great size. I little dreamt at the time that it would be found so widely distributed, and I did not then know that it was a new Orchid. It flowered in England at the same season as it does in Burma.

Dendrobium Hildebrandii was first discovered by Mr. Hildebrand, Superintendent of the S. Shan States, and some plants were sent to Messrs. Hugh Low & Co. Afterwards, my men came across it, and, without knowing what it was, I sent some to Messrs. Charlesworth, who identified it, and sold the plants. Its habitat is on the border of Siam, a good way east of the Salween River, and some 300 miles east of Lake Inle. D. velutinum was found by my men on their return about the same time. It is found both east and west of the Salween River, and much nearer to Fort Stedman than D. Hildebrandii.

Cymbidium Lowianum grows about 20 miles east of Fort Stedman, but not plentifully, and there are quite a number of pretty little Orchids of botanical interest, some of which I am trying to flower in England. *R. Moore, late Officiating Assist. Sup. S. Shan States. In "Orchid Review."*

DISA LONGICORNU.

Described by Linnæus the younger in 1781, and since that time frequently remarked on in terms of admiration by travellers, commencing with Thunberg (Travels, 1795), who describes in graphic language his first sight of the plant on Table Mountain (which is supposed to be its sole habitat) in 1773. Disa longicornu has been occasionally imported, or more probably some other species has been imported under that name. A few years ago, Sir Trevor Lawrence, Bart., Burford, Dorking, obtained some of the small tubers of the true plant, and after careful nursing it remained to him to be the first to exhibit, if not to flower, this singular plant in cultivation, the plant from which our illustration (fig. 121) was taken being awarded a Botanical Certificate at the meeting of the Orchid committee of the Royal Horticultural Society on June 11 this year.

Disa longicornu belongs to the section Eudisa, which includes the favourite D. uniflora, or, as it is more commonly known in gardens, D. grandiflora; but whether it will ultimately prove as easy to grow and flower as that species has yet to be seen. Its flowers are white tinged with lilac-blue, or in some instances almost entirely pale blue, one of the specimens in Sir Trevor Lawrence's being pure white. Its native habitat is Table Mountain, Cape Town, altitude from 2100 to 3000 feet, where it is found growing among moss and grasses in the clefts of the rocks, on the shady side, and where water drips in its growing season.

A THEORY OF MULTIPLE PARENTAGE IN FERNS.

The very remarkable results of mixed sowings of Fern spores of different varieties, shown by Mr. E. J. Lowe at the Conference and subsequent Fern Exhibitions held under the auspices of the Royal Horticultural Society, and detailed in his recently-published volume on *Fern Growing*, point so decidedly to the possibility of a single archegonium being fertilised by antherozoids of diverse origin, that the theory of the archegonium being only susceptible of monogamic fertilisation is, to say the least of it, rudely assailed. In deference, presumably, to this belief held by most biologists, Mr. Lowe advances the suggestion, that several archegonia on one and the same prothallus may be independently fertilised each by a single antherozoid derived from another prothallus of a different variety; that the varied influences thus introduced may be assimilated generally by the prothallus; and that eventually, when one of the fertilised ova survives in the struggle for existence (due to the fact that one prothallus is ordinarily only able to mature one plant), this survivor is enabled to display the combined characters of all the varieties with which the prothallus has been impregnated. In other words, the germinules of the suppressed ova find their way to the developed one, carrying with them, of course, all their varietal potencies.

That the influence of the male is not always

Fig. 121.—Disa longicornu: flowers pale blue.

confined to the fertilised ovum and its resulting form of organic life, finds practical evidence in the care which breeders of cattle, horses, and other animals, find it needful to take in the selection of thoroughbred sires, it being a well-known fact that one inferior cross is always liable to show its effects in subsequent independent ones, and since during the period of gestation the circulation of mother and offspring is necessarily one, the maternal system must equally necessarily be pervaded by the paternal influence, as well as the system of the offspring. Now, the appearance in any degree of the characters of sire No. 1 in the progeny of sire No. 2 only differs from Mr. Lowe's theory in the matter of time, a factor in his favour, since with Ferns the multiple paternal influences are at work almost, or quite, simultaneously. Graft hybrids show, though in a less degree, a similar power of assimilation; and, considering that the sap-circulation between scion and stock-roots is single and common, the wonder seems to be, not that the varietal effects of the scion are now and again—but only rarely—made evident, but that this is not invariably the case.

From these remarks it will be seen that I am not prepared to challenge in any way the theory which Mr. Lowe advances, and which indeed may account for the observed phenomena in some instances. I venture, however, to submit, for the consideration of biologists, a theory which, to my mind, recommends itself as a simpler solution of the matter. The antherozoids, as is well known, are emitted in enormous numbers under congenial conditions of humidity. At the time of their emission, and for some little while afterwards, they are endowed with locomotory powers by means of cilia, and by virtue of this capacity reach the archegonia, and fertilise them. The archegonia, however, besides being usually clustered together at one spot, are comparatively few in number, and assuming the adequacy of one antherozoid to fertilise each single ovum the archegonium contains, it is clear that an enormous percentage of these fertilising cells fail to fulfil their proper destiny. These in time lose their powers of motion, and have been observed to dissolve shortly afterwards. This being so, my theory is simply this, granting that by means of insects, flooding or other agencies, the antherozoids of several varieties may become mingled together in the droplet of water which forms the medium of locomotion and fertilisation of the prothallus, it seems to me quite feasible that the moment of dissolution of form may not be coincident with that of actual loss of vitality of the contained germinules, and hence, given the presence of an unfertilised archegonium in the same drop of water, pervaded with the combined free germinules of various antherozoids, fertilisation might result therefrom, without actual contact with any individual antherozoid, and the resulting offspring show multiple characters in endless grades, precisely as do Mr. Lowe's specimens. The cases cited by Mr. Lowe of mixed sowings yielding crossed offspring only, without a single true parental form appearing, demands indubitably some such easily-imparted influence, since the antherozoids have, by their mere propinquity, the best chance of fertilising the adjacent archegonia of same prothallus, and hence a certain proportion of true plants should be expected if actual contact of foreign antherozoids were a *sine qud non*. Under the theory suggested, a single flooding at the right time might impregnate every archegonium in the pan with different proportional varietal potencies, and just such a mixed lot would be the outcome as is obtained. *Charles T. Druery, F.L.S.*

ORCHID NOTES AND GLEANINGS.

VANILLA AROMATICA.

I am pleased to inform you that we have a small healthy specimen of Vanilla aromatica with over fifty perfect pods upon it. I have been trying for several years to succeed in obtaining such a result. *W. H. White, Burford.*

Orchids at McArthur's Nursery.

In these old-established nurseries in the Maida Vale, London, Orchids have of late taken up a great part of the glass accommodation, and in the entrances of the houses there is always a pretty show. In one of the lobbies at the present time is a pretty group composed of Odontoglossum crispum, Cattleya Mossiæ, and Lælia tenebrosa, among the last-named being three very distinct and dissimilar forms. The one has dark reddish-bronze sepals and petals, and rose-coloured lip, of which the tube is dark purple; the other has greenish-yellow sepals and petals, veined with light purple, and dark labellum; and the third has yellow sepals and petals, and rose and crimson lip—all very pretty and distinct. With them are arranged flowering plants of Chysis bractescens, C. aurea, some very fine Epidendrum vitellinum majus, Oncidium macranthum, Masdevallia Peristeria, and other Masdevallias; Odontoglossum citrosmum, O. cordatum, Angræcum Scottianum, Dendrobium McCarthiæ, D. Dalhousieanum, D. Dearei, D. crystallinum, D. Parishii, Cypripedium bellatulum, C,

concolor, C. Godefroyæ, and C. niveum, one of the C. niveum having the lower halves of the petals pure white, and the upper halves spotted with purple; some very fine C. Curtisii, C. exul, C. × Figaro and other hybrids, Maxillaria tenuifolia, Lycaste Deppei. Arranged in the cool lobby, the plants last much longer in bloom than in the house itself, and the different species being brought together, they make a pretty and interesting display.

ROTATION OF CROPS.

(*Continued from p.* 551.)

Swedish Turnips.—The first point to notice with regard to the growth of this particular crop is that, under each condition as to manuring, there is very great variation in the amount of produce from year to year, according to the seasons. Thus, in 1868, the crop entirely failed on all the plots, although seed was sown twice. Again, whilst the complex manure containing nitrogen yielded more than 22 tons of roots in 1880, the same manure gave little more than 4 tons in 1860; the average yield over eight courses being about 13¼ tons. Against this, the average by superphosphate alone ranged from about 6½ to 7½ tons; whilst without manure there was an average of only about 1 ton. It may be observed that this assumed restorative crop yields practically no produce at all when grown without manure.

Superphosphate alone gives much more than without manure, but still much less than an average agricultural crop. The increase in yield was largely due to the greatly-increased development of feeding-root within the surface-soil under the influence of the phosphatic manure; and the necessary nitrogen, beyond the small amount of combined nitrogen annually coming down in rain and the minor aqueous deposits from the atmosphere, has doubtless been gathered under the influence of the increased root-development from the previous accumulations within the soil itself. There is, in fact, perhaps no agricultural practice by which, what is termed the condition of land, that is, the readily available fertility due to recent accumulations, can be so rapidly exhausted as by growing Turnips on it by superphosphate alone—provided, of course, that the seasons are favourable.

The Barley Crops.

As with the root-crops (Swedish Turnips), so with the succeeding Barley crops, it was found that, under each condition of manuring, or other treatment, there was very great variation in the amount of produce from year to year, due to variations in the characters of the seasons. Thus, without manure, the average produce over the eight courses was about 30 bushels per acre, whilst in 1857 it was more than 40 bushels; but in 1869 and in 1873 it was not much over 20 bushels, and in the last two courses considerably less than 20 bushels. The produce of the manured plots show in their case also a wide range in amount above or below the averages, according to season.

The point to notice is, that whilst the assumed restorative crop—the roots—gave practically no produce at all without manure, the Barley gave, on land unmanured for so many years, an average of over 30 bushels per acre. The fact being that the cultivation for the preceding roots kept the land clean, and as there was practically no produce of roots, the soil was left almost fallow for the Barley during the winter preceding the roots, during the root-crop period itself, and during the succeeding winter, before the sowing of the Barley. There was, therefore, very good preparation for the Barley.

The results show that, on the plots where the mixed manure containing nitrogen had been applied for the preceding Turnips, the produce of Barley was on a much higher level, and it was greater on the portions when the Turnips had been fed on the land than on those from which they had been removed. It is observed that the produce, even on the plots with superphosphate alone, was, where the roots had been fed on the land, about the average of the country at large under ordinary rotation, namely, from 36 to 38 bushels; whilst on the full manured plot, the produce was much more, being in one case 40¾, and in the other 42⅜ bushels where the roots had been removed; and when they had been fed on the land, in one case 48⅜, and in the other 47⅞ bushels.

These experimental results fully confirm the explanations which have been given of the beneficial effects of root-crops grown under the ordinary conditions of manuring, on the succeeding cereal grown in alternation with them.

The Leguminous Crops (or Fallow).

The results obtained bring to view some of the difficulties connected with the growth of these crops. Thus, although the scheme of the four-course rotation supposes the growth of red Clover as the third crop of each course, that is once in four years, it has, in fact, only been grown four times in the forty-four years, namely, in the first, seventh, ninth, and tenth courses, and when it failed Beans were grown instead. It is a matter of general knowledge and experience that it is only on a few descriptions of soil that Clover can be grown so frequently as every fourth year, and in many cases it is not attempted to grow it more than once in eight years. The difficulty of growing red Clover or Beans frequently on ordinary arable land has been very fully illustrated in the Rothamsted experiments on the growth of leguminous crops. On the other hand, it has been found that red Clover may be grown for many years in succession on rich garden-soil, and, further, that on ordinary arable land where Clover had entirely failed, some other Leguminosæ, having more extended root range or more powerful root habit, grew luxuriantly and yielded large crops for a number of years in succession.

Lastly, in another field where Beans had frequently failed, red Clover was afterwards sown, and gave unusually large crops. Briefly to summarise the results obtained, it may be stated that the average produce of Clover, reckoned as hay, was, without manure, rather over 3000 lb.; with superphosphate (in the last year with potash, soda, and magnesia also) nearly 6000 lb.; and with the mineral and nitrogenous manures together about 6800 lb. Compared with these amounts of Clover, the seven Bean crops (corn and straw together) gave an average of about 1700 lb. without manure, of nearly 2400 lb. with mineral manure alone, and about 3200 lb. with the mineral and nitrogenous manures together.

There can be no doubt that the leguminous crops, and especially the Clover, growing on land in the same condition, and similarly manured, have the power of taking up much more nitrogen over a given area from some source, than the cereals with which they are interpolated, and that the beneficial effects of the growth of such crops in rotation with the cereals are intimately connected with this capability.

The Wheat Crops.

The results with Wheat relating to individual years show, that under each condition of manuring or other treatment, there is an enormous variation in the amount of produce in the different years, according to the seasons. Thus there was without manure, only 10⅛ bushels of Wheat in 1879, but 45 bushels in 1863; on the superphosphate plot there was in 1879 only 14¾ bushels, and 46 bushels in 1863; and on the mixed manure plot, only 12⅜ bushels in 1879, but 52⅝ bushels in 1863.

The cases cited are those of the most extreme fluctuations due to season, and the results show that there were very considerable variations in other years, under each condition as to manuring or other treatment; whilst the amounts of the variations differ more or less under the different soil conditions. It is obvious, therefore, that if we would fairly compare with one another the effects of the varying conditions, it is important to take the average results of a sufficient number of years to eliminate the influence of the varying seasons.

The next point is to illustrate the difference of effect on the other crops of the rotation, on the one hand of the growth and removal of the highly nitrogenous leguminous crop, and on the other of fallowing, which removes nothing. The general result is, that when there was not exhaustion, but accumulation due to manure and to increased crop residue, the growth and removal of the leguminous crops not only gave large amounts of nitrogen in the removed crops, whilst the fallow yielded none, but also left more available nitrogen for the succeeding Wheat than was rendered available (and remained) from the resources of the soil after the fallow. In other words, not only were the nitrogen and other constituents obtained in the leguminous crops an entire gain compared with the result of fallow, but, on the average of years, a somewhat larger succeeding Wheat crop was obtained as well. From the results as a whole, it may be concluded that, where the land was the most exhausted, the growth of the leguminous crop was correspondingly limited, and, being at the expense of the little accumulation that there was, its removal further exhausted the immediately available supplies; whilst, where the accumulations were greater, the growth was dependent on a more extended root-development, and therefore greater range of collection; the luxuriance was much greater, and the surface-soil, at any rate, gained by an increased amount of highly nitrogenous leguminous crop-residue. *J. J. Willis, Harpenden.*

THE VEGETATION AND CULTURAL INDUSTRIES OF ALGERIA.

In a report from Consul Playfair of Algiers, several interesting notes are given on the vegetation and cultural industries of the country. A private nursery garden it seems, has been established in the mountainous region of Zaccar, near Miliana, at a height of about 2500 feet above the sea, with the intention of acclimatising the fruit trees of more temperate regions, which as a rule cannot be successfully reared in the plains or on the littoral of Algeria. The climate of Zaccar is even more vigorous than that of the south of France, and trees enjoy there a more complete period of repose than in the lower regions where vegetation is less interrupted, and they do not require the abundant irrigation, without which they can hardly survive the heats of summer elsewhere. It is said that plants grown in the 'Pépinières du Zaccar," are more certain to flourish in every locality to which they may be sent than if they had been reared in warmer regions. They are also free from contamination from the numerous parasitic plants which affect the latter.

A new system of culture has been inaugurated by a proprietor of land near Setif, who has devoted himself to the propagation of a valuable fodder plant indigenous to Algeria, and described as one of the most beautiful wild flowers in the landscape, namely, the Sulla of the Arabs, or Algerian Sainfoin (Hedysarum coronarium). The plant has never before been systematically cultivated in the country, though it is stated to be the only one which is capable of yielding an abundant return in dry soil during alternate years, when it is usually left uncultivated throughout Algeria. Under the head Diseases of Plants, Consul Playfair makes the following remarks:—"During 1893 the 'Peronospora' took Vine-growers very much by surprise, as they had not undertaken any preventive treatment. It also attacked Potatos and Tomatos, to which gardeners have never yet thought of applying cupric remedies; these, it is believed, are likely to produce a good result. A new disease has appeared amongst the Vines, to which the name of Brunissure has been given; the leaves becomes covered with small brown spots, and speedily wither up without falling from the stalks; the Grapes produced appear small and badly nourished. It is the result of a microscopic parasite, and might perhaps be cured by the application of some salt of copper.

A new parasite has also been noticed in Beetroot, the Æcomyces leproides, which attacks the leaves and young sprouts, and transforms them into large tumours as big as a man's fist; it is not yet certain

whether this affects the root to any appreciable extent.

A species of tuberculosis has also been observed in Olive trees, which produce irregular tumours on the branches; at first it does not appear to affect the fertility of the tree, but ultimately the latter becomes stunted and withered. This only attacks trees which have been grafted.

In the neighbourhood of Algiers especially it is becoming more and more difficult to cultivate Peas and Beans successfully, on account of the ravages of a formidable parasite, the Orobanche speciosa, a tall and handsome plant without leaves, which fixes itself firmly on the roots of other plants, especially Peas, Beans, and Geraniums, and which produces an immense quantity of seed. The only means of getting rid of this is to pluck it up when quite young (pigs eat it freely), and not to plant similar crops

Fig. 122.—NEW DWARF SWEET PEA, "CUPID": FLOWERS WHITE.
(Shown at the Meeting of the Royal Horticultural Society on Tuesday last, June 25, 1895.)

the following year in ground which has been contaminated by it.

Black-fly has also been very destructive during the past year, especially in market gardens, as also has the white-worm, Rhizotrogne, which year by year becomes more serious, especially to cereals grown in stiff clay soils. Phylloxera is increasing in every direction. The neighbourhood of Philippeville, however, continues to be the most unfortunate, very few proprietors have sufficient means for replanting their land with American Vines, many are therefore abandoning their vineyards and turning their attention to other cultures.

On the subject of forest produce, Consul Playfair says that the Government of Algeria is anxious to direct public attention to the forests of the colony, especially to those of Cedar and Cork Oak. The forest of Teniet-el-Ahb, being easy of access, is said to have been ruthlessly treated by the military in bygone days before the forest department was properly organised. Trees were cut down and allowed to perish on the spot. Dead wood and dry grass produced fires which threatened the very existence of the forest, and the Arabs were in the habit of burning the old grass to produce fresh pasturage for their flocks. Now the utmost care is taken of this forest, and its regeneration is rapidly taking place. Young trees are everywhere springing up, and though wood of average dimensions is still insufficient, that is a want which will disappear in time, and these remarks apply more or less to every other Cedar forest in Algeria.

As a further illustration of how the forests have been neglected, it is said that of Djebel Tonggourt, which is a favourite excursion of tourists from Batua, is still in a most deplorable state, and it looks as if it might almost cease to exist in twenty years' time. The whole surface is covered with trees which have been torn up and allowed to perish. Very few young trees are springing up; caterpillars are everywhere at work, and there seems, to the casual observer at least, to be no efficient supervision. It is calculated that there are 35,000 dead trees still standing, and one person has purchased the right to cut these down within two years, and to supply 100,000 railway sleepers for the Est-Algérien line.

Cedar wood is said to be somewhat less enduring and elastic than Pine from the north of Europe, and therefore requires a rather larger scantling when used for architectural purposes, but these objections have been found to exist more especially in timber from the heart of the tree. Now its nature is better known than it used to be, the heart is generally employed for railway sleepers, and the outside portions for carpentry. Sleepers thus made have been found to last from eight to ten years, and to require no injection; it has also been employed with good results for wood pavement and roofing shingles. But it is especially for cabinet-making and decorative purposes that Cedar wood is most valuable, and for such purposes it is advisable to saw the wood so as to get rid of the heart altogether, and to cut up the outside portion so as best to display its beautiful and irregular veining.

The forest of Teniet-el-Ahd has an area of 2,325 acres, and it contains a considerable number of trees that might fairly be used, but to regard it only in the light of a source of revenue would be unworthy of the government; the giants of the forest there are of incalculable beauty and incomparable artistic value. The forest is a favourite resort of travellers, and it is gratifying to know that the government is resolved to exploit it only in the most legitimate manner by a system of rotation so as not to destroy its great beauty. The means at present employed of felling the trees and cutting up the timber by hand is too expensive; there is not sufficient water power to drive a saw-mill, and there is no other resource but to employ steam power. Till that is done, and means of communication are improved, the Cedar forests can hardly be expected to prove remunerative. But the amount of timber available in the various forests is so great, that when these difficulties are overcome it will be a source of great riches to the country. The Cedar here referred to is the Atlas Cedar (Cedrus Libani, var. atlantica).

In the matter of cork it is stated that the area of State forests in the department of Constantine is 231,690 hectares, an amount equal to the aggregate of those of Spain and Portugal; it is evident, therefore, that Algeria will soon become the principal cork-producing country in the world.

SWEET PEA "CUPID."

This dwarf variety of the Sweet Pea is quite an acquisition both to the flower-garden and the greenhouse. Its pure white flowers are of the full size of those of the ordinary Sweet Pea, freely produced, and fragrant. The entire height of the plants is about 6 inches, and yet there is nothing stunted-looking about them. The plants exhibited on Tuesday at the meeting of the Royal Horticultural Society were produced by sowing one seed in the centre of a large-sized 60-pot. They were placed in a cold frame, and it is of interest to remark that I had twelve seeds only, and that four of them were greatly damaged by the skin being cracked, or rather burst; yet all the seeds vegetated, and produced twelve fine large flowering plants. The method of growth is peculiar; a slender erect stem grows up to the height of 3 or 4 inches, and the cultivator is at the first likely to be much disappointed at the result, until after a time, four or more creeping side-growths push out; these are much stronger, and they form the plant which covers the entire surface of a 6 inch pot, and when in flower the growths hang over the sides. In the open garden the seed might be planted 6 inches apart in the rows, the rows to be a foot asunder. The plant is of the same degree of hardiness as our ordinary Sweet Pea, but it does not, of course, require any sticks to support the stem, and would probably make a fine bedding-plant to produce either a mass of white, or a row mixed with other coloured plants. *J. Douglas.*

THE HERBACEOUS BORDER.

NEW VIOLAS FROM SCOTLAND.

Dr. C. Stuart, of Chirnside, N.B., who has for years past been engaged in improving the Viola, and to whom we are indebted for the rayless section, has just sent me blooms of his newer varieties, putting six blooms in a bunch, in order that a fair estimate of them might be entertained. Forwarded from Scotland in a tin canister, with some damp moss among them, they were very fresh on arrival—almost as fresh as if only just gathered. Nearly every one of them might be included in the rayless section.

Of yellow varieties, Gold Crest has deep gold lower petals, with clear pure yellow upper; the flowers of the true Viola shape—that is, long, rather than circular. Leezie Lindsay is pale primrose, nearly white towards the extremities of the upper petals; the lower petals have a striking blotch of orange—very pleasing. White Wings has the lower petals, which are silvery-white, suffused with the faintest tinge of delicate mauve; the upper petals have a delicate suffusion of mauve—a charming variety, of good rounded shape, and stout texture of petal. Golden Eye is white, with a distinct gold and deep orange

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blotch on the lower petals; a promising variety. Waterloo, a Viola large enough to be classed with the Pansies, having rounded blossoms, colour violet, deeper on the lower petals, with a few deep purple veins, the upper petals violet, slightly flushed with rose, likely to prove a very useful bedding variety if the growth is compact. Queen of the Year, delicate silvery-violet, the top petals deeper, with a slight beading on the edges of dark violet, and small purple veins radiating from an orange and white eye, stout, and of fine shape. Blush Beauty, a name which fails to convey the peculiar tint of colour, which is pale lilac with slight veins of a deeper tint, and delicately suffused with pink, very pretty and of good shape. Cleg Kelley, delicate lilac deepening to pale mauve on the upper petals and on the edges of the lower ones, small orange eye, very pleasing, and having the true Viola shape. Florizel, in the way of Blush Beauty, but larger in size and paler in colour, approaching the Pansy character, each petal having slight veins of dark purple; and rosea pallida, paler still, delicate silvery-lilac, the name Blush Beauty could be more appropriately applied to this flower—very soft and pretty. Lastly, is a seedling Pansy which Dr. Stuart states was raised from a cross between the Peacock type and a dark self; the flower is stout and of excellent form, the lower petals are those of a dark self, deep glossy velvet, the upper petals rich shaded glossy purple, while the appearance of the flower is enhanced by the presence of what is always so effective in a dark self, the white brows over a golden eye. The presence of this imparts life and expression to the flower in a remarkable degree, and the Scotch florists do well to make it one of the properties of a first-class dark self show Pansy. *R. D.*

PLANT NOTES.

RHODODENDRON QUEEN OF DWARFS.

This is one of the many early-flowering hybrids raised by Messrs. Isaac Davies & Son, nurserymen, Ormskirk. It is well named, being a plant of very dwarf and compact habit, with small green leaves, and the flowers are snow-white, large, and well expanded. It would, perhaps, be scarcely correct to say these hybrid Rhododendrons are quite hardy; but they can be placed out in the open ground after they have done blooming, and when put into pots and helped by a little warmth, they may be got into bloom at Christmas. Or they may be grown entirely in pots, being repotted as required, or helped with some suitable fertiliser when coming into bloom; be stood out-of-doors during the summer, and taken into a greenhouse to flower. Very little, if any, forcing is required, as the plants bloom early naturally, and they are very free of bloom. There is reason to fear these Ormskirk Rhododendrons are not so well known in the London district as they deserve to be. *R. D.*

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By W. H. Smith, *Gardener, West Dean Park, Chichester.*

GESNERAS.—Tubers that were started thickly in pots must be carefully divided before the roots become entangled. Put four or five in 48-sized pots, using a compost of good turfy peat, loam, leaf-soil, and a little broken charcoal. They should be placed in a nice damp position in the stove, and syringings may be frequent between the pots, but not overhead. Their worst enemy is mealy-bug, which is usually very troublesome, and frequent spongings are necessary. In this operation great care must be practised, or the leaves will be broken, and this will greatly detract from the beauty of the plant.

ACHIMENES now in flower will benefit if fed occasionally with manure-water. In the case of those grown in pots, sprinkle a little fertiliser over the surface. Keep all dead flowers picked off, and the straggling shoots secured. Achimenes grown in baskets require an abundance of water during the hot weather; in fact, it is hardly possible to give them too much while the plants are growing and flowering.

CAMELLIAS require liberal supplies of water at the roots, for if allowed to become dry, the plants will be sure to drop their buds, when beginning to push in the winter or spring. Plants in borders should be watered on the least sign of dryness, and those in pot or tubs which have set their buds may be stood outside in a partially sheltered position for a time and afterwards in full sunshine. Regularly syringe the plants night and morning, and sponge the foliage occasionally.

EUPHORBIA JACQUINIÆFLORA.—Small plants should now be ready for transferring into 48-sized pots, a compost of good fibrous loam and peat with a little broken charcoal and sand, will be found to suit them very well. Place them on a shelf in the stove as near the glass as possible, and afford plenty of water when full of roots.

WINTER-FLOWERING PELARGONIUMS will now be ready for potting into 48 and 32-sized pots, and if the lights have been removed from them for a time, and the plants are thoroughly hardened, they may be placed outside; but stand them on ashes or boards to keep out worms. A compost of loam and leaf-soil, with sand enough to keep the soil open, will be most suitable. Do not give any manure until the plants commence to flower in the autumn. Keep all the flower-buds pinched off, and any strong growths made should be stopped.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CALANTHES AND PHAIUS.—The different varieties of Calanthe vestita, and those of the C. Veitchi section, are now growing vigorously, and the well-rooted plants need to be plentifully supplied with water, but to those that are not yet well established, water must be given with care. Where a quantity of these plants is cultivated, it is good practice to look over them occasionally, and select all those that have filled their pots with roots, that they may be placed together and treated to alternate waterings of liquid cow-manure. Previous to using this liquid, it should be strained through a piece of fine muslin. Do not apply the stimulant too strong at first, about one gallon to three gallons of water will be sufficient for the first three or four waterings, but afterwards it may be given in equal proportions. Keep the plants as near to the roof-glass as convenient, in order to obtain stout bulbs and strong flower-spikes. The vestita section of Calanthes is not generally of much service to amateurs who live close to large towns. In such localities dense sulphurous fogs frequently occur just when the plants commence to bloom, and the flowers are spoiled. The Regnieri section flower during the early spring months, when fogs are less frequent, and they are especially valuable for cutting purposes. These are now making their growth, and later they will require similar treatment to that described above. Such plants as Phaius amabilis, P. Owenæ, P. Owenianus, P. Marthæ, P. Cooksoni, Phaio-Calanthe Arnoldiæ, P. Blumei, P. Wallichiana, and P. Sanderiana, should be treated in the same way as the Calanthes throughout the growing season.

PHALÆNOPSIS.—Amongst plants now flowering mention may be made of Phalænopsis Luddemanniana, P. violacea, P. Marie, P. speciosa, P. tetraspis, and P. sumatrana. Several of these varieties will continue to bloom for some considerable time; but it is advisable to remove the spikes after a few weeks, when the plants should be supplied with fresh material about their roots, and returned to their position near to the roof-glass of the hottest division. An extra shady place should be given them, as their green foliage is very susceptible to injury from sun.

EULOPHIELLA ELISABETHÆ.—This new plant has now commenced to grow from the base of the last-made flowering-bulb, and if it is deemed advisable to re-pot them, the operation should be done at once. The plant being a free and deeply-rooting species, fair-sized pots are desirable. The roots do not adhere to the sides of the pots, and consequently they may be turned out without the fibres being much mutilated. Previous to re-potting, carefully pick out as much of the old soil as is possible. The compost that appears to suit them best is fibry loam and chopped sphagnum-moss; a handful of finely-broken crocks mixed with it will be an advantage. There is no necessity to raise the plants above the rim of the pot. Place them in a moist, shady corner of the hottest house, and when new roots are seen pushing from the young rhizome, abundance of water must be afforded, and the plants liberally treated until the bulbs are fully made up. Should thrips or red-spider be in the house, they will soon find a lodgment in the young growths, and on the under-sides of the foliage, and constant attention will be needful.

CŒLOGYNES.—C. Cummingi and C. asperata should always be protected from strong sunshine, otherwise their leaves quickly become unsightly; the plants require abundance of water until growth is completed. The same remarks are applicable to other Cœlogynes, all of which, with the exception of C. ochracea require an intermediate-house temperature. C. ochracea succeeds best in the cool-house; C. Dayana may be given other baskets if necessary. The distinct C. fuliginosa is an easily-grown plant, but its habit of growth being erect, some plan is necessary so that the roots which are emitted from the rhizome as it extends upwards may have something to cling to. We fasten the stems on to upright Teak-rafts, with the rods at least an inch apart, to allow space for peat and moss for the roots to run in, also for a freer circulation of air around them. The lower part of the raft is then inserted into a pot and firmly fixed with crocks, over which is placed some ordinary Orchid compost; living moss is then pricked in thickly over the surface, as the plant seems to delight in having the sphagnum grow luxuriantly around its base.

ANGULOAS.—Where plants of Anguloa Ruckeri, A. Clowesii, and A. uniflora require more root-room, it should be given them at once, and the plants then placed in the intermediate-house. Being free-rooting subjects, they require considerably more material to grow in than the majority of Orchids. Good drainage is one of the first essentials, using as a compost two parts of peat to one of turfy loam, the remainder being chopped sphagnum and small crocks. Water the plants with care for a few weeks, and when well established give them an occasional dose of weak liquid manure. Carefully guard against drip getting into the young growths from any source, and sponge the leaves over frequently to keep them free from scale and red-spider.

THE HARDY FRUIT GARDEN.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

FIGS: SUMMER PRUNING.—All superfluous weakly shoots, and those likely to be in the way of sunshine reaching the fruit, should be forthwith removed, either by rubbing off the very young, or cutting away those of strong growth. For covering small spaces without undue crowding, some shoots may be pinched at any required length, others being laid in at full length, but bearing in mind that every leaf and shoot must be sufficiently far apart not to shade or crowd other shoots and leaves. Where the roots of the Fig trees are confined in small borders, water must be liberally afforded whilst the fruit is swelling, but reducing the quantity when it begins to ripen.

WALL OR ESPALIER TREES.—If the lateral growths on Pears, Plums, and other wall and espalier trees have not been stopped as advised in former Calendars, by pinching out the points, it should now be done without delay, but in many cases the knife will have to be used. Weakly growths should also be removed, and to relieve crowding the worst-placed shoots for fruiting should be removed, those left being shortened to three or four leaves. As the removal of a large amount of growth at one time is not advisable, the top part of the tree should be pruned first, the lower half being left for a week or ten days longer. Make all extension growths secure without delay, or they will become stiff, and apt to snap. Continue to stop sub-lateral growth at the first leaf, and if possible afford copious root-waterings and liquid-manure to trees which are carrying heavy crops of fruit; this, with frequent syringings of the foliage, will contribute to the keeping down of most insect pests.

WASPS.—Wasps' nests should be sought out and destroyed. A simple and effective means of destroying the nests is to pour coal-tar into the holes at night. When the passage to the nest ascends instead of descending, tar is of no avail, but the preparation known as McDougal's "Smoke Ferrets" will reach

them anywhere, and it is certain in its effect. One has only to light the material and insert it into the hole, immediately stopping the entrance or entrances with a sod. A good destroyer of wasps, and one that I have used for many years, is cyanide of potassium. [A virulent poison, and one that should be used with great care. Ed.] It should be dissolved in hot water, using a rather wide-necked bottle, and enough water to cover the cyanide in its hard state; by fixing a piece of cotton-wool in a cleft stick, and saturating it with the solution, it can be inserted into the entrance to the nest, so as not to quite close it. This substance should be used in the day time, when it will kill every wasp which tries to enter the nest by passing over the cotton-wool. In the evening the nest may be dug out and destroyed without there being any danger to the person who does it.

FORMING STRAWBERRY PLANTATIONS.—As soon as possible preparations should be made for new plantations. The land should be heavily manured, and deeply dug, or bastard-trenched, heavy land being dressed with fine coal-ashes or mortar rubbish. The situation for early varieties should be a warm sunny one, a south border, or banks sloping to the south answering admirably; others may be placed in any open position, while some portion of the late varieties may go on a border facing the north, or one that is protected from the sun by a wall, &c. As soon as well rooted, the runners may be planted, making the soil firm around them, and well watering them till established.

THE KITCHEN GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

RUNNER BEANS.—A sowing of these Beans may still be made, choosing a sheltered warm place for them, and where the covering up of the rows may be easily done in the event of early September frosts. The plants will not be so tall as earlier sowings; consequently, the covering up can be easily carried out. Before sowing the Beans, soak them in water for six hours previous to sowing, and water the drills some hours before sowing the seeds, if the weather should remain hot and dry. Sowings of dwarf and Broad Beans may be made in the same manner. Where Runner and dwarf Kidney Beans are cut down by frost, as is the case in one of the gardens under my charge, it will be the more prudent course to sow again forthwith instead of waiting for the plants to recover.

ENDIVE.—The main sowing of Endive of all varieties grown for winter consumption should now be made, transplanting the seedlings before they become drawn into beds. When planting finally, let the piece of ground be well enriched and fully exposed to the sun, so that the produce will be sturdy, the texture of the leaves firm, and the soil such that it will adhere as a good ball to the plants at lifting time.

TURNIPS.—The present is a suitable time to make a large sowing of Turnips, sowing the seeds in drills. Before sowing, afford the land a dressing of lime or soot; the latter is also good as a dressing after the seeds have germinated, and it is one of the best checks to the attacks of the black aphis.

ASPARAGUS.—The plants are now growing freely, and may be afforded a dressing of some kind of artificial manure, as for instance, fish-manure, which is one of the best for the purpose; an occasional dressing of salt being also afforded, but not immediately after applying an artificial manure. Manure may be used with excellent effect, especially on plants growing in permanent forcing-beds. It is good practice to afford supports to the stalks, by means of strings stretched across the beds, and secured to stakes. Shoots laden with berries should be removed, unless a few be retained for seed purposes, cutting them off just above the first side-shoots that are free of berries.

FRUITS UNDER GLASS.

By Richard Parker, *Gardener, Goodwood, Chichester.*

RENOVATING VINES.—It is not always the wisest course to destroy Grape-vines which have become unsatisfactory from old age or other causes, as such Vines may be brought again into a fruitful condition without losing a season's crop, which would not be the case were they rooted up, and young canes substituted. The chief cause of the unsatisfactory condition of Vines which have been planted several years is the roots extending beyond the border prepared for them into an ungenial soil; Vines, when this has occurred, continuing to produce plenty of foliage, but the wood does not get sufficiently matured to produce fine Grapes. If renovation is contemplated, no time should be lost after the fruit is removed to bring the roots near to the surface in a newly-prepared border. Some Black Hamburgh Vines planted forty years ago were completely lifted in July, 1894, with the best results, becoming thoroughly established in the new border by September with well-ripened wood. This season the fruit is large and well-coloured, and the foliage very vigorous. In carrying out the work, the roof was well shaded, the ventilators closed, and the foliage kept moist by syringing. A trench was then cut down to the drainage at the side of the border farthest from the stems of the Vines, severing all roots which went beyond the limit of the border. After the trench was got out, the soil was removed with a digging-fork, as many roots as possible being preserved intact, these being kept moist and shaded as the work proceeded. It may not always be necessary to remove the whole of the soil, if it be found of fairly good quality. After the soil was removed, the drainage was made good by placing a layer several inches thick of brickbats at the bottom, and covering it with thick turves placed the grassy side downwards. A border 2½ feet in depth is sufficient, provided it is of sufficient breadth, and it should not be made entirely at one time, it being better to add to it as the roots extend outwards. The width of a re-made border will depend on the length of the old roots to be layed in, and allowing a foot or two more. The compost, which should have been got in readiness, should be in a fairly moist condition, and the borders be built up gradually to rather more than the required height, arranging the roots regularly at various depths, and making the soil firm about every part of them. Some of the thickest roots may be notched with a knife in places, and covered with sand and wood-ashes, to induce the emission of roots. As a finish, a wall of turves should be built up at the front of the border. The soil should be put in evenly and made very firm, and about the roots, the uppermost ones being covered with 6 inches of soil. A few days should be allowed for the soil to settle, when a thorough watering should be afforded, using this at 80°. The house must be kept close and shaded, and the foliage syringed several times a day for about three weeks, or until it is seen that root action has commenced, when ventilation and more light should be afforded, but doing this gradually. All lateral growth should be allowed to extend during the rest of the season, thinning this out later on, so as to assist the ripening of the shoots. Vines treated in the above manner and not pruned too closely the following season, cannot fail with good treatment to make good returns.

THE FLOWER GARDEN.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

THE HARDY FERNERY AND ROCK GARDEN.—The various plants should be frequently examined during the prevalence of the drought, watering those that need it, and endeavouring to maintain the rocks and mounds in a moist genial condition. It is only in this way that the plants can be induced to make healthy progress. To do this thoroughly requires the use of the hose at times.

AMERICAN PLANTS.—Any of these which may have been recently planted and have been mulched with short manure will need an abundant supply of water at the roots, as well as good overhead syringings, in the evening. The seed-pods should be gathered from Rhododendrons, &c., before the seeds have time to form.

HARDY SHRUBS.—Lilacs, Deutzias, Syringas, Gueldres Roses, &c., after flowering, should be pruned-in, or have the weak shoots thinned-out; and if trespassing on neighbouring shrubs, they may have some of the stronger branches cut-back to a convenient point, preserving at the same time the general contour of each. Common and Portugal Laurels which may have been cut hard back early in the spring should be cleared of dead branches. The common Laurel has suffered severely in this district from frosts, and there is much dead wood that needs removal. Mulch all recently-transplanted subjects.

ROSES.—Seldom have Roses been witnessed in such perfection as at the York Gala on the 19th, the bright sunshine of the past few weeks having brought out all the varied colours and tints to a degree of perfection not often seen in the North of England. What Roses need to produce the finest blooms is a deep, well-drained, strong loamy soil, sufficient open materials in the form of brick rubbish to give it the desirable degree of porosity, plenty of cow-shed manure, and the combings of the rubbish-heap, with abundant mulchings of short manure (especially needful this season), and applications of weak liquid-manure often afforded, sprinklings of freshly-burnt wood-ashes being previously applied, or mixed in the water. The foliage must be maintained in health, and free from mildew and aphis.

BUDDING.—The time is close at hand when the budding of Rose stocks may be begun. When the bark can be easily raised from the shoots on the Rose-stock, then are the stocks in a fit state for being budded. The stock being fit, it is almost a certainty that the buds of the Roses are equally forward. I take it for granted that the Dog-rose stocks or seedling Briars, &c., were planted in autumn or early spring, and that the former have been pruned at the various heights required for standard and half-standard plants, and later, disbudded of all shoots, excepting three. Choose a cloudy day for making a beginning, first collecting shoots of varieties to be budded, keeping these in water in watering-can or pail ready for use, some soft matting or bast or worsted, and a very keen-edged knife. Select the shoot to be budded, and having prepared it by cutting off the leaves of the plumpest buds, excepting the leaf-stalks, which may be left half an inch in length. Then make a longitudinal incision about 1 inch long on the top side of the shoot on the stock, carrying it down to the stem; at the upper end of this incision, make a cross cut just deep enough to cut through the bark, deeper than this will weaken the shoot, and it may get broken off by the winds. Having quickly made these cuts, run the thin handle of the budding-knife up and down the incision, raising the bark on either side; then take the Rose-shoot in the left hand and cut about half an inch behind and before the bud, and detaching it from the shoot. A thin strip of wood will come with the bud, which should be quickly removed with the handle of the knife if the shoot is firm and ripe, but if the wood is soft it will not part readily, and should be inserted with the bud. To do this, raise the edges of the incision made on the stock-shoot with the back of the knife, and see that the eye of the bud is directly in the line of the longitudinal cut, and gently push it up to the cross cut, and let the other end touch the bark at the point where the incision ends. Carefully tie in the bud firmly, but not so as to bruise it. A bud should be enveloped by the binding material for a little more than its entire length. In a month, more or less according to the weather, the ligature should be loosened, to give space for the bud and shoot to grow in thickness. Three buds on a stock are sufficient, but some gardeners put only one bud on the strongest shoot. Dwarf Rose stocks are usually seedlings or cuttings of the Briar (Dog-ros-) R sa Eglantine and R polyantha. The stocks are not headed back, but the buds are put directly on the stem, just about an inch below the level of the ground which has to be scraped away to admit of the operation being done. The budded stocks are headed back in the winter, and at replanting time the base of the shoot that forms from the inserted Rose bud comes beneath the ground, and in time emits roots. Gardeners have rarely any reasons for budding dwarfs, most Roses growing just as well from cuttings, and then, in the case of frost killing that part of the plant that is above the ground, there are still the roots alive to furnish shoots to make a new plant. The budding of dwarfs may be carried on into the month of August.

DURRAN'S PATENT DOUBLE-POINTED NAILS.—Some few years ago we illustrated in the columns a double-pointed nail, intended to displace tenter-hooks in rendering wooden fences unclimbable, and for wooden dowls in joining together the edges of boards invisibly. The double-pointed nail had the disadvantage that, unless the hammer-strokes were quite true, the point got injured in driving them into the wood or brick-work. In a new so-called "spur-nail," by the same maker, the point stands askew, and therefore out of the way of the hammer.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR JULY.

MEETINGS.

TUESDAY,	JULY 9	Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.
SATURDAY,	JULY 13	Royal Botanic Society.
TUESDAY,	JULY 23	Royal Horticultural Society, at the Drill Hall, James Street, Westminster.
SATURDAY,	JULY 27	Royal Botanic Society.

SHOWS.

TUESDAY,	JULY 2	Rose and Horticultural Societies of Sutton, Maidstone, and Diss.
WEDNESDAY,	JULY 3	Lee, Blackheath, and Lewisham Horticultural (two days). Croydon Rose, Ealing Rose, Faringdon Rose and Horticultural, Sittingbourne Horticultural, and Brockham Horticultural.
THURSDAY,	JULY 4	Eltham Rose, Norwich Rose.
SATURDAY,	JULY 6	National Rose Society, at the Crystal Palace. London Pansy and Violet Society, at the Crystal Palace.
TUESDAY,	JULY 9	Wolverhampton Floral Fête (three days). Ipswich Horticultural and Rose.
WEDNESDAY,	JULY 10	Rose Shows at Chelmsford, Farnham, and Hitchin. Borough of Reigate Cottage Garden and Horticultural Society, at Redhill. Hitchin and District Horticultural Society. Royal Botanic Society, Evening Fête.
THURSDAY,	JULY 11	Bath Rose and Begonia, Worksop Rose, Woodbridge Rose, Helensburgh Rose, Great Malvern (Hereford Rose).
SATURDAY,	JULY 13	Wood Green Horticultural, Galashields Horticultural.
WEDNESDAY,	JULY 17	National Rose Society (Northern), at Derby; Waterford Horticultural.
THURSDAY,	JULY 18	Halifax Rose, Canterbury (Kent Hospital Fête).
SATURDAY,	JULY 20	Manchester Royal Botanic, Rose Show.
TUESDAY,	JULY 23	Tibshelf Horticultural.
WEDNESDAY,	JULY 24	National Carnation and Picotee Society, at the Crystal Palace. Chesterfield Rose. Newcastle-on-Tyne Horticultural (three days). Caterham Horticultural.
THURSDAY,	JULY 25	Trentham and Hanford Horticultural and Rose.
FRIDAY,	JULY 26	Wellingborough Floral and Horticultural.

SALES FOR THE ENSUING WEEK.

TUESDAY,	JULY 2	Clearance Sale of Orchids, Greenhouse plants, and Effects at Poynder's Road, Clapham Park, by order of the Executors of the late Sydney Lawrence, Esq., by Protherce & Morris.
FRIDAY,	JULY 5	Established Orchids at Protherce & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°.9.

Chrysanthemums.

WE have before us a *Bulletin* published by the Cornell University Agricultural Experiment Station, on the Chrysanthemum. In this country we can hardly imagine a university paying any attention to such matters, but they think differently in America. The commercial interest in Chrysanthemum growing is so large that with the "view of still further popularising a worthy industry," the Professor of Horticulture, Prof. BAILEY, and his assistant, Mr. MICHAEL BARKER, have turned their attention towards the solution of some of the perplexities which beset the growers of the plant.

A short history of the rise and progress of Chrysanthemum culture in the States is given. The great impulse, it appears, was given by the purchase by Mr. W. A. MANDA of the famous variety, Mrs. Alpheus Hardy, for 1500 dols. In 1889 the American Chrysanthemum Society was established, and that body has been of great service in eliminating faulty varieties, in establishing a standard of excellence, and in regulating the nomenclature. But there are many points which the Society cannot undertake, still less private or commercial growers. The exhibition-table affords only a partial test of the relative merits of new introductions, and one which is very likely to mislead the professional florist, and still more, the amateur. Both classes require to know whether the new varieties will prove better than the older and cheaper sorts. Again, some varieties produce the best blooms from the "crown buds," whilst in others the "terminal" buds furnish flowers of better quality. Some varieties are late, others early; some are adapted for specimen plants, some for specimen flowers. Then the insects and diseases to which the plants are subjected demand investigation, as also the relative effects and cost of various manurial agents. All these subjects can be dealt with better in a public than in a private establishment.

We mention these matters to show one way in which our Chiswick garden might be made to subserve the interests of growers to a greater extent than it does. A good deal is already done there in the directions indicated, but it requires co-ordinating, developing, and being brought into more immediate touch with the growers, specially the notes and results obtained require to be published more expeditiously and to be distributed directly to those concerned with the least delay possible. The American institutions which are manifesting such great activity are all of them fostered by the State, or have been endowed by the munificence of wealthy citizens.

In the Cornell trials, the report of which is before us, the plants were grown side by side in the centre bed of a span-roofed greenhouse. Each plant was restricted to one stem; and only one bud, "crown" or "terminal," was allowed to develop on each. In this way, as all were grown under like conditions, a fair comparative test was established.

The interest felt in the Chrysanthemum in America is further illustrated by the publication by Mr. MICHAEL BARKER of the *American Chrysanthemum Annual*. The work consists of a variety of articles relating to the favourite plant. The progress in America is treated of by Mr. BARKER, whilst Mr. SHEA contributes a valuable article on the state of affairs here. Mr. SHEA gives an analysis of the "outcome of the struggle for existence on the exhibition table," in the form of a numerical statement of the varieties appearing on sixty of the first-prize stands throughout the United Kingdom. From this list, in which the Japanese varieties only are dealt with, it appears that Charles Davis was exhibited in fifty-one out of sixty of the first-prize stands, Viviand Morel in forty-six, Mrs. Harman Payne in forty-five, E. Molyneux in thirty-nine, the list tailing off gradually, and ending with some fifteen kinds, each of which was exhibited on three prize stands only.

Audits of this character are valuable as guides to exhibitors, but they are apt to be misleading to those who prefer the quiet enjoyment of their houses to the feverish excitement of the exhibition table. The trial collections at Chiswick and elsewhere, which show the mode of growth, general habit, and suitability for particular purposes, are more useful than the "boards" on which the flowers are throttled on the exhibition stage. One article in Mr. BARKER'S *Annual* is devoted to an account of the principal growers and dealers in the Chrysanthemum. It is interesting to see how many of them are Englishmen by birth, and they seem to have inoculated the rising generation of native Americans. What may be expected of them may, we hope, be forecasted by the production by Mr. ELMER D. SMITH of the beautiful variety known as "niveus." Fungus diseases are treated by Dr. HALSTED and Mr. MASSEE; insects by Mr. BARKER. Mr. WESTLAND contributes a very interesting article on the Chrysanthemum in China. In that country, the flower has long been known as "Kuk Fa," or "closed hand-flower." From a consideration of the mode of formation of the Chinese characters, Mr. WESTLAND concludes that the incurved varieties must have been known to the Chinese when their written language was still in process of development! The Chinese, we are told, now "live in the delusion that horticulture, like many other arts and accomplishments, reached perfection many centuries ago, and to venerate the old and despise the new has been the creed of China from times immemorial. As a race they have all the painstaking qualities that are so essential in gardening, and should the rude awakening which Japan has recently administered to the celestial kingdom have permanent effect, she may rise again on the waves of progress, and assuredly horticulture will then advance with rapid strides. I am doubtful if the natives of any other country have such a wealth of raw material, and the peculiar qualities for turning it to account, as have the inhabitants of this interesting part of the world."

The following arrangement of the varieties is taken from the *Cornell Bulletin* above referred to:—

"A KEY TO THE CLASSIFICATION OF VARIETIES OF CHRYSANTHEMUMS.

GROUP A.—Large-flowered. Diameter 4 to 10 inches.

Section 1. Incurved.
Florets regularly incurved.

Sub-section 1. Japanese incurved.
Florets irregularly incurved.

Section 2. Japanese.
Florets straight, spreading, twisted, curled, or drooping.

Section 3. Reflexed.
Florets regularly reflexed.

Sub-section 2. Japanese reflexed.
Florets irregularly reflexed, or long and drooping.

Section 4. Anemone.
Florets in two series, disk and ray. Disk florets tubular, forming half a sphere in centre. Ray florets strap-shaped, horizontal, and arrayed around the outside.

Sub-section 3. Japanese Anemone.
Ray florets incurved, reflexed, or drooping.

GROUP B.—Small-flowered or Pompon. Diameter 1 to 2 inches.

Section 1. Pompon.
Flowers formal and diminutive, with short, closely-packed florets.

Section 2. Anemone Pompon.
Diminutive flowers of the Anemone type.

GROUP C.—Single-flowered. Diameter 1 to 5 inches.
Flowers single."

Antigonon leptopus.—This beautiful Mexican and Central American creeper is not so well known as its merits demand. Our illustration (fig. 123) taken from a specimen sent from the Milton nurseries, Lymington, shows the general habit of the plant, the flowers being rose-coloured. It was figured in *Bot. Mag.*, t. 5816. An even finer plant is the one figured in our columns as A. insigne in 1876. It requires much the same treatment as a Bougainvillea. The section of the flower shows an apparent provision for close-fertilisation, which one would not have expected from the coloured flower. It is known in gardens as A. amabile, and as the Honolulu creeper.

Linnean Society.—On the occasion of the meeting on Thursday, June 20, Mr. C. B. Clarke, President in the chair, Mr. George Massee was elected a Fellow of the Society. Messrs. E. Baker and C. Reid exhibited some rare plants from the limestone hills of the Co. Kerry, including Pinguicula grandiflora, Lam., contrasted with P. vulgaris, and Saxifraga Geum contrasted with S. umbrosa, with a view of determining their value as sub-species or geographical races. Mr. Carruthers exhibited some feathers of a cuckoo taken at Whitchurch, Shropshire, on May 23 last, amongst which were some mounted feathers which were held connected with the new feathers which had replaced them by means of the barbed seed-capsules of a sub-tropical genus, Cenchrus echinatus. Mr. F. N. Williams communicated the salient points in a critical paper which he had prepared, entitled, "A Revision of the Genus Silene." This meeting terminated the session.

Fig. 123.—Antigonon leptopus: flowers rose-coloured.

Brighton and Sussex Horticultural Society.—On the occasion of a meeting of this Society on May 20th, when Mr. J. Lewis read a paper on the "Fertilisation of Plants," the Gold Medal of the Society was presented to Mr. Wm Balchin, senior (Messrs. W. Balchin & Sons), the same having been awarded to the firm by the judges at the spring show in March last for a large

and admirably-arranged collection of the plants, flowering and foliage, of exceptional merit, which included panels of Boronia heterophylla, B. megastigma, Tetratheca ericoides, Anthuriums, Dendrobiums of sorts, Lilium Harrisii, Acacia cordata, Hydrangea otaksa, Hyacinths, &c.—a collection which, for numbers and good quality, had probably not been seen in Brighton. The presentation was made by J. M. Kidd, Esq., the President of the Society, in the presence of the Mayor of Brighton and other leading townsmen.

The Nurserymen, Market Gardeners', and General Hailstorm Insurance Corporation, Limited.—The statutory general meeting of this Corporation was held at Simpson's, Limited, Strand, on Friday, June 21, 1895. The chairman (Mr. Harry J. Veitch) reported that the shares had been applied for freely, thus providing perfect security for policy-holders. Though established only four months, one hundred policies had been issued on 6,720,832 square feet of glass, valued at £80,542 2*s.* 8*d.*, and producing £415 11*s.* 8*d.* in premiums. This amount would be considerably augmented by the Midsummer and Michaelmas business. No claims had yet been received. The capital had been invested in Government stock. Twenty-six agents had already been appointed in the United Kingdom. The Corporation was being worked with economy, and was making good progress. The Directors would take no remuneration in any year when less than 5 per cent. on the subscribed capital was made, and then only such sum as the shareholders in general meeting voted to them. From the tone of the meeting, the report was considered very satisfactory. Messrs. Harry J. Veitch, James Sweet, and James Webber were appointed trustees, and the meeting closed with an unanimous vote of thanks to the chairman.

Agricultural Education in Aberdeen University.—Rev. Dr. Smith, Newhills, Aberdeenshire, convener of the Committee on Education in Agriculture of the Aberdeen University Court, has issued a circular on the subject to County Councils. He points out that the Ordinance of the Scottish Universities Commission, which is expected to receive the Royal assent, and so become law in the course of a few weeks from this date, lays down a systematic course of study for the B.Sc. degree in Agriculture, extending over not less than three academical years, and embracing, in addition such residence and practical work at a farm as shall be required, at least twelve courses of instruction in the following subjects, viz.:—1, Mathematics or biology (i.e., zoology and botany); 2, Natural Philosophy; 3, Chemistry; 4, Principles of Agriculture (i.e., Agriculture and Rural Economy); 5, Agricultural Chemistry; 6, Geology; 7, Veterinary hygiene; 8, Agricultural Botany; 9, Agricultural entomology; 10, Economic Science as applied to Agriculture; 11, A course in one of the following—(a) Forestry, (b), experimental physics, (c) engineering; 12, Engineering field work. The above enumeration of subjects presents an adequate field out of which to construct various useful curricula of study, and it will be the duty of the University Court, when matters are more advanced, and when the views of the County Councils have been ascertained, to organise such courses so as to suit the agricultural needs of the northern province. A conference of public bodies interested will take place in Aberdeen University Buildings on July 12 next.

A Horticultural Palace for Paris in 1900.—At the banquet connected with the Paris International Exhibition, M. Picard, the Commissaire Général for the Exposition Universelle to be held in Paris in 1900, announced to the guests that during that year the horticultural world might depend upon him, as he hoped to be able to count upon horticulturists, for the general decoration of the gardens. We will reciprocate, said M. Picard, by building you a fine palace for their reception, the attention you may pay us in sending us horticultural products for exhibition.

"Pflanzen Krankheiten" (Diseases of Plants).—Dr. Karl Freiherr von Tubeuf, of Munich, has recently published a valuable treatise on the diseases of plants caused by parasitic organisms, with indications of the means to be taken to combat them. The physiological, biological, and anatomical relations of parasite and host, are dealt with, and a large number of original illustrations are added. The book is published by Julius Springer, of Berlin, and may be had from Messrs. Williams & Norgate. We shall allude to it at greater length on another occasion.

Broomfield Orchid Sale.—The first day's sale of Mr. Wells' Orchids, brought to the hammer by Mr. Protheroe on the 26th inst., realised about £2045, being about an average of 6 guineas a lot. There was a large company of buyers present, the best Orchids being briskly competed for. Among the plants bringing the highest figures were Odontoglossum crispum, 60 guineas; Cattleya Hardyana, Wrigley's variety, 56 guineas; Lælio-Cattleya × L. purpurata × C. gigas Sanderiana, 44 guineas; Cattleya Lord Rothschild × C. Gaskelliana × aurea, 60 guineas; Cattleya Mossiæ alba, two plants, 34 guineas and 33 guineas; Cattleya labiata alba, 50 guineas; Odontoglossum crispum Wrigleyanum, 34 guineas; Lælio-Cattleya Arnoldianæ, 30 guineas; Cattleya Mossiæ Wagneri, 30 guineas; C. exoniensis superba, 55 guineas; C. hybrida Kienastiana, 45 guineas; C. Trianæi Reine des Belges, 50 guineas; a small plant of C. Trianæi Measuresiana, 30 guineas. The plants were of comparatively small size, but altogether an admirable lot in general good condition, reflecting credit on Mr. Richard Hinde, Mr. Wells' gardener.

Iris Kæmpferi.—Messrs. Boehmer & Co., of Yokohama, who have large fields of this Iris under culture, give the following directions for its cultivation. These plants require a very rich clay soil, and must have plenty of water during their growing season, which extends from April to June. By means of irrigation the water may advantageously be left standing an inch above the surface of the soil that covers them during those months. The water should only be left over them during the daytime, and be turned off and allowed to soak into the soil during the night. They should be planted in a very sunny spot in the garden, and should occasionally be fertilised with liquid-manure at night time. They flower towards the end of June. These should be cut while still in the bud, and allowed to blossom out in the vases wherein they may be placed. Blooms cut for the market should more especially be cut in the bud. In winter-time the roots should be kept almost entirely dry; and in colder countries they ought to be protected from the severe frosts by covering the beds with straw or other similar materials. The Iris can also be cultivated on ordinary garden soil or even in pots; but under such conditions the blooms will not develop so perfectly as when cultivated in the manner stated above.

PLANT PORTRAITS.

Acidanthera bicolor, *Garden*, May 18.

Baptisia tinctoria, *Meehan's Monthly*, May.

Begonia Faureana, *Illustration Horticole*, t. 34.—Shown at the Temple Show in 1893 (? 1894) as B. platanifolia, but altered by reason of that name having been previously applied to another species.

Blandfordia flammea, nobilis, and marginata, *Garden*, May 11.

Carnation Madame Stepman, *Revue de l'Horticulture Belge*, June.

Cypripedium Charles Rickman (by bellatulum var. out of barbatum superbum), *Revue de l'Horticulture Belge*, June.

Gesnera Donckelaariana, *Revue de l'Horticulture Belge*, May.

Melaleuca fulgens, *Revue Horticole*, May 16.

Nidularium Paxianum, Mez., nov. spec., in *Gartenflora*, t. 1415.—A South Brazilian species, with tufts of broad denticulate leaves, the innermost surrounding the flowers, tipped with rose.

Plum Prince of Wales, *Bulletin d'Arboriculture, &c.*, May.

Rose Belle Siebrecht, *Rosenzeitung*, May, 1895.

Rose Souvenir de Christophe Cochet, *Rosenzeitung*, May, 1895.

Ruellia Makoyana, *Revue de l'Horticulture Belge*, May.

EARTHQUAKES AND ORCHIDS.

(See Fig. 124.)

Friends have written to me from England that they had read in the papers of the destruction of the collection of Orchids at Poggio Gherardo by the earthquake of May 18. This was not so, but the report had been spread in Florence that the tower which fell, had fallen upon the Orchid-houses, and destroyed the contents. The tower did fall, and crashing through the roof and two floors finally broke the crown of the strong vault of a room on the ground floor. But the tower stood on the north side of the house, whereas the Orchid-houses were on the south terrace.

The houses themselves presented an extraordinary spectacle; hundreds of pots had been thrown down, the pathways were covered with them, and many fell into the cisterns beneath. Three days, however, sufficed to clear the wreckage and repot the plants themselves, and it was then found that the material damage was not great.

I do not think that in England any idea exists of the severity of the shock nor of the damage caused, whether in the city of Florence or the surrounding district. Many fine old houses were utterly wrecked, others rendered uninhabitable, and hundreds damaged. The shock was accompanied by a deep rumbling sound which was accentuated by the sharp noise of the cracking of the walls—and they were walls of stone 2 to 3 feet thick.

Many of the public buildings have suffered. One side of the cloisters of the famous monastery of the Certosa was thrown down, and another is threatening; the cupola of the cathedral has been cracked in two places and causes anxiety, while the massive iron tie across the first arch of the nave snapped in two. The palace of the Signior, and the national library at the Uffizi have to be repaired, and at the Bargello the life-size statue of S. Dominic was shivered to pieces—it was the masterpiece of Lucca della Robbia. Altogether, the appearance of the town is that of a place which has suffered a bombardment. There great beams shore up a tottering angle, here the masons' platforms cover the fronts, while loaded carts are to be seen everywhere transporting long iron bars to tie back the walls which have been driven out of the perpendicular.

The shock had three movements, as you will see by the fac-simile I enclose of the markings made by the seismograph—saltatorial, undulating, and gyrating, —and it is believed that had it lasted another two seconds half of Florence must have fallen. It was the most serious visitation of the kind felt here since the great earthquake of 1453. Had it occurred late at night as did the second lighter tremor of June 6, much life would have been lost. But as it came fortunately just before 10 o'clock, no one was in bed, and many, as customary in these countries in mild weather, were outside their doors. Some thirty shocks or tremors have since occurred, but few were felt, and were only sensible to the instruments.

H. J. Ross, June 21, 1895.

HOME CORRESPONDENCE.

The National Rose Society at Colchester in 1896.—Surely it would be a gracious act for the National Society thus to acknowledge the distinguished services of Colchester to the queen of flowers. In honouring the veteran grower of nearly fifty years, B. R. Cant, and his sons, and nephew, Mr. Frank Cant, Messrs. D. Prior & Sons, Mr. Bunting, and the amateur rosarians of Colchester, the National Rose Society would not only honour itself, but render the National Rose Society substantial service and solid profit. Descending, in fact, at one plunge, from sentiment or poesy to pounds, shillings, and pence, I know of no centre more likely to command a commercial success, as such as to afford a powerful stimulant to the further extension and improvement of Rose culture throughout the county. A great Rose show at Colchester, under the joint patronage of the National Rose Society, and such a strong local committee as could readily be established in the district, would do something very much to put up other districts to the Colchester standard of culture. This and the

gratification of such local growers as abound in or near this garrison-town ought to suffice to bring the National Rose Society to Colchester next year, or at the earliest possible moment. I have been a member of the National Rose Society for many years, and I trust it will not refuse this my first request, which, weather permitting, must prove a great commercial and cultural success. *D. T. Fish, M.N.R.S.*

THE TREATMENT OF ONCIDIUM JONESIANUM, ETC.—In reply to your correspondent, "C. H. J.," the best position for Oncidium Jonesianum during growth, also for the plant that is dormant, would be the lightest position available in a Cattleya-house temperature. It should be kept constantly supplied with water at the root until growth is completed, when they should be matured in full sunshine. *Re* the Dendrobium thyrsiflorum bulbs decaying and shrivelling, I should assume that the principal reason is loss of roots, caused probably by too much water being afforded at the root at some period, also by syringing the young growths overhead, and by an excessive degree of atmospheric moisture; or it may have happened that at some time the plants were watered when the material appeared quite dry on the surface, while underneath it was in a saturated condition, which is especially likely to happen if a great deal of compost is used. *W. H. White.*

EARLY PEAS.—On p. 776 Mr. Ward writes of having gathered Peas on May 20, the variety being Carter's First Crop, the supply to June 11 being kept up by Lightning, William the First, and Telegraph, from plants that had been forwarded in pots. I gathered on May 20 from a border about 70 yards long, and am still (June 24), gathering from the same border. The first few gatherings were from plants raised in pots, but these were quickly followed by those sown on the border. The variety being Chelsea Gem, a better early Pea I have not seen yet, its productiveness being all that one could wish. I have grown it for six years, and it is always the same. I have other varieties growing in a similar position, but they are not nearly so useful; the earliest being Extra Early Veitch. To succeed Chelsea Gem I find the right thing in Duke of Albany, which was ready to gather on June 12, from plants sown in the open ground. Main Crop is just in, having been sown at the same date. It looks a good Pea, and is a good cropper. Considering the much more favourable locality of Mr. Ward, the use of Chelsea Gem and Duke of Albany might do away with the labour of filling and attending to many hundreds of pots of Peas. *J. Hill, Babraham, Cambridge.*

EARLY PRODUCE OF THE GIRTFORD GIANT RUNNER BEAN.—It is a question whether this Bean is not well adapted for early sowing. I have just had a dish of Beans sent me by Mr. Clark, gardener to Major Tracey, Pytte House, Clyst St. George, Devon, and they are fine pulpy pods, 8 inches in length and 1 inch in breadth. Two years ago in the same garden this variety was picked about this time of year. These were sown about the end of March in a well-sheltered spot, liberally treated with manure, and have not encountered any May frosts to check their growth. Notwithstanding these advantages, Midsummer Day is extraordinarily early to pick Runner Beans from the open. It says something for the climate of Devon, as well as for gardening skill. *A. H.*

THE FLORA OF A RECLAIMED MEADOW.—About a dozen years ago a piece of meadow-land about half an acre in extent, close by my residence was broken up and converted into a kitchen-garden. It had been meadow-land previously from time immemorial. As a kitchen-garden it remained for six or eight years, when the crops were removed and the land left to itself. As the plot was surrounded on three sides by meadow-land, I was curious to see what plants would take possession of the despoiled kitchen-garden. As might have been expected, Thistles, Carduus pratensis, predominate; and among grasses, Dactylis glomerata in two varieties, one with purplish, and the other with whitish flowers. Holcus mollis, Avena elatior, Bromus mollis, and Lychnis flos cuculi. There are, of course, others, but those mentioned predominate. In the field immediately adjacent, few, if any, Thistles are to be seen; Dactylis and Bromus are rare; Avena elatior scarcely less so. Here the vegetation consists mainly of Hordeum pratense, largely predominant; Phleum pratense, Red Clover, Holcus, a little Lolium pratense, and a few miscellaneous weeds. Next year, under different seasonal conditions, no doubt the flora will be different. *X.*

INULA HOOKERI (?).—Max Leichtlin's suggestion on p. 776, that our exhibit of Inula Hookeri (?) was I. glandulosa grandiflora, is incorrect. The variety we exhibited may be (as you and the Kew authorities suggest) a form of I. glandulosa, though it is a fortnight earlier than our type variety of this, and is deeper in colour, but it is certainly not grandiflora, which latter we were showing at the meeting on Tuesday last, side by side with I. glandulosa. We are indebted to Mr. Max Leichtlin for our stock of Inula grandiflora, and it well deserves the name given it. It is certainly the finest of all the Inulas. *Paul & Son, The Old Nurseries, Cheshunt.*

BAMBOOS AND THE PAST WINTER (p. 762).—Mr. Bean's account of the survival of the Bamboos at Kew is very interesting, and I should like to say that it entirely agrees with my experience here. I have lost none, except, perhaps, one, which I only have under its Japanese name—Tusan-chikee; and that would probably have died in any winter, for it was an unhealthy plant. But I should go further than Mr. Bean, and say that the winter has been actually beneficial to the Bamboos. I cannot recollect a year in which the shoots were so strong and healthy. Of course the winter may have had nothing to do with that; it may be a case only of *post hoc*, and not *propter hoc*, but it is worth noting. *Henry N. Ellacombe, Bitton, Gloucestershire.*

JUNE FROSTS.—During the nights of the 12th, 13th, 14th, 15th, and 16th inst., one or more degrees of frost were registered here. On the 15th, 5° of frost at the Castle, which lies about 50 feet lower than the kitchen garden, which, again, is 200 feet above sea level. Singularly enough, in the flower garden around the Castle, such plants as Nicotiana, Ricinus of sorts, Solanum Warscewiczii, and Heliotrope escaped uninjured, while all the young growths on Rhododendrons in the same spot are without exception nipped, and in some cases the young growths on Picea nobilis have suffered. Dahlias in the same garden are cut up, yet in the vegetable garden some 300 yards distant, nothing whatever has been injured. *D. Brough, The Gardens, Duntreath Castle, Strathblane.*

EARLIEST STRAWBERRY.—It may be of interest to mention that amongst a batch of Strawberries growing in a south border here, La Grosse Sucrée was the first to ripen. We picked a nice little dish of ripe fruits of this variety on June 10. The other varieties growing alongside it are Keen's Seedling, Vicomtesse Hericart de Thury, Laxton's Noble, President, and Auguste Nicaise. Noble is next in order of ripeness, followed by Hericart du Thury. All the varieties named have much better crops of fruit than La Grosse Sucrée; they were planted in August, 1894, from small pots, being the remainder of those prepared for forcing. Strawberries generally promise abundant crops hereabouts this year. *H. J. C., Grimston, Tadcaster.*

THE LATE PHILIP FROST, AND PLANTING.—In the article on Dropmore in the *Gardeners' Chronicle* of June 8, the writer comments on the Cedar avenue, and attributes the want of space allotted to the trees to the indiscretion of the planter. Frost, however, was not responsible for this omission of thinning out the trees, as I have frequently heard him state that this should have been done, and I believe he intended to plant the trees at double their present distance apart, but his wish was over-ruled. "Chalky" Frost, as he was known among his friends, always attributed the success of his Conifers to the frequent top-dressings of old garden soil, &c., he applied, and the result of this treatment speaks for itself. He was also an advocate of planting trees with the tap-root intact, and placed in its natural position in the soil. As a planter, he was not only successful, but fortunate, for few planters live to see the trees they plant attain a height of 120 feet, as was the case with the large Douglas Fir which once travelled as a seed in his waistcoat pocket. His retentive memory and numerous reminiscences of horticultural, sporting, and pugilistic matters made him a celebrity in other circles than that of gardening. *A. C. F.*

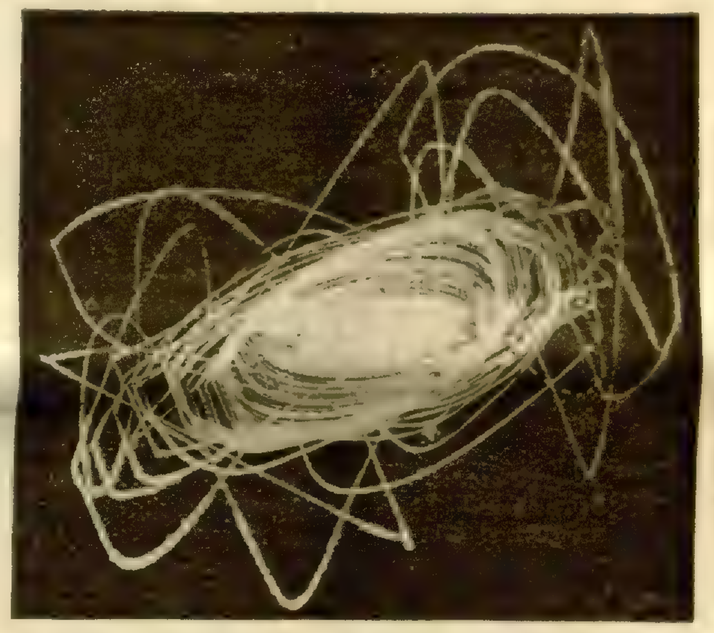


FIG. 124.—EARTHQUAKE MOVEMENTS, INDICATED BY THE "SEISMOGRAPH" AT THE OSSERVATORIO XIMENIANO, FLORENCE. (SEE P. 798.)

CEREUS GRANDIFLORUS.—A few days ago I had sent to me two buds of this plant, with the information that they would open that evening if I would keep them in warm water. I did as I was advised, and was rewarded with magnificent blooms from 7 to 11 o'clock P.M., which filled a large room and its approaches with a strong perfume of Vanilla. In the books to which I have access I do not find any allusion to this particular scent in the night-blowing Cereus, nor do I remember to have noticed it before, or to have read of it. Is it mentioned anywhere? [Well known]. *W. T., T.*

THE WEATHER IN SCOTLAND.—Dr. C. Stuart, writing from Chirnside, N.B., on June 21 states:—"We have had sharp morning frosts here for a week! Potatos and French Beans all blackened." Is not this very unusual for so late in the year? *R. Dean.*

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 25.—The usual fortnightly meeting was held on Tuesday last in the Drill Hall, James Street, Westminster, and was chiefly remarkable for the large display of herbaceous perennial, bulbous, and other hardy plants and flowers. Most of these collections were contributed by the trade, however, and the competitive classes were in almost every case represented by single entries only. In response to an invitation for collections of Cactaceous plants from amateurs, for which a Silver Flora Medal was offered, a good collection was shown from Sutton Coldfield, near Birmingham; but, excepting a large and representative group from Messrs. CANNELL & SONS, Swanley, no other collection of these plants was exhibited.

Orchids and miscellaneous plants in season were of an average quantity, but the work before the Fruit Committee showed an increase, as is usual, this season.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. H. B. May, H. Herbst, R. Dean, G. Stevens, H. Selfe-Leonard, J. A. Pawle, G. Gordon, J. T. Bennett-Poë, J. W. Barr, J. Walker, H. J. Jones, C. Blick, G. Paul, C. E. Shea, J. Laing, C. F. Druery, and H. Cannell.

Collections of hardy flowers were numerous. Mr. T. S. WARE, Hale Farm Nurseries, near Tottenham, had a rich bank of these in considerable variety, showier species predominating. Inula glandulosa, Lychnis vespertina plena, a pretty double white variety; varieties of Alstroemeria chilensis, Aquilegia chrysantha, Spiræa filipendula plena, Erigeron speciosus superbus, Papaver nudicaule miniatum, Heuchera sanguinea, together with Lilies, Spiræas, Heleniums, Delphiniums, &c., were noticed. An Award of Merit was granted to Lilium Dalhansoni ×, a tall-growing hybrid plant with eighteen flowers on a spike; flowers rather small, and very deep chocolate-crimson (Silver Flora Medal).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, Chelsea, exhibited a collection in which a fine lot of Delphiniums was very prominent. The varieties were those tolerably well known, the condition in which they were shown, however, being worthy of remark.

Grand fiery bunches of Heuchera sanguinea were also shown, and Cephalaria alpina, and a number of varieties of herbaceous species of Phloxes. The pretty Malva moschata alba was remarked, and several varieties of Lychnis, &c. (Silver-gilt Flora Medal for these and an exhibit of Roses).

Messrs. P. BARR & SON, King Street, Covent Garden, had a collection of hardy flowers, including a number of Pæonies, Irises in variety, Lilium Martagon album, Hemerocallis fulva

Coreopsis grandifolia, Gaillardia grandiflora hybrida, several Delphiniums, &c (Silver Banksian Medal).

In the collection of cut flowers shown by Mr. M. PRICHARD, nurseryman, Christchurch, Hants, some Iceland Poppies and Heuchera sanguinea were noticeable; Spiræa Aruncus, Gaillardia maxima, Scabiosa caucasica, of great size; Cephalaria alpina, Chrysanthemum maximum, Brodiæa congesta, a fine bunch, Delphiniums, &c. An Award of Merit was recommended to Potentilla "California," a large double variety nearly 2 inches across, yellow, with scarlet at tips of petals, a very pretty variety. There were also several very fine spikes of the purple Orchid O. foliosa (Silver Flora Medal).

Messrs. GEO. JACKMAN & SON, Woking, Surrey, staged a collection of hardy flowers in variety. A box of varieties of Iris Kæmpferi was especially noticeable, and there were some good Roses included in the exhibit.

Messrs. DOBBIE & Co., Rothesay, N.B., exhibited a collection of Violas and Sweet Peas from their grounds at Orpington, Kent. The flowers had been grown on chalky soil, and not watered or mulched since they were planted out in April last, the blooms were, consequently, smaller than those generally exhibited by this firm. There were some pretty varieties included in the collection of Sweet Peas, and all of them were of fair quality (Silver Banksian Medal).

Messrs. J. CHEAL & SONS, Crawley, Sussex, also exhibited a large collection of bedding Violas, and some Spanish Irises, together with a few other herbaceous plants (Bronze Banksian Medal).

Roses were largely shown by Messrs. J. VEITCH & SONS, Chelsea, eight large boxes being filled with these blooms, and considerable variety was represented. Messrs. PAUL & SONS, Cheshunt, exhibited three large show-boxes filled with sprays of garden Roses, viz., Perpetual white Moss, Marquise de Salisbury, Paul's Carmine Pillar, one of the finest pillar Roses, of splendid colour; Rosa macrantha, many varieties of R. polyantha, and others were noticed. Messrs. Paul & Sons also exhibited a seedling H.P. Rose named Bacchus, a magnificent crimson of velvety texture. No award was given it on this occasion, but it may prove larger and firmer than at present shown. Another H.P. seedling named Alan Cheales is a very pretty rose colour. An Award of Merit was recommended to a double-flowered Pæony named Madame de Gallan, of very large size, and delicate colouring, combined with good form. Messrs. Paul & Sons also showed blooms of Inula glandulosa, I. g. grandiflora, the latter variety being very much larger and better than the type (Bronze Banksian Medal).

Two boxes containing Seedling Roses were exhibited by Lord PENZANCE, Eashing Park, Godalming (gr., Mr. G. B. Baskett). These seedlings were unnamed, very various, and most of them pretty and likely to be of use decoratively.

Mr. W. TAYLOR, Osborn Nursery, Hampton, exhibited a number of blooms of a new H.P. Rose named Robin Lyth, described as very free-flowering, very hardy, and a vigorous grower. The blooms are dark crimson.

MARMIN R. SMITH, Esq., Hayes, Kent (gr., Mr. C. Blick), exhibited a grand lot of Carnation blooms of excellent varieties. The following were each recommended an Award of Merit: Cowslip, a yellow-ground flower with rose margins, very neat; Zoe, a very soft, rosy-pink coloured flower, distinct colour; George Cruikshank, a bright scarlet flower variegated with dull salmon, full and large; and Lady Ridley, a pure white flower of excellent form. Hayes' Scarlet, Corunna, yellow, and Sadic, rose, were also shown. Princess May, Sir Chas. Fremantle, Sir Evelyn Wood, and The Churchwarden, are all capital varieties of the type of Souvenir de la Malmaison.

Lord PENZANCE exhibited some plants of a Carnation named Lady Penzance, of the palest buff colour.

Mr. ANTHONY WATERER, Knap Hill Nursery, Woking, exhibited sprays of Philadelphus hybridus Lemoineii, a very ornamental free white-flowered variety of mock orange. Mr. F. MOORE, Royal Botanic Gardens, Glasnevin, exhibited a few sprays of the yellow-flowered Fremontia californica. Messrs. T. CRIPPS & SON, Nurseries, Tunbridge Wells, were awarded a First-Class Certificate for Philadelphus Boule d'Argent, a dwarf shrubby plant, with fairly-sized double flowers, very sweet and numerous. The plant was about 18 inches high. A large box of the pretty Hypericum Moserianum tricolor was also staged, and a plant of Daphniphyllum glaucescens variegatum. Messrs. F. SANDER & Co., St. Albans, showed half-a-dozen good plants of Echinocactus aureus, very attractive from its numerous bright straw-coloured spines (First-class Certificate), and a number of plants of Dipladenia atro-purpurea in 4-inch pots and bearing numerous blossoms.

Messrs. JNO. LAING & SON, Forest Hill, S.E., staged a few double-flowered tuberous Begonias, and were recommended an Award of Merit for a variety having bright scarlet, full and pretty flowers, named Mr. J. T. Bennett Poë; and for Prince Adolphus Teck, a variety of a deep crimson colour, the flower in shape like a Camellia. From C. F. THOMPSON, Esq., Penhill, Cardiff (gr., Mr. T. Mann), was exhibited about a dozen varieties of Delphinium.

Mr. G. A. FARRINI, Forest Hill, S.E., exhibited a number of blooms of single and double-flowered tuberous Begonias; and Mr. J. PRAWETT, Swiss Nursery, Hammersmith, had two new Gloxinias, viz., Mrs. John Holland, of a deep scarlet colour and velvety texture, and Delicata.

Mr. BURPEE, Philadelphia, exhibited a white-flowered Sweet Pea, 'Cupid,' about 6 or 8 inches high, see p. 793, fig. 142.

Mr. R. DEAN, Ranelagh Road, Ealing, showed some good-sized spikes of bloom cut from Dyson's Giant Crimson Ten-week's Stock, known also as John Bright. The plants had been treated as intermediates.

Messrs. WALLACE & Co., Colchester, again exhibited some of their fine Lilies. Varieties of L. Thunbergianum, such as Van Houtte, a very dark form; atro-sanguineum and Prince of Orange, the last-named a beautiful orange-coloured flower were included. Irises in variety were shown, and inflorescences of Brodiea volubilis, an interesting plant from the circumstance that, as in a few other plants, the flower-stem has the power of climbing to a large extent as the main stem of regular climbers. Calochorti, however, is usually the feature of Messrs. WALLACE'S exhibit at this season of the year, and on this occasion there were numerous varieties of the large-flowered kinds, such as C. venustus and C. splendens. C. v. pictus (new) was recommended an Award of Merit. It is a large white flower, with pretty rose-markings at the base of the petals, surmounted by a conspicuous blotch. Other varieties of C. venustus were Vesta roseus and oculatus. C. Kennedyi is, perhaps, the brightest of the whole genus, being of an exceptionally bright shade of orange (Silver Banksian Medal).

An Award of Merit was recommended to a Viola named A. G. Rowberry, shown by Mr. G. MCLEOD, Chingford. This is a golden yellow-coloured flower, with a bottom petal of a deeper tint.

Messrs. H. CANNELL & SONS, Swanley, Kent, showed a remarkable collection of Cactaceous plants, including the curious Pilocereus senilis and Opuntia senilis, both of which are remarkable for the long white hair with which they are clothed. Echinocactus Ottonis, carrying two very pretty yellow blooms, and a good number of Mamillarias, many of which were in flower, were conspicuous. Agave Victoria Regina is one of the most distinct of the genus, and Cereus peruvianus, with its very gnarled-like stunted growth, is exceptionally curious. This plant is sometimes called the "Rock of Ages." Stapelias, Euphorbias, Cotyledons, and a large number of other species were included. Mr. CANNELL also exhibited a nice dish of Strawberry Royal Sovereign, and a number of plants of an excellent coloured double zonal Pelargonium named Double Henry Jacotat (Silver Flora Medal).

Messrs. WM. CUTBUSH & Co., Highgate Nurseries, London, N., staged a large group of Carnations in flower, and were awarded a Silver Banksian Medal. The major part of the group consisted of the varieties of the Souvenir de la Malmaison type. There were also new Tree varieties. La Villette and Duchess of Devonshire, the latter a rosy-pink coloured variety; Pride of Great Britain was also shown. It is probably the largest yellow Carnation yet sent out.

COMPETITIVE CLASSES.

J. BRUTTON, Esq., Yeovil (gr., Mr. A. Crossman), was the only exhibitor of herbaceous Pæonies, three single and nine double varieties, and was consequently awarded Kelway's Silver-gilt Medal; and a Silver Medal for six single and six double Delphiniums.

Twelve bunches of Hardy Herbaceous Perennials, distinct, Bulbs admissible.—Mr. G. H. Sage, gr. to the Earl of DYSART, Ham House, Richmond, was the only exhibitor, and showed fine bunches of Gladiolus The Bride, Chrysanthemum maximum, Lilium croceum, Lathyrus latifolius, Œnothera Fraseri, Erigeron speciosus, Delphiniums, Potentilla Mrs. Rollinson, Campanula persicifolia coronata, Papaver nudicaule, Pæonies, and Centaurea macrocephala.

Eight Bunches, similar—Mr. HERRIN, Dropmore, was 1st, and had his collection composed of the following:—Clematis recta, Campanula persicifolia, Spiræa japonica, Pæony Chas. Binder, Verbascum Chaixii, Pink's Dropmore Rose, and Mrs. Sinkins, Delphinium, Stenactis speciosa, Anchusa italica, Galega officinalis, and Achillea millefolia rosea. Miss DEBENHAM, St. Peter's, St. Albans was 2nd in this class.

Cactaceous Plants.—Only one exhibitor entered for the Silver Flora Medal offered for best collection of Cactaceous plants from amateurs, and this was W. C. G. LUDFORD, Esq., Fern Lea, Four Oaks, Sutton Coldfield, near Birmingham. In a praiseworthy collection were noticed the following: Phyllocactus albus superbus, carrying two blooms, Mamillaria Krämeri, M. quadri-spina, M. Oderiana, M. dolicho centra, and M. pusilla. Nearly all the Mamillarias were in bloom. Cereus and other genera of these interesting plants were also included.

Orchid Committee.

Present: **Sydney Cortauld, Esq., in the chair; and Messrs. J. O'Brien (secretary), A. H. Smee, de B. Crawshay, H. M. Pollett, F. Hardy, E. Ashworth, J. T. Gabriel, H. Ballantine, H. J. Chapman, E. Hill, W. Cobb, T. B. Haywood, and T. Statter.**

The display of Orchids was not so extensive as at the last meeting, but several interesting exhibits were shown. Messrs. JAS. VEITCH & SON, Royal Exotic Nursery, King's Road, Chelsea, had an excellent group, which contained a fine selection of showy favourite species as well as rare hybrids. Dendrobium × illustre (Dalhousieanum ♂, chrysotoxum ♀), was shown for the first time, and proved very handsome and distinct. In growth it is intermediate between the two species, and its inflorescence bore two flowers, which in form and size have a resemblance to those of D. albo-sanguineum, but they were thicker in texture, and of a pale straw-yellow, the disc of the lip having a semi-circular shaped band of purple colour (First-class Certificate). Other plants were Cœlogyne Dayana, with six spikes; Lælio-Cattleya × Arnoldiana, L.-C. × Canhamii alba; the handsome Disa × Veitchii (racemosa ♂, grandiflora ♀), Thunia × Veitchiana, Cattleya Schroderiana, C. Gaskelliana alba, C. Mossiæ Wagnerii, Epiphronitis × Veitchii, Catasetum tabulare, Cypripedium × orphanum, C. × Artemis, C. × superciliare, C. superbiens, C. Curtisii, Odontoglossum hastilabium, O. Uro Skinneri, a fine specimen of a pretty light-coloured Cattleya Mendeli and various other Cattleyas, &c. (Silver Flora Medal).

Lord ROTHSCHILD, Tring Park, Tring (gr., Mr. E. Hill) showed a handsome and novel form of Cattleya Warscewiczii, with almost wholly rich crimson-purple labellum, the light yellow blotches at the sides of the lip and at its base, which are usually seen in the species, being in this case absent, which gave a totally different appearance to the flower (Award of Merit).

F. HAROY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), was awarded a Silver Flora Medal for an effective group of rare Orchids, the central plant of which was a fine specimen of a richly-coloured form of Lælia tenebrosa, with twenty-two flowers; beside which were placed some plants of the pure white Sobralia macrantha alba, that known as Hardy's variety being superior to the others. There were likewise plants of Lælio-Cattleya × Canhami alba, L.-C. × Arnoldiana, L.-C. eximia, and others of that class; Cattleya Mossiæ gigantea, C. M. Reineckiana, C. Mendelii "Duchess of Montrose," a very pretty form; Lælia × Stella; Cattleya Mossiæ Hardyæ, a pretty white variety with slight tinge of rose; Cypripedium × Goweri magnificum, C. Lawrenceanum superbum, C. × macrochilum giganteum, and various forms of Lælia tenebrosa, L. t. Charlesworth's var., which had a decidedly rich red glow over the whole of its fine flowers, being the more distinct (Award of Merit).

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Aldous), received a Silver Banksian Medal for a pretty group, in which the most remarkable plant was the Lælia tenebrosa var. Pittiana, described in the *Gardeners' Chronicle*, July 7, 1894, p. 7. The sepals and petals are yellow, veined with rose; the lip blush-white, with crimson rays of colour in the throat (Award of Merit). In the centre of Mr. Pitt's group was a fine example of the graceful Oncidium phymatochilum, several forms of Lælia tenebrosa, Masdevallia Chimæra, and others; Angræcum falcatum, a finely-spotted Odontoglossum crispum, Cypripedium superbiens, &c.

Messrs. F. SANDER & Co., St. Albans, exhibited a group of Orchids, of which the new and beautiful Lælio-Cattleya × C. G. Roebling (L. purpurata alba × C. Gaskelliana) justly commanded the largest amount of attention and a First-class Certificate. The flowers were equal in size to L. purpurata, the sepals and petals blush-white; the lip yellow at the base, with thin purple lines, the front lobe rich amethyst-purple, edged with white. The other plants from St. Albans were Cypripedium Kimballianum (see fig. 125, p. 801), which is supposed to be a hybrid between C. Rothschildianum and C. Dayanum; C. × A. de Lairesse, C. × Dayanum × Lowii, Thunia × Veitchiana, T. Bensoniæ grandiflora, Physosiphon Loddigesii, Odontoglossum × Galeottianum, Cattleya granulosa, C. Rex, &c.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. Davis), staged a fine selection of Orchids, the central figure being the unique Lælia tenebrosa, Walton Grange variety, its clear yellow sepals and petals and white lip marked with crimson-purple, making it as distinct from any other form of the variable genus as it was at the time of its first flowering. With it were fine forms of Lælio-Cattleya × Arnoldiana (one with eight flowers), L.-C. × eximia, Cypripedium Rothschildianum, a number of good Odontoglossum crispum, Epidendrum vitellinum majus, &c. (Silver Banksian Medal).

Messrs. HUGH LOW & Co., Clapton, were awarded a Silver Banksian Medal for a neat group of Orchids, in which were two dissimilar but exceedingly handsome forms of Cypripedium × Gertrude Hollington (ciliolare ♀ bellatulum), illustrated in the *Gardeners' Chronicle*, May 25, p. 644, and which seems to improve as time goes on; C. Curtisii, with six flowers; the curious C. × Masonii (Stonei × Spicerianum), Grammatophyllum Measuresianum, Bulbophyllum Dearei, Oncidium Lanceanum, Cœlogyne pandurata, Cattleyas, Odontoglossums, &c.

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a very clear white-petalled form of Lælio-Cattleya Canhamii alba, with rich amethyst-purple lip; two dark forms of Lælia tenebrosa, Cypripedium × selligerum majus, C. × Harrisianum superbum, Lælio-Cattleya × eximia, and a pretty light form of Cattleya Gaskellianum (Vote of Thanks).

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed the finely-blotched Odontoglossum crispum Crawshayanum, and Lælia purpurata Venus, the latter a charming and distinct white form, with light rose-purple front to the lip, and yellow-tinged throat, with narrow dark lines, a peculiarity of which was that they only covered the median area and did not run to the base.

J. BRADSHAW, Esq., The Grange, Southgate (gr., Mr. Whiffen), showed Dendrobium inversum, a curious species, only 2 inches in height, and which he imported from Burmah. It bore a two-flowered inflorescence, the blooms, which were reversed, being of the size and orange colour of those of Lælia cinnabarina, a few purple lines being on the lip (Botanical Certificate); also a good form of Lælia tenebrosa.

F. W. MOORE, Esq., Royal Botanic Gardens, sent the purple Orchis latifolia (Botanical Certificate), and a grand form of it, with very large flowers, O. latifolia, Glasnevin variety (Award of Merit).

R. I. MEASURES, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), showed the singular Pleurothallis immersa (Botanical Certificate).

Messrs. CHARLESWORTH & Co., Heaton, Bradford, showed Cattleya Mendelii, Charlesworth's var., a pretty white form, with crimped lip, bearing a crimson blotch in front.

A. J. HOLLINGTON, Esq., Forty Hill, Enfield (gr., Mr. Ayling), showed Cypripedium × Millmani (Lawrenceanum × philippinense), a pretty hybrid.

F. M. Burton, Esq., Highfield, Gainsborough, showed the same cross as C. × Burtonii.

J. Forster Alcock, Esq., Northchurch, Berkhamsted, sent Gongora sp.

Fruit Committee.

Present: Dr. Hogg in the chair; and Rev. W. Wilks, Messrs. A Young, G. W. Cummins, A. H. Pearson, J. A. Laing, A. Dean, C. Herrin, G. Wythes, F. Q. Lane, G. Norman, and R. Fife.

If through seasonable circumstances the attendance of members was limited, that of exhibits was the reverse, the display of fruit and vegetables being unusually good. From Lord Llangattock, The Hendre, Monmouth (gr., Mr. Coomber).

Fig. 125.—Cypripedium kimballianum.

Shown at the Meeting of the Royal Horticultural Society on Tuesday last. **(See p. 800.)**

came twelve very perfect and richly-coloured Queen Pines that merited warm commendation, and to which a Silver Banksian Medal was awarded. From the same source came Melon Lord Llangattock, large, and scarlet flesh, rather past its best.

The Marquis of Salisbury, Hatfield House (gr., Mr. G. Norman), sent twelve handsome Melons. Hatfield Scarlet, colour good, flesh soft and sweet, but not of the best flavour (Cultural Commendation). A Melon, Bishop's Favourite, large, white flesh, rather too soft, from R. Burrell, Esq., Nestley Hall, Bury St. Edmunds (gr., Mr. Bishop), was fortunate enough to secure an Award of Merit. From the same came also a large white-flesh fruit, Whightwick's Manor Melon. Lord Howard of Glossop (gr., B. Ashton) had a Melon, Baron Howard; and yet another came from A. Gilliat, Esq., Stoke Poges, Bucks (gr., Mr. E. Johnson), named Johnson's Seedling.

From the Royal Gardens, Frogmore, sent by Mr. O. Thomas, were a dozen very handsome fruits of Cucumber Marvel. A Cultural Commendation was awarded to the collection.

Messrs. Jas. Veitch & Sons, Chelsea, set up a fine and exceedingly clean collection of twelve varieties of Cabbages, the small early sorts including Little Pixie, Ellam's Early, Improved Nonpareil. Earliest of All, &c.; and of larger sorts, Early Offenham, Early Market, Enfield Market, and Veitch's Main Crop. Also from this firm came a good collection of Peas, the best being William I., Chelsea Gem, Exonian, Gradus, Excelsior, Earliest Marrow, &c. A Cultural Commendation was awarded here.

Messrs Laxton Bros., Bedford, staged a collection of some fifty varieties of Strawberries, though many were rather indifferently represented. The New Monarch was remarkably fine, others very good were Royal Sovereign, Sensation, Waterloo, Latest of All, Sir C. Napier, &c. (a Vote of Thanks was awarded).

Messrs. Cannell & Sons, Swanley, had some of the finest fruits of Royal Sovereign yet seen, though they were not placed before the committee. The Marquis of Exeter (gr., Mr. M. Gilbert), also sent fine fruits of Royal Sovereign, getting a Cultural Commendation.

G. F. Wilson, Esq., Weybridge, also received a Cultural Commendation for delicious, though pale-coloured fruits of Latest of All Strawberry.

Mr. Barron brought up from Chiswick Gardens a quantity of fruit in clusters of several good varieties of Strawberries; and Mr. Collis, Bollo Bridge, Chiswick, showed nice fruits of his Strawberry May Queen, that resembles Keen's Seedling.

Mr. Rivers sent a dish of Early Rivers Nectarine from Sawbridgeworth (Vote of Thanks).

A dish of Runner Bean Ne plus Ultra sent by A. H. Smee, Esq. (gr., G. W. Cummins), to show how early pods could be had from plants in pots grown under glass. A Cultural Commendation was awarded. Mr. Ward also sent from Longford Castle handsome and fine samples of Peas, Stratagem, Daisy (Carter & Co.), Telephone, and Favourite, the latter a whitish pod, very ungainly in form, the pods all bending in the reverse way. A Cultural Commendation was awarded. Mr. G. Wythes also brought from Syon good dishes of Stratagem, Webb's Senator, and Carter's Daisy, the latter being a recognised first-class dwarf Pea of capital quality, received an Award of Merit.

From Messrs. James Carter & Co., High Holborn, came Spinach The Carter, and also Long Standing, to show the distinction between them. It was agreed that Mr. Barron be requested to sow for trial in the autumn, not only the two varieties named, but also Victoria, Viroflay, and other of the best varieties for the satisfaction of the committee.

The Rev. the Marquis of Normanby, Mulgrave Castle, Whitby (gr., Mr. J. Corbett), sent Tomato Excelsior, which had previously received an Award of Merit. It was resolved that this award stand. Mr. Wythes had early forcing Cauliflowers (Vote of Thanks). Messrs. Alexander, Chislehurst (gr., Mr. Filkins), sent Potatos Early Laxton and Queen of the Earlies, a good deal like Puritan; also small tubers of Potato Maggie (Vote of Thanks). A fine lot of Tomatos in 10-inch pots came from Messrs. Fellows & Ryder, Orpington, Kent, the variety Duke of York, the fruits fine and well-coloured (Silver Banksian Medal).

Lecture by the Rev. Geo. Henslow.

In the afternoon, the Rev. Geo. Henslow gave a conversational lecture upon the botanical features of several plants he had selected from the exhibition, about each of which he had something interesting to say. This innovation was caused by the inability of Mr. W. T. Thiselton Dyer, through absence from England, to deliver the lecture that had been arranged for that date.

YORK GALA.

June 19, 20, 21—(continued from p. 778).

In the short time at my disposal, so as to get the notes published last week to press, I did not do justice to this in every respect splendid exhibition, one or two errors also crept in, the Earl of Ellesmere, gr., Mr. Upjohn, was 2nd for six Peaches, not R. Sneyd, Esq., and C. H. Wilson, Esq.'s gardener is Mr. Pike. No mention was made of groups of Carnations.

Messrs. Laing & Mather, Kelso, were 1st with a very fine lot, consisting mainly of Souvenir de Malmaison in variety, Germania, and Uriah Pike; 2nd, Mr. G. Mount, Canterbury, who had also a fine lot; 3rd, Mr. J. Sinclair, York. Mr. G. Mount was 1st for a group of Roses in pots, arranged on the grass, Crimson Rambler was a variety that was conspicuous in this group; 2nd, Messrs. W. Jackson & Co., Bedale. These groups of Roses were a feature in the show, especially when compared with the usual mode of exhibiting them at York a few years ago. As was mentioned last week, the cut Roses were very fine, and undoubtedly they were the best Roses which have ever been exhibited at York.

In the classes for hand-baskets of cut flowers and bridal and ball bouquets, 1st, Messrs. Perkins, of Coventry, with, in each case, almost, if not quite, perfectly arranged lots.

There was a fine lot of Pansies and Violas in the competitive classes, nearly all the principal exhibitors hailing from about the Tweed. What a pity this interesting class of plants is so short-lived when exhibited in the usual way on stands! It was quite a pleasing sight to remark so many amateurs making notes of them.

Nurserymen's exhibits formed an important part of the exhibition, Messrs. Sander having a fine exhibit of Orchids and new and rare plants, amongst the latter being several specimens of the "Old Man Cactus," which afforded much interest. Messrs. Charlesworth had also a fine exhibit of Orchids, amongst them being well-flowered plants in good variety of most of the leading genera and species. Messrs. Cuthbush, of Highgate, London, N., had a splendid group of Carnations, not for competition. It would be difficult to imagine a better lot being shown. The "grass" was very strong and perfectly healthy. Messrs. Sutton & Sons, Reading, who are new exhibitors at York of this class of exhibits judging by their beginning they have come to stay. Amongst a number of other objects of interest the Gloxinias exhibited by them were distinctly the best. Messrs. Dicksons of Chester, had a fine mass of Pæonies of sorts, along with some choice species and varieties of herbaceous plants. Great advance has been made in the gracefulness of the blooms during the past ten years.

Messrs. Cliburn, of Altrincham, had a very fine exhibit of

Pæonies, herbaceous plants in variety, well set up and altogether effective.

Messrs. COCKER, of Aberdeen, showed a large and effective group of herbaceous perennial plants, as did Messrs. HARKNESS of Bedale.

Messrs. BIRKENHEAD, of Sale, were as usual to the fore with their large and fine exhibit of Ferns in variety.

Mr. HUTCHINSON, of Kirkby Moorside, had a nice lot of hardy plant flowers. Mr. WILSON, The Nurseries, South Cave, near Hull, had an interesting exhibit of hardy flowers, Orchids, and Stove and Greenhouse plants.

Messrs. LISTER (Rothesay), CAMPBELL (High Blantyre), and PYE (Garstang), had, each of them, very interesting lots of Pansies and Violas not for competition.

RICHMOND HORTICULTURAL.

THIS Society held its grand Summer Exhibition on Wednesday last in the Old Deer Park, Richmond, under favourable circumstances, but we regret that the pressure upon our space compels us to keep over our report until next week.

Obituary.

DR. WILLIAMSON.—We regret to have to announce the death of this eminent botanist, for many years connected with the Owen's College, Manchester, and distinguished for his long-continued investigations into the anatomy of fossil-plants. Dr. Williamson, who was in his seventy-ninth year, died at Clapham on Sunday last.

POPPIES.—Of the numerous cross-bred varieties of annual Poppies, those known in gardens as "Carnation" and "Pæony-flowered" are among the more showy of those with double flowers. The colours are brilliant and much varied, and the plants remain for a considerable time in bloom. A correspondent kindly sends for our inspection a sport or variety from a race of Poppies, catalogued under the names White Swan and Snowdrift. The flower, instead of being pure white, is cream-coloured.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending June 22.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1895.	Below 42°, difference from Mean since January 1, 1895.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 —	53	0	+ 73	+ 283	10 +	105	18·2	18	31
1	3 —	67	0	— 19	+ 415	8 +	83	10·6	31	36
2	2 —	85	0	+ 25	+ 277	2 —	86	10·6	42	34
3	1 —	100	0	— 6	+ 283	5 —	77	8·3	49	38
4	2 —	95	0	+ 9	+ 372	5 —	64	8·4	53	37
5	1 —	109	0	— 47	+ 333	3 —	65	7·5	52	38
6	3 —	70	0	+ 17	+ 384	2 —	85	11·0	40	34
7	3 —	83	0	+ 3	+ 303	5 —	74	10·3	48	38
8	2 —	93	0	— 17	+ 337	5 —	69	11·9	57	45
9	3 —	77	0	— 31	+ 275	1 —	91	11·4	45	36
10	2 —	94	0	— 72	+ 195	5 —	78	13·2	51	37
*	1 +	120	0	— 31	+ 248	4 —	83	10·6	52	49

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

MARKETS.

COVENT GARDEN, *June* 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Calceolaria, per doz.	6 0	9 0
Coleus, per dozen	4 0	6 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	7 6
— various, doz.	12 0	24 0
Evergreen Shrubs, in variety, per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
Ferns, various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per doz.	6 0	10 0
Heliotrope, per doz.	4 0	6 0
Hydrangeas, p. doz.	12 0	42 0
Ivy Geraniums, doz.	6 0	8 0
Lobelia, per doz	4 0	6 0
Marguerites, p. doz.	8 0	12 0
Mignonette, p. doz.	4 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, doz.	9 0	15 0
Rhodanthe, per doz.	5 0	7 0
Schizanthus, p. doz.	6 0	9 0
Spiræas, per doz.	8 0	10 0
Stocks, per doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per dozen blooms	4 0	6 0
Azaleas, per dozen sprays	0 6	10
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 6	2 6
Eucharis, per dozen	4 0	6 0
Gardenias, per doz.	3 0	4 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	4 6	5 0
Lilies of the Valley, doz. sprays	0 9	1 6
Lilium Harrisii, per dozen	3 0	4 0
Lilium Lancifolium, per dozen	4 0	6 0
Maidenhair Fern, per 12 bunches	6 0	8 0
Marguerites, 12 bun.	1 0	3 0
Pelargoniums, scarlet, per 12 bunches	6 0	8 0
— 12 sprays	0 8	1 0
Mignonette, 12 bun.	2 0	4 0
Narcissus, Pheasant-eyed, 12 bun.	1 0	2 0
— Paper-white, p. 12 bun.	8 0	10 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	4 0	8 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	4 0	6 0
— red, per dozen	2 0	6 0
— (French), red, per dozen	2 0	3 0
Iris, per doz. buns.	9 0	12 0
Stephanotis, dozen sprays	1 6	2 0
Tuberoses, 12 blms.	0 4	0 6

ORCHID-BLOOM in variety

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Figs, per dozen	2 0	4 0
Grapes, 1st quality, black, English, lb.	2 0	2 6
— 2nd quality	0 9	1 0
— Muscats	3 0	4 0
— Guernsey	1 0	2 0
Melons, each	1 6	2 0
Peaches, 1st size, doz	10 0	12 0
— 2nd size	2 0	3 0
Pine-apples, St. Michael, each	2 0	6 0
Strawberries, morning gathered, lb.	0 3	0 9
— per peck	2 0	4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asparagus, per 100 heads	1 0	1 6
Beans, Broad, per half sieve	2 0	2 6
Beans, French, p. lb	0 4	
Cauliflowers, p. doz.	2 6	3 0
Cucumbers, per doz.	2 0	3 0
Mushrooms, per lb.	0 3	0 6
Peas, white, p. bush.	2 0	2 6
— blue	3 0	3 6
Tomatos, Home-grown, per lb.	4 0	4 6
— Guernsey, lb.	3 0	3 6

NEW POTATOS.

Supplies have come to hand in large quantities, and prices rule much lower.

OLD POTATOS.

Trade for the season is virtually over. Stock on hand is heavier than usual this time of the year, and holders have a difficulty to clear out. *J. B. Thomas.*

SEEDS.

LONDON: *June* 26.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market idle and uninteresting. New French Trifolium for forward delivery, hardens in value. Full prices are realised for Mustard and Rape seed. There is a continued strong demand for Haricot Beans, and supplies being almost exhausted, quotations tend upwards. Blue Peas show no alteration. For Bird-seeds the sale, for the moment, is small.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90*s.* to 115*s.*; do., inferior, 50*s.* to 80*s.*; hay, best, 60*s.* to 92*s.* 6*d.*; do., inferior, 36*s.* to 60*s.*; mixture, 70*s.* to 90*s.*; and straw, 15*s.* to 34*s.* per load.

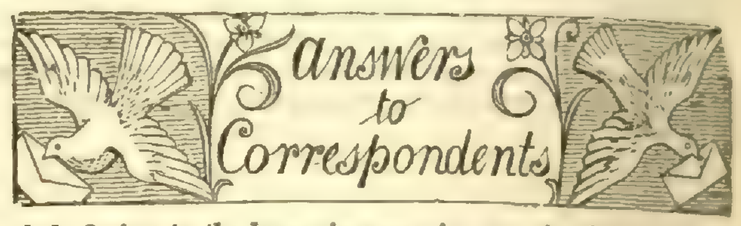
CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending June 22, and for the corresponding period last year:—1895: Wheat, 25*s.* 5*d.*; Barley, 19*s.* 5*d.*; Oats, 16*s.* 1*d.*; 1894: Wheat, 23*s.* 11*d.*; Barley, 22*s.* 5*d.*; Oats, 18*s.* 10*d.*

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

HYBRIDS.—Is there any race of plants of hybrid origin (the result of crossing two distinct species) which is propagated by means of seeds, that has retained traces of both parents? *X.*



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.*

ACREAGE UNDER VEGETABLE CROPS: *W. B. B.* Heavy land an acre, and on light loam 1½ acres under the spade, but you must not spend much of your time in going to and attending markets.

ACREAGE UNDER VEGETABLES AND SMALL FRUITS: *W. B. B.* Probably 2 to 2½ acres. By hiring a plough team in the autumn after the crops are cleared off, perhaps 3 acres might be managed.

BALLINKINRAIN ANT DESTROYER: *R. M. Grey.* It may be obtained of Alex. Cross & Sons, 19, Hope Street, Glasgow.

BOOKS: *G. Elliston. The Nursery Book*, by L. H. Bailey, New York, the Rural Publishing Company, obtainable through a foreign bookseller. This will afford the required information, in the very brief form, that you require. A better one for stove and greenhouse plants is M. Neumann's *De Kunst der Pflanzen-Vermehrung*, 3rd Ed., published at Weimar, by Bernard Friedrich Voigt.

CAPITAL REQUIRED BY HOLDER OF AN ACRE OF LAND UNDER VEGETABLES AND FRUITS, OR VEGETABLES ALONE: *W. B. B.* You should have sufficient money to be able to live for a year without regard to income from the land; and from £20 to £30 per acre occupied beyond that sum for the purchase of seeds, fruit-trees, bushes, and plants, and for partly covering rent, taxes, rates, &c.

CHARACTER: *B. R. D.* No doubt it was a private letter between the parties, and you have no right to it.

"CLUBBING" OF THE ROOTS OF CUCUMBER PLANTS: *S. F.* It is caused by eel-worms present in the soil. There is no known cure. Clear out the soil, obtaining fresh soil from another source, and start anew.

CORRECTION.—The Utricularia mentioned in Prof. Macfarlane's letter, p. 644, as U. violacea, should have been called U. purpurea.

CUCUMBER: *M. B.* Eel-worms at the root, often figured and described in the *Gardeners' Chronicle*. There is no remedy but to turn out the soil and burn the plants.

CUCUMBER PLANTS DYING: *J. K.* The stem is badly cankered at the ground-level, the result of improper planting and watering. The soil is likewise such that no Cucumber plant could remain in health in it for any length of time.

IRIS RETICULATA BULBS DISEASED: *B. & Sons.* The bulbs are attacked by a fungus called Mystrosporium adustum. When the crown is not destroyed, the bulbs should be submerged for two hours in a rose-red solution of permanganate of potash, and afterwards thoroughly dried. Burn all the spoilt bulbs, as the black patches are composed of myriads of spores, which may attack other plants if allowed to be carried about by wind or human agency. *G. M.*

LAUREL KNIFE: *Marshall.* We know neither the knife nor the maker. People who have such things to sell should advertise them.

LESCHENAULTIA BILOBA: *W. S.* Greenhouse culture generally, except that during the period of active growth it should be afforded a little more warmth, and night and morning syringings, with a moist

atmosphere; but fairly well ventilated by the upper ventilators of the house or pit, and be shaded during bright sunshine. Soil, the best hard peat and finest silver-sand; ample but not coarse drainage materials, firm potting, and small shifts, and no shifts given the plants after the end of June. Summer cultivation in frames, with the lights drawn off the frames in fine warm weather, but protecting the plants from heavy rains and all frost, however slight. Place in the warmer part of the greenhouse in September, but not in a place that is close and badly supplied with fresh air. General cultivation nearly identical with that afforded Cape Heaths, Boronias, &c.

Name of Fruit: *Arthur Birt.* Trollope's Victoria.

Names of Plants: *G. C.* 1, Lychnis Githago; 2, Anagallis arvensis var. cœrulea; 3, A. arvensis; 4, Lysimachia vulgaris; 5, Chrysanthemum segetum; 6, Helminthia echioides.—*W. J. P.* 1, Achillea ptarmica double fl.; 2, Spiræa Douglasi; 3, Spiræa confusa; 4, Phillyrea angustifolia; 5, Spiræa ariæfolia; 6, a Juniper, which we cannot name from the piece sent; 7, Skimmia japonica.—*F. H. P.* A, Lonicera Ledebourii (Caprifoliaceæ); B, Ægopodium Podagraria (Umbelliferæ).—*T. W.* 1, Kalmia angustifolia; 2, Rosa canina; 3, not in flower; 4, Vaccinium (?); the specimens had all fallen to pieces before we got them.—*Bruce.* 1, Ulmus campestris var. Rosseelsii; 2, Rubus odoratus; 3, Cyathea dealbata.—*G. L* Abelia triflora.—*R A S.* Cistus ladaniferus.—*A Reader.* Spiræa filipendula flore-pleno.—*F. G. S.* Angulca Ruckeri.—*W. H. C.* 1, Spiræa Aruncus; 2, A garden Potentilla; 3, Baptisia australis; 4, Polemonium cœruleum; 5, Spiræa filipendula, double-flowered; 6, Stenactis speciosa.

Petunias: *S. M.* Good, but not remarkable. No. 4, with rose-coloured blotches on a white ground is pretty; the plants are both species of Thalictrum. 1, looks like T. minus; 2, like T. majus, but it is impossible to speak with certainty.

Profit from an Acre of Land under Vegetables, Roots, &c.: *W. B. B* If you cultivate the land without extraneous labour, you might, by growing the best kinds of vegetables and fruits, earn £20 to £30 a year from 1 acre. Onions, Strawberries, Seakale, Asparagus, and Celery bring in good returns. You should keep pigs, and a good breed of fowls.

Red Tomatos with Yellow Colour in Parts: *H. F. J.* The fruit itself is perfectly free from disease.

Spots on Tomato Leaves: *W. D.* Try the effects of the Bordeaux Mixture, receipts for making which have often appeared in these columns.

Strawberries British Queen and Waterloo: *R. G.* The specimens sent were very fine; we seldom see the former so well grown. Waterloo is a "beefy" sort of pulp, and a liking for it would have to be acquired. The flavour is pleasant, but the British Queen must not be partaken of first, if you would enjoy Waterloo.

Tacsonia Leaves: *Maccagni.* We see neither insects nor fungi on your specimens. The appearances are such as would be produced by watering when the sun is shining, or perhaps some of the panes of glass are defective.

Tomatos: *J. L. B., and W. H.* Your fruits are affected with the common "black spot," which has been frequently figured in this column. A full description of the disease and figure may be found in the *Gardeners' Chronicle* for October 31, 1887, p. 409. All you can do is to remove each fruit as soon as the spot is seen, and destroy by burning.

Wistman's Wood, Dartmore: *B. R.* This place is mentioned fully, p. 387, September 25, 1875. There are further references to the Wood in the same vol., at pp. 522 711, and 813. None of these issues of the *Gardeners' Chronicle* can now be obtained of the publisher.

Communications Received.—R. C.—Messrs. Sutton & Sons.—Hurst & Son.—A. C.—G. W. E.—M. & Co.—E. W.—J. W.—W. H. N.—W. W.—J. B.—H. Marshall Ward.—J. Lecomte Falleur, Charleroi.—C P.—E. C.—A. D.—W. L.—S. C.—M. & Co.—W. S. Thompson.—W. Punton.—C C. Smith.—H. B.—E. F.—C. E. O, the matter alluded to in our issue of June 15.—J. U.—W. G B.—J. J.—A. C.—R. G.—A. H.—E M.—W. S. H.—H. M. C.—D. T. F.—E. B., Chertsey.—W. Gale.—A. D.—J. B.—J. J. W.—J. C. B.—W. F. G.—P. F. Le Sueur.—G. H.—W. J. B.—J. C.—F. A.—T. W.—J. C. S.

Photographs, Specimens, &c., Received with Thanks.—M. A. C.—R. I. L.—E. W.—C. W.—C. W. D.—H. J. E., Florence.—L. Smet-Duvivier, Ghent.—C, P. Sydney.

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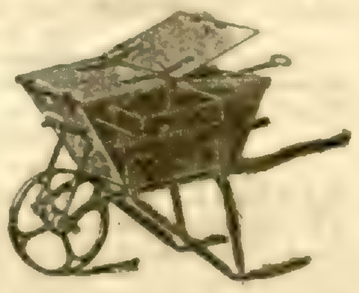

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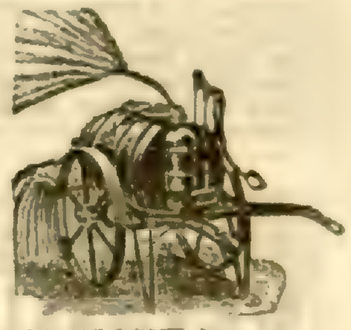

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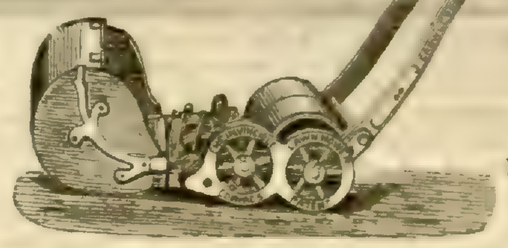

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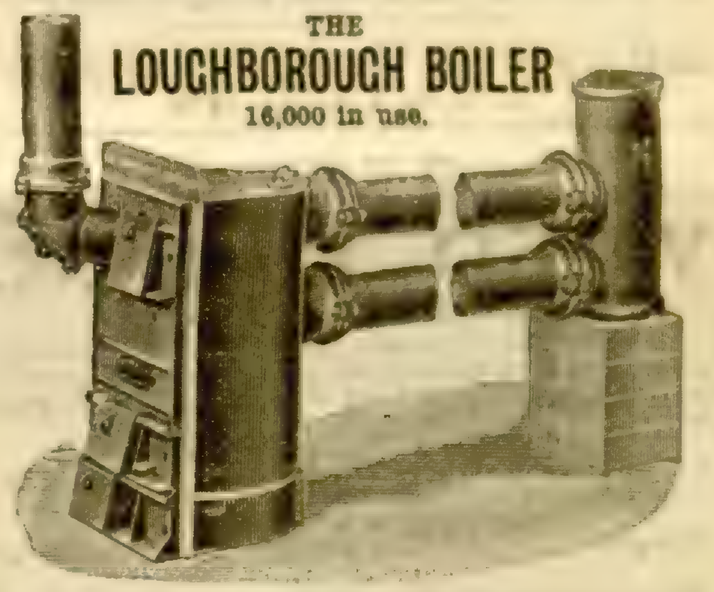

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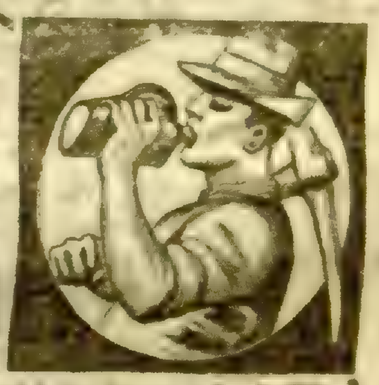

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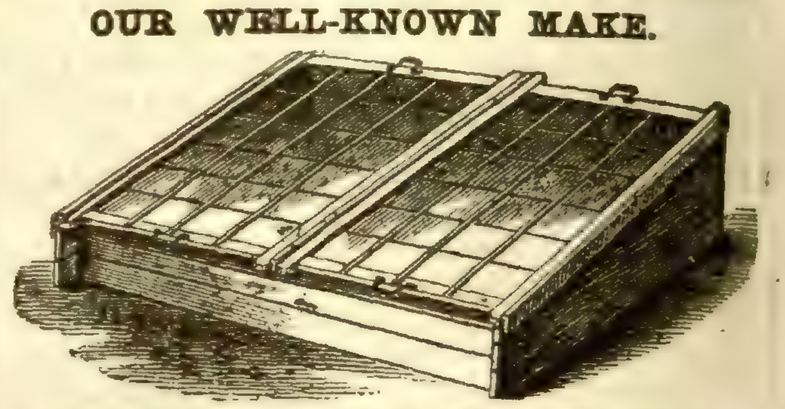

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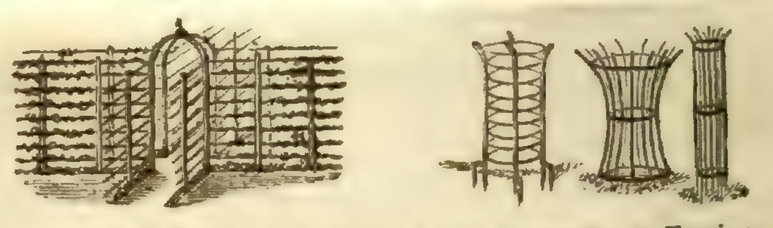

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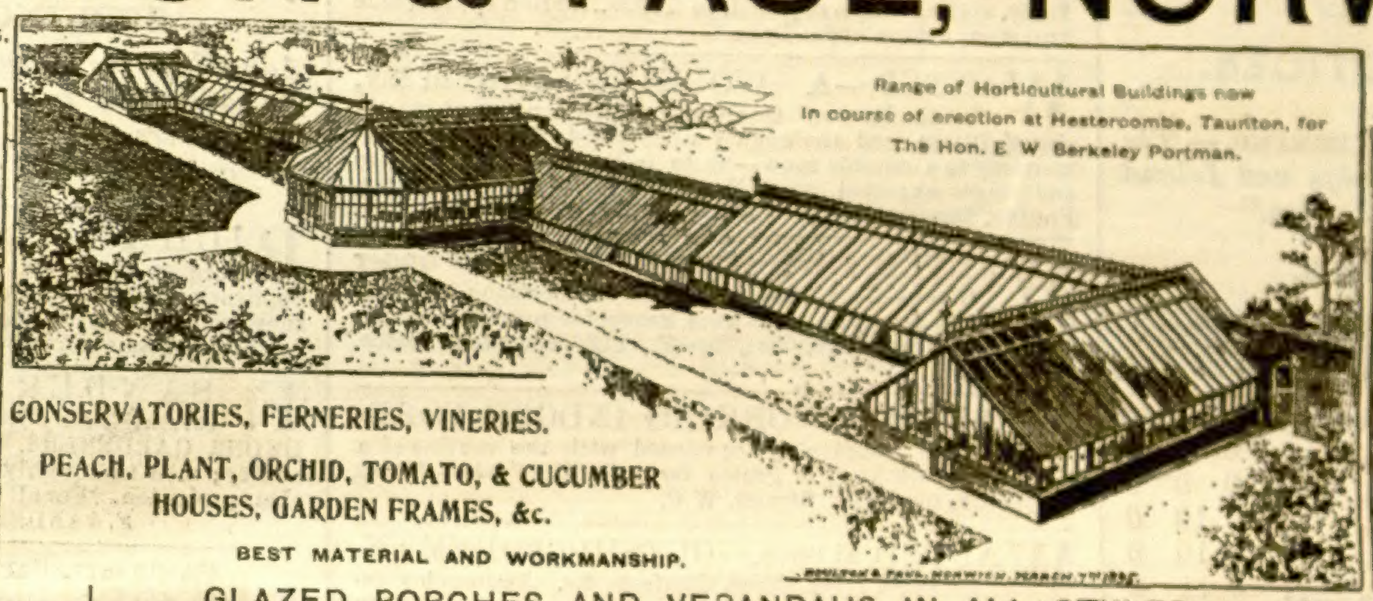

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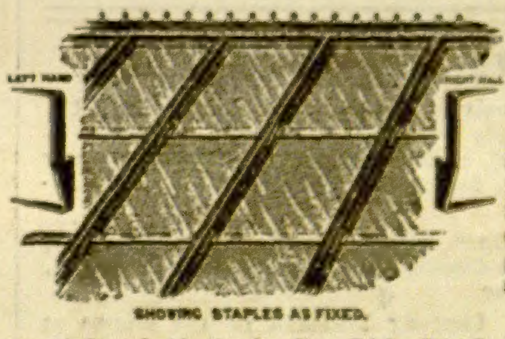

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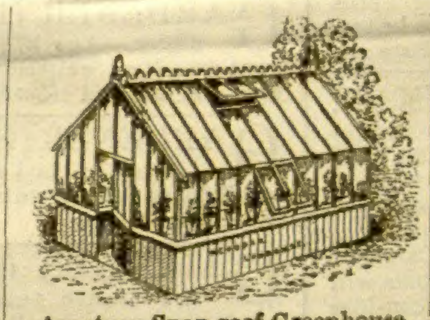

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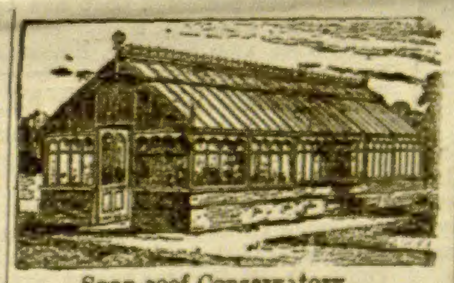

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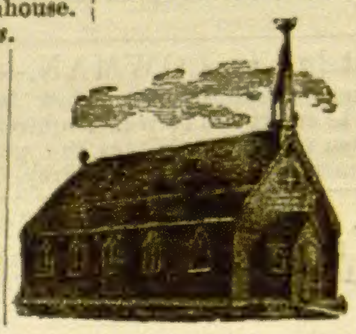

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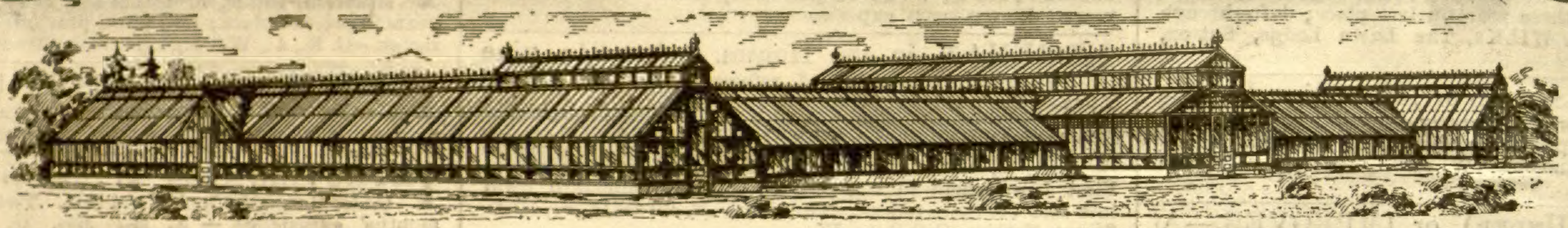

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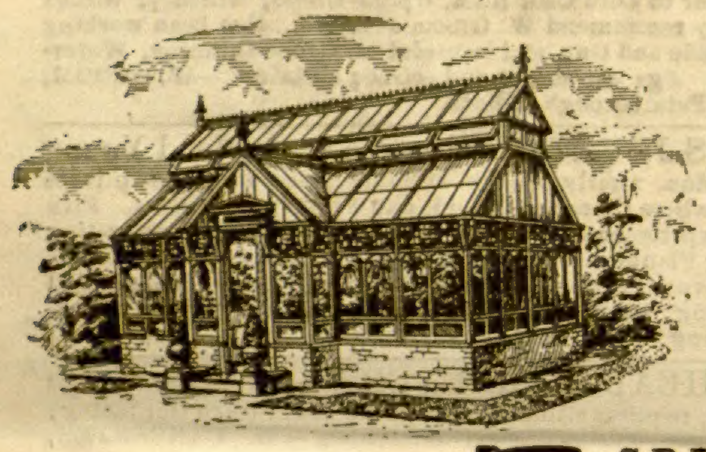

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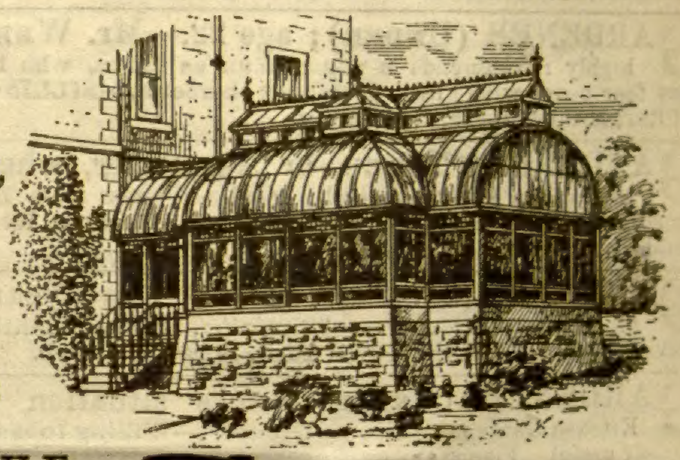

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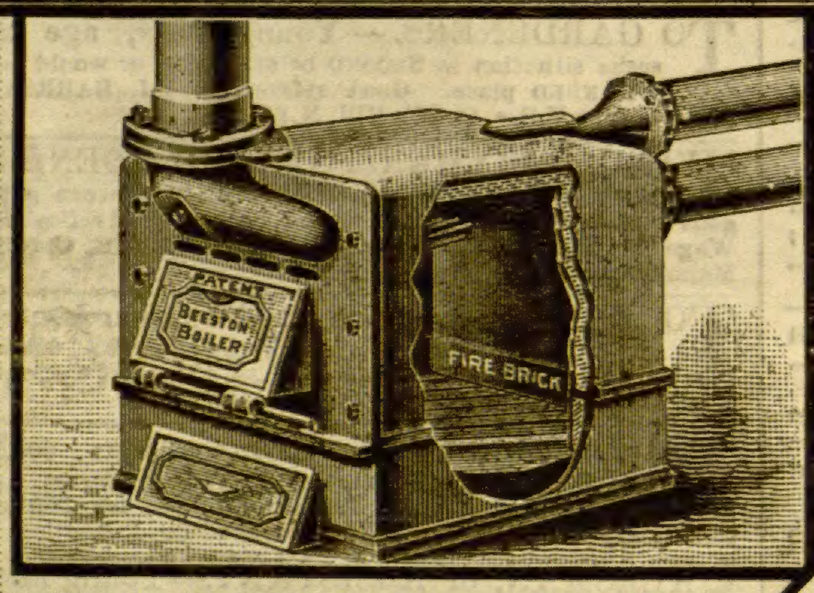

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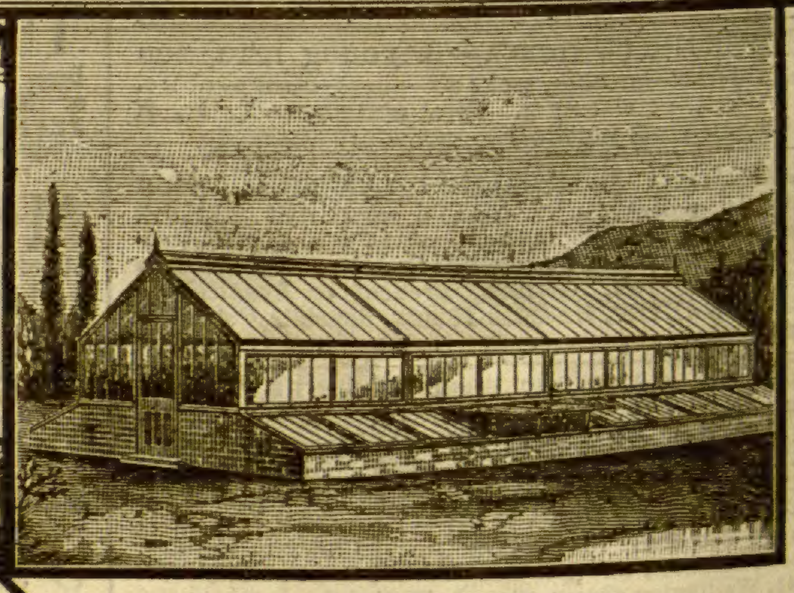

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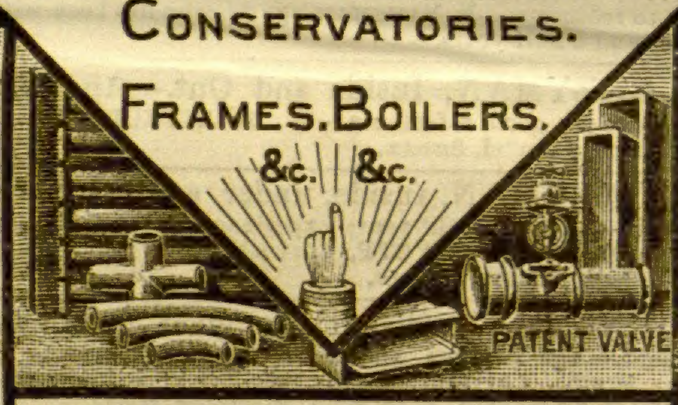

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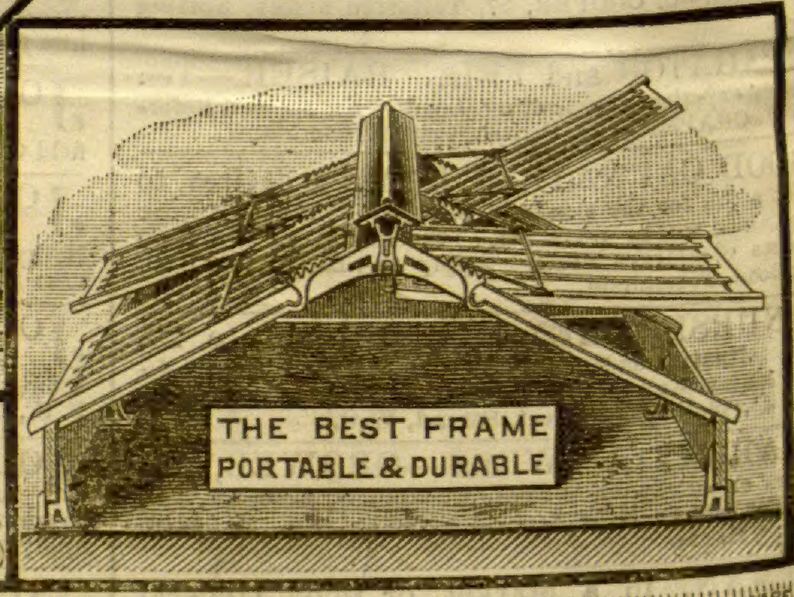

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